DIGICO digital mixing consoles
The DiGiCo D Series invited you to step into a new world of digital mixing. With the new SD7, we invite you to travel two generations beyond those horizons. Experience the combined power of Stealth Digital Processing and a sublime user interface, that once again raises the bar for live sound engineering the world over.
DiGiCo SD-7 introduction

Introduction
When the professional audio world first set eyes on the DiGiCo DS Live there was a collective sharp intake of breath. Here was the digital mixing console that gave you the best of analogue working practices and audio finesse with all the versatility and feature richness that the digital environment could offer. Several years on, the D Series remains the standard setter and its fast, engineer friendly user interface has yet to be beaten. To many engineers it continues to offer the optimum sonic combination of analogue smoothness and digital clarity.

But expectations continue to rise. In a world as competitive for engineers as it is for console owners, you want the best tools you can lay your hands on. You also want a console as well thought out for every major application as it is designed for the art and science of sound engineering. Above all, you want to do more.

Meet the DiGiCo SD7. The next generation plus one of digital sound engineering.

12 years on and still 12 years ahead
The SD7 is deliberately named as the natural development of the legendary D Series concept. Because 12 years on from its birth, the Soundtracs/DiGiCo vision of live sound mixing is still 12 years ahead, powered by a leap of two full technology generations.

In conceiving the SD7, we set out with the objective of taking the very best in digital console concepts to an unsurpassed level – both on the groundbreaking work surface and the new technologies that lie beneath. We’ve moved beyond the already powerful SHARC® processors as the heart of the console, with the stunning smoothness, accuracy and wide dynamic range that new Super FPGA technology with floating-point processing brings to the party.

Meanwhile, a Tiger SHARC® FX engine delivers the finest effects and dynamics you’ll encounter in any console, live or in the studio. All this married to an interface that makes audio power and mixing precision as effortless to use as your first console. Now you can really flex your muscles.

Inspired engineering
In the five-year gestation period between original idea and finished console, countless discussions, technical debates, painstaking research and a dedicated, inspired team with open minds all contributed to the SD7’s design.

Part of the inspiration came not only from studying where pro audio had been and was leading, but where other pioneering industries saw their own paths to technological development. Among the most fascinating were the aviation, marine and automotive industries’ use of new materials and techniques in challenging environments.

Just one of these was the growing use of polycarbonates in high-tech boat building, where its remarkable combination of durability, light weight, temperature and impact resistance and optical transparency has proved invaluable.

As a console work surface material it has allowed us to transform the user experience in subtle and unexpected ways – as a few minutes exploring the SD7 will show you.

And our inspiration continues. As the SD7’s power grows you can keep up to date by registering at www.digico.org/especs

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**DiGiCo SD-7 introduction**

**Taking audio processing by Stealth**

Powering the SD7 is our latest in high density digital processing, the all-new Stealth mixing and routing engine, exclusive to DiGiCo. Based on the latest incarnation of FPGA (Field Programmable Gate Array) technology, known as Super FPGA, it’s a core component of the SD7’s quantum leap in console design.

Allied to three of the latest generation of SHARC® effects and control processors, it endows the console with a staggering eight times the overall processing power of a D5 Live.

The benefits are to be found not only in the high resolution audio processing that makes 128 simultaneous 192kHz signal paths readily achievable, or 256 at 48kHz/96kHz, but limitless flexibility too.

Make the most of 448 simultaneous optical and 224 MADI and 24 analogue and AES/EBU connections, plus 128 busses, 32 matrix busses and 32 graphic equalisers, to build the biggest and most complex shows.

While two new-generation Tiger SHARC® chips (each representing the power of almost a whole D5) provide an awesome array of quality reverbs and effects, and in packing all this power into just four chips against the D Series’ 39, the SD7’s efficiency is dramatically increased, while space has been freed up to allow two complete redundant processing engines to be accommodated within the console.

**Some consoles remind you of their analogue roots. Only DiGiCo lets you forget them**

While some sound engineers have embraced wholly different working techniques in the digital era, if you’re already a DiGiCo user the chances are you appreciate the logical thought processes that accompany working in the analogue idiom.

However you think, though, intuitive operation is as crucial to responsive live mixing as ever, and throughout the D Series’ design it’s a core philosophy that your next task should always be instantly accessible.

The massively increased processing power of the SD7 means we’ve been able to take this concept much further. Retaining the instant accessibility of its predecessors while adding new flexibility and sonic purity. Routing options are more extensive than ever, while the generous provision of 32 units of graphical equalisation is more powerful still.

And no analogue console has ever allowed you to instantly place input and output channels side by side. The way these functions and more can be accessed, tweaked, stored and instantly recalled is pure digital control at its finest. The best of both worlds. So intuitive you almost forget it’s there.

**20/20 vision: intuitive from the moment you start**

If the word ‘intuitive’ seemed to have been invented for the D Series, for the SD7 our designers have exploited the intervening five years’ technological developments to deliver an even more richly rewarding user experience.

You can choose to configure your SD7 for front of house, monitors, theatre or live to air, or use it as an interactive part of a multi-console system (it’s fully compatible with any DiGiCo or Soundtracs console).

Either way you’ll see your complete signal flow laid out with unprecedented clarity, throughout each of the 256 processing paths that link the 448 optical, 224 MADI, and 24 integrated I/Os. The stunning backlit polycarbonate work surface with its HTL (Hidden Till Lit) indicators is both a vision of clarity in any ambient light, and a paragon of durability.

With unique, innovative touches like built-in VNL video monitoring, interactive dynamic metering and a design that will give you full dynamic equalisation on any single path simultaneously, never has so much power to design, create, fine-tune, mix and operate a show been so literally at your fingertips.
DiGiCo SD 7 specifications

General Specifications
- Faders: 38 x 100mm touch-sensitive, motorised 14 x 60mm touch sensitive, motorised
- Screens: 3 x 15” LCD high-resolution touch screens
- Meterbridge: 3 x Custom Mounted LCD high-resolution TFT-LCD screens
- Redundancy: Internal removable engine x 2, Internal hot-swappable PSU x 2
- Processing Channels: Up to 256 (combination of input Channels / Aux / Solo Group Busses)
- Busses: Up to 128 Aux / Group busses with full processing Mono / Stereo / LCR / 5.1 / 7.1
- Matrix: Up to 32 Input / 32 Outputs with full processing
- Control Groups: Up to 36, selectable for VCA-style, Moving fader, Mute Group
- Graphic Eq: 32 x 32-band, Gain +/- 12dB

- Internal FX: A multitude of Reverbs / Delays / Other Effects to be detailed in future issues of Especs.
- Local I/O: 12 x mic/line I/O, 12 x AES I/O
- MADI interface: 4 redundant interfaces, BNC connectivity
- Optic interface: HMA optic
- Sampling rates: 48kHz / 96kHz / 192kHz (processing capabilities halved at 192kHz)
- GPI/GPO: 16 as standard, expandable to 32
- Video: Inputs x 2, Outputs x 2
- Ext Sync: Wordclock, AES, Video, MADI, Optics
- Dimensions: 1496mm (w) x 875mm (d) x 503mm (h)

Processing Channel Specifications

SD 7 dimension drawings

- Name: User-defined / Presets
- Phase: Normal / Reverse
- Digital Trim: -20 to +60dB
- Delay: >1 sec (coarse & fine control)
- LPF: 20 – 20kHz, 24dB / Oct
- HPF: 20 – 20kHz, 24dB / Oct
- Insert A: (pre eq/dyn) On/off
- Insert B: (post eq/dyn) On/off
- Equalisation: 4 band PEQ (low/lowshelf, lower-mid/lowshelf, upper-mid/hishelf, hi/hishelf), Freq: 20 – 20kHz, Gain: +/- 18dB, Q: 0.1 – 20 (parametric) / 0.10 – 0.85 (shelf), Dynamic Eq option
- Compressor: on / off, Threshold: -60 – 0dB, Attack: 50us – 100ms, Release: 10ms – 10s, Ratio: 1:1 – 50:1, Gain: 0 – 40dB with Autogain option, Link: any channel / buss, Multi-band Compressor option
- Gate: on/off, Threshold: -60 – 0dB, Attack: 50us – 100ms, Hold: 2ms – 2s, Release: 5ms – 5s, Range: 0 – 90dB, Key: Any source, Key listen, Freq/width: 20 – 20kHz
- Insert B: (post eq/dyn) On/off
- EQ/Dyn order: EQ/Dyn or Dyn/EQ
- Mute: Channel mute / hard mute
- Solo: Solo Buss 1 / Solo Buss 2 / Both, Auto solo
- Channel Safe: trim, eq, dyn, fade / mute, inserts, outputs, full safe
- Output Routing: Outputs, Insert A, Insert B, FX
- Fader: 100mm motorised fader, Gain: +/– 10dB

SD 7 dimension drawings

- Name: User-defined / Presets
- Channel Selection: Mono/Stereo/Multi
- Input Routing: Main & Alternate Input
- Analogue Gain: -20 to +60dB
- Phase: Normal / Reverse
- Digital Trim: -40 to +40dB
- Delay: >1 sec (coarse & fine control)
- LPF: 20 – 20kHz, 24dB / Oct
- HPF: 20 – 20kHz, 24dB / Oct
- Insert A: (pre eq/dyn) On/off
- Insert B: (post eq/dyn) On/off
- EQ: 4 band PEQ (low/lowshelf, lower-mid/lowshelf, upper-mid/hishelf, hi/hishelf), Freq: 20 – 20kHz, Gain: +/- 18dB, Q: 0.1 – 20 (parametric) / 0.10 – 0.85 (shelf), Dynamic Eq option
- Compressor: on / off, Threshold: -60 – 0dB, Attack: 50us – 100ms, Release: 10ms – 10s, Ratio: 1:1 – 50:1, Gain: 0 to +40dB with Autogain option, Link: any channel / buss, Multi-band Compressor option
- Gate: on/off, Threshold: -60 – 0dB, Attack: 50us – 100ms, Hold: 2ms – 2s, Release: 5ms – 5s, Range: 0 – 90dB, Key: Any source, Key listen, Freq/width: 20 – 20kHz
- EQ/Dyn order: EQ/Dyn or Dyn/EQ
- Mute: Channel mute / hard mute
- Solo: Solo Buss 1 / Solo Buss 2 / Both, Auto solo
- Channel Safe: Input, eq, dyn, aux, pan, fade/mute, inserts, buss, directs, full safe
- Fader: 100mm motorised fader, Gain: +/– 10dB

Group Technologies Full-Line Product Catalogue No.1
Telephone: (03) 9354 9133 • E-Mail: sales@grouptechnologies.com.au • www.grouptechnologies.com.au
DIGICO SD 8 digital mixing with Stealth Digital Processing

The new SD8. The power, finesse and clarity of DiGiCo digital mixing with Stealth Digital Processing™. The new DiGiCo SD8 brings you the complete DiGiCo digital mixing experience, from the ultimate in intuitive user interfaces to the power and purity of Stealth Digital Processing™, at a price point more commonly associated with midrange mixing consoles.
The new SD8. The power, finesse and clarity of DiGiCo digital mixing with Stealth Digital Processing™. The new DiGiCo SD8 brings you the complete DiGiCo digital mixing experience, from the ultimate in intuitive user interfaces to the power and purity of Stealth Digital Processing™, at a price point more commonly associated with midrange mixing consoles.

Whether you're moving up from an analogue console or adding more flexibility to your existing systems, the SD8 offers all the major features and versatility of the acclaimed DiGiCo D Series. It's also the world's first 'affordable' console to provide the smoothness, accuracy and dynamic range of the latest generation Super FPGA technology with floating point processing, the heart of the groundbreaking DiGiCo SD7.

In its compact frame, the most affordable DiGiCo console ever built provides a powerful array of live sound engineering tools, laid out with the clarity you'd expect from a worksurface designed by the award winning team at DiGiCo. It offers an extensive specification in a complete digital package. It has a stage MaDiRack with 48 microphone inputs as standard, 8 analogue outputs and dual MADI connections – making rehearsal and live show recording simple and inexpensive – a digital MADI multicore, a full worksurface and 8 line outputs which can be reconfigured to create up to 24 for monitoring.

The essentials of the channel and master facilities are exactly as you'd find on any DiGiCo console and employ identical signal paths for exemplary sonic quality. Each one of the 60 audio channels can be selected as mono or full stereo (thanks to the Stealth processor's internal 120 channels of processing) allowing you to set up shows with large numbers of stereo inputs, each with full EQ and dynamics. This uncompromising solution replaces a rack full of outboard equipment and places the key tools where you need them, in the channel itself and – at a press of one button – at centre stage on the touch screen. The screen is the same 15" TFT LCD specially developed for the SD7 and is matched with motorised faders arranged in blocks of 12 for logical operation. You'll also appreciate DiGiCo's snapshot automation, making scene store and recall a simple task, while the master section incorporates 12 complete graphic equalisers with centre-detent faders for fact system set-up.

Two discrete master busses, 24 mono or stereo busses and a 12 x 12 matrix complete the channel and bussing structure. But that's not all, since the versatile SD8 also provides dual solo busses for greatly increased flexibility as a monitor console. The DiGiCo SD8. A new world of performance and versatility in a midrange console.

The SD8 incorporates the highly innovative Stealth Digital Processing™.
DiGiCo SD-8 introduction

Processing™, initially designed for the pioneering SD7. Based on a single Super FPGA combined with Analogue Devices Tiger SHARC® for an array of effects processing, it provides unrivalled audio quality, precision and processing power.

The future is Super FPGA (Field Programmable Gate Array) technology with floating-point processing. Allied to the already powerful SHARC® processor, in use at the heart of every DiGiCo console, is the very latest Tiger SHARC® FX engine, all underpinned by DiGiCo’s Stealth Digital processing™. Super FPGA technology is literally two generations beyond the world of DSP and is a core component of DiGiCo’s advances in console design.

This potent combination provides a stunning level of instant controllability over multiple functions. It supports a comprehensive control surface with 37 motorised faders, dedicated and multi-function control knobs and electronic labelling. It also provides an extensive range of built-in, world-class effects, reverbs, dynamics, output matrix and more. Plus that huge, glorious interactive touch screen makes the SD Series a pleasure to mix on and, of course, the smoothest, cleanest and warmest digital console sound yet devised - at any price!

These facilities are constantly available across every one of the SD8’s 60 mono or stereo channels – the equivalent of 120 channels of full DSP processing. Thanks to the combined power of the SD8’s technologies, the number and quality of effects, dynamics or other functions available to all channels simultaneously is never compromised or reduced, no matter how you have the console set up.

Recognising the ever growing need for many outputs to drive multiple loudspeaker arrays, monitors and more, the SD8 provides as standard a 12 x 12 output matrix, its 12 busses being additional to the console’s 24 stereo, solo and master busses.

Feature packed: All the essentials you’d expect in a DiGiCo console are here, even if many come as a revelation at this price point. The most striking single feature is the large (15”), super high resolution, touch sensitive TFT LCD backlit display. This rich mine of real-time information is the SD8’s primary command centre and works completely intuitively with every other control of the console, automatically displaying functions that are exactly relevant to what you’re doing right now. Because speed of operation is high up the SD8’s design priority list, this approach continues throughout the worksurface. Look for menus and submenus, and you’ll look in vain as far as all major operations are concerned. A physical fader, knob or backlit electronically labelled button is either provided as standard for every major mix function, or can be programmed onto one of the user macro buttons.
The 24 main channel faders and 12 assignable aux and master faders are smooth, top quality, 100mm long throw motorised types, accurate, durable and long proven. Touch sensitive fader caps put even more intuitive controllability right where you need it. Each bank of 12 faders can be instantly assigned as channels or masters, allowing all 36 main faders to control inputs if desired, while any bank of 12 can be assigned to the touch screen for fine tuning.

Also familiar to D Series users is the SD8’s snapshot flexibility – a feature as vital nowadays for smaller theatre and touring acts as it is for the largest productions. It provides such features as global scope, recall per snapshot and a global crossfade for each console section. There are also eight user Macros for fast access to presets. For users upgrading from analogue or a budget digital desk, the SD8’s snapshot and Macro facilities will open an exciting new realm of possibilities.

A clearer picture: With the SD8 there’s no need to search for information – you always have a clear picture of every part of the signal path. As well as the built-in touch screen, an SVGA output allows you to run an external overview screen, while each physical fader is accompanied by a meter integrated into the worksurface with a polycarbonate overlay, eliminating the need for a bulky meter bridge. Alongside each motorised fader is another important touch of clarity. On the one hand, DiGiCo’s designers wanted to place as much information as possible right where your hands normally are – at the faders. On the other, they also wanted to keep the console frame as low-profile as possible, so that when you’re mixing from a position of restricted visibility, you don’t have to peer over a tall meter bridge. The answer: high resolution, 20-LED bargraph meters, right beside each channel fader.

Goodbye, outboard racks: A wealth of onboard effects, EQ and dynamics processing greatly reduces the need for external processing. 6 onboard stereo effects are available at all times with a choice of reverbs, delays and more. 12 graphic equalisers can be assigned across any of the busses or channels and the power of Stealth Digital Processing™ means that every channel, every buss and every matrix output is equipped with 4 bands of parametric EQ, 24dB high and low pass filtering (as on the SD7), along with a fully-specified single band compressor and gate and a delay offering up to 1.3 seconds per channel.

Dual solo busses: For the first time in a mid-price console, the SD8 offers not one but two solo busses – excellent for monitor mixing, allowing separate soloing facilities for wedges and in-ear monitors. Each solo bus can be selected as mono, stereo, PFL, AFL or solo in place – versatility that’s unique to the SD8 in its price range.

The complete digital package from stage to FOH: The SD8 is much more than just a powerful worksurface. It provides you with a complete digital package from stage to your mix position. Included with it is a dedicated SD8 stage MaDiRack, which serves as system input, digital/analog signal splitter and MADI digital output, along with 100 metres of touring quality MADI digital cable. So it’s goodbye to the heavy weight analogue multicore and hello to 100% noise free, pure digital signal from stage to console – a significant cost saving too, especially for installed systems.

As a further touch, the worksurface boasts full Gain Tracking™, an advanced feature of all DiGiCo consoles. This allows FOH and monitor consoles to share inputs, yet have independent gain structures. The MaDiRack has 34 microphone inputs which are complemented by 8 analogue outputs as standard. A further 16 analogue, AES/EBU or Aviom outputs can be fitted to allow for any connection requirements, whether feeding a crossover digitally or for IEM.

The SD8’s dual MADI connections are the key to another remarkable aspect of the package – the ability to make live multitrack recordings of rehearsals and shows straightforward and inexpensive.

While one MADI is used for the stage rack, the other is ready for use for live recording of all 48 inputs to any MADI compatible recording system. You’ll notice the SD8’s worksurface incorporates a convenient flat area at top left to hold a laptop – with sturdy steel locating pegs to keep your PC or Mac in place when the joint is jumping. Hook up a laptop running Logic, Cubase, Nuendo, Samplitude, Reaper, Pro Tools or any other leading multitrack recording software to the dedicated MADI port on the console’s left side and you’re in business with an instant, low cost, studio quality 48 track recording and playback set-up. Perfect, too, for fine-tuning scenes and settings at your leisure.

The worksurface itself provides more I/O – 8 mic/line inputs, 8 line outputs and 8 AES inputs and outputs. Finally, DiGiCo will offer an optical output option as a special order item.

Built for the road: Every inch an engineer’s console, the SD8 is designed for the rough and tumble of the road, the pressure of corporate events and festivals, the rehearsals and nightly changes of operator in the theatre world as well as the unique challenges of providing excellent, repeatable audio for houses of worship.

Built as power as it is on the inside, the SD8 is ready for everything the road can throw at it too. A sturdy steel chassis provides excellent rigidity, while the larninated worksurface is highly resistant to wear and tear. Every aspect of the worksurface and the MaDiRack exudes DiGiCo quality, from the perfectly weighted encoder wheels and faders to the durable silk screening and solid construction. A dual, hot-swappable, integrated switch-mode power supply provides peace of
DiGiCo SD-8 introduction

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DiGiCo SD-8 specifications

General Specifications
- Faders: 37 x 100mm touch-sensitive, motorised
- Screens: 1 x 15” (38cm) LCD high-resolution touch screen
- Inputs: 38 x 20-segment LED bargraph
- Input Channels: 60 Mono or Stereo ch’s
- Buses: 24 Mono or Stereo buses + 16 master
- Solo busses: 2 stereo busses
- Matrix: 12 x 12 matrix (additional to busses above)
- Control Groups: 12, selectable for VCA-style, Moving fader, Mute Group
- Graphic Eq: 12 x 32-band, Gain +/- 12dB
- Internal FX: 6 Stereo FX processors
- Local I/O: 8 x mic/line I/O, 8 AES I/O (4 stereo pr)
- MADI interface: 2 redundant, interfaces, 75 ohm BNC connectivity
- Optical Interface: Optocore (Optical factory fit only)
- MIDI interface: In / Out / Through
- VGA port: DB-15 mini-female

Audio Specifications
- Sample rate: 48kHz or 44.1kHz
- Processing delay: 2ms typ (60 stereo channels, stage input through L-R bus to stage output)
- Internal processing: Up to 40-bit, floating point
- A/D & D/A Converter Bit Depth: 24-bit
- Frequency response: +/-0.6dB (20Hz – 20kHz)
- THD: <0.05% @ unity gain, 10dB input @ 1kHz
- Channel Separation: Better than 90dB (40Hz – 15kHz)
- Residual output noise: <90dBu typ (20Hz – 20kHz)
- Microphone Input Equivalent Noise: Better than -126dB
- Maximum Output: +22dBu
- Maximum Input: +22dBu

Processing Channel Specifications
- Name: User-defined / Presets
- Channel Selection: Mono / Stereo
- Input Routing: Main & Alternate Input
- Analogue Gain: -20 to 0dB
- Phase: Normal / Reverse
- Digital Trim: -20 to +10dB
- Delay: >1.3 sec (coarse & fine control)

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- LPF: 20 – 20kHz, 24dB / Oct
- HPF: 20 – 20kHz, 24dB / Oct
- Insert A: (pre eq/dyn) On/off
- Insert B: (post eq/dyn) On/off
- Equalisation: 4 band Psq (hi & lo bands switchable shelving or bell), Freq: 20 – 20kHz Gain: +/- 18dB, Q: 0.1 -20 (parametric) / 0.10-0.85 (shelf)
- Compressor: on/off, Threshold: -60 – 0dB, Attack: 50us – 100ms, Release: 10ms – 10s, Ratio: 1:1 – 50:1, Gain: 0 to +40dB with Autogain option, Link; any channel / buss
- Gate: on/off, Threshold: -60 – 0dB, Attack: 50us – 100ms, Hold: 2ms – 2s, Release: 5ms – 5s, Range: 0 – 90dB, Key: Any source, Key listen, Freq/width: 20 – 20kHz
- EQ/Dyn order: EQ/Dyn or Dyn/EQ
- Mute: Channel mute / hard mute
- Solo: Solo Buss 1 / Solo Buss 2 / Both, Auto solo

Output Routing: Buss, Insert A, Insert B, FX, Direct: on/off, pre-mute / pre-fade / post-fade, level +/- 18dB
- Fader: 100mm motorised fader, fader trim -10 to +10dB

Processing Channel Specifications
- Aux / Group / Matrix Output
- Name: User-defined / Presets
- Phase: Normal / Reverse
- Digital Trim: -20 to +10dB

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Group Technologies Full-Line Product Catalogue No.1
DiGiCo SD-8 24 less is more with the new DiGiCo SD8-24

Big on delivery, smaller in size - less is more with DiGiCo's SD8-24. With the DiGiCo SD8, the compact footprint of this entry-level console, coupled with the astounding power of its Super FPGA processor, made it an instant hit, with record numbers sold since its launch.

As the world of corporate events begins its renaissance, DiGiCo has once again produced a product to suit the industry’s changing needs - a console with an even smaller footprint, but with no reduction in functionality or number of inputs and outputs.

At under a metre in width, this diminutive powerhouse is known as the SD8-24.

SD8-24 Features
- Complete with 48/8 Stage Rack with 100m Digital MADI snake
- Unlimited application areas
- Exceptional cost to feature ratio
- Up to 60 mono or stereo channels with full processing (equal to 120 channels of DSP processing)
- 24 mono or stereo busses + Stereo Master (or LCR) with full processing (equal to 51 busses of DSP processing)
- On Board local I/O with 8 Mic/Line inputs, 8 Line Outputs and 8 AES I/O
- Open format & platform recording
- 16x12 Matrix with full output Processing
- 8 stereo floating point FX processors, including Stealth reverbs
- 25 touch sensitive faders for instant control Touch screen control
- Full worksurface precision metering
- Networking and remote control
- Remote studio grade mic pre’s
- MADI connection
- 24 x 32 bands of graphic EQ
- Online & offline session control
- DiGiCo high grade processing and audio path
- Now with 8 channels x 4 bands of dynamic EQ (mono or stereo)
- Now with 8 channels of multiband compressor (mono or stereo)
- Ability to build custom banks

The SD8-24 has the fixed architecture of the SD8, employing the same smaller Super FPGA (Field Programmable Gate Array), a technology that has been around for almost as long as DSP.

FPGAs comprise a series of logic blocks, plus a system for connecting them, which can be programmed to perform complex operations or more routine tasks normally associated with basic gates, and in many high performance FPGAs, these logic blocks also have access to on-chip memory or even embedded microprocessors.

Applications for FPGAs are very wide reaching and this brings with it certain economies of scale. They are particularly well-suited to audio mixing applications, not least because a single FPGA can carry out the same functions as a whole board full of conventional DSP chips.

Evolution has seen the development of much larger FPGAs and these can perform far greater numbers of calculations than the most advanced DSP. These Super FPGAs are utilized in the SD-8 and SD8-24.

DiGiCo has also applied Stealth Digital Processing ™ to its entire SD range. This is the technology that allows it to process all mixing functions and reverb algorithms in one of the latest FPGA design components. A single chip processes an amazing amount of channels, providing more channel processing than can be found on any other digital live console.

All of this gives the SD8-24 an exceptional cost to feature ratio and means that less really is more.

The SD8-24 is not only ideally suited to the corporate market, but to other applications where space is at a premium. These include regional theatre or installations that want to upgrade from existing consoles to benefit from vastly increased features, I/O capability and sound quality, but do not have the space for a larger footprint console.
DiGiCo SD-8 24 line drawings

Card Options
1. Analogue output card
   - with 24-bit D/A on XLR connectors
2. AES/EBU output card
   - with sample rate conversion
3. Aviom D-16c A-Net Card
   - ultra-fast A-Net™ Pro 16 protocol connectivity

DiGiCo SD8-24 Notes
1. SD8-24 WEIGHT 53Kg / 116.85lb
2. SINGLE PSU 1.64Kg / 3.11lb
3. PSU CHASSIS COMPLETE WITH 2 PSUs 6Kg / 13.22lb
4. RACK WEIGHT (CONFIGURATION DEPENDANT) 25Kg / 55.11lb
5. FLIGHT CASE 77Kg / 169.76lb
6. FLIGHT CASE (PACKED) 130Kg / 286.60lb

DiGiCo SD-8 Notes
1. SD-8-24 WEIGHT 53Kg / 116.85lb
2. SINGLE PSU 1.64Kg / 3.11lb
3. PSU CHASSIS COMPLETE WITH 2 PSUs 6Kg / 13.22lb
4. RACK WEIGHT (CONFIGURATION DEPENDANT) 25Kg / 55.11lb
5. FLIGHT CASE 77Kg / 169.76lb
6. FLIGHT CASE (PACKED) 130Kg / 286.60lb
DIGICO D SERIES truly innovative digital mixing

DiGiCo D Series digital mixing systems broke the mould of digital live mixing, and today’s comprehensive range continues to set the standard for advanced sound engineering, from concert touring and theatre to live events and houses of worship. The DS-00 and D4 bring the same abilities and innovations to studio and OB applications of every scale.

The live range begins with the ‘access all areas’ D1 system, perfect for high quality installations, medium-sized and regional rental operations and as a logical companion console to a DS Live system. In its simplest form the D1 provides a 25-fader, 64-channel work surface and 40 input 24 output DiGiRack.

The award-winning D5 Live is capable of handling the most complex mix with ease, and in its dual work surface FMX system form provides a complete, fully integrated front-of-house and monitor system linked by a fully redundant fibre optic loop. Extensively proven at the highest level the world over, the D5 Live is an immensely robust and versatile mixing powerhouse.

For those seeking the numerous technical advantages of the D5 over comparably priced consoles, but with no requirement for optical I/O, the CSD5 brings you the full D5 feature set at a lower price point.

The D5T (Theatre) system sets a completely new standard for theatre sound mixing, combining the multiple benefits of scintillating digital sound and time saving total recall with a compact, space saving footprint. Designed in close co-operation with some of the world’s leading theatre sound designers, its powerful feature set is dedicated to the specialist art of creative theatre sound.

The DS-00 provides similarly user friendly operation and robust, road proven technology to a new, highly flexible and compact format for film, post production, broadcast and music recording.

As a high end digital production console the D4 is in a class of its own, combining DiGiCo’s unique touchscreen work surface topology with an incredibly powerful digital engine that provides for up to 320 full audio channels and 124 output busses – a production console to tackle the toughest and most demanding daily workload.

The D Series range is completed by an array of system options and custom I/O configurations. Options include an ultra-compact remote control work surface for operation where space is at a premium (for example, a theatre auditorium) and an outboard audio engine for full redundancy.

All D Series mixing systems have at their heart the same innovative DiGiCo audio engineering and powerful, intuitive user interface, making it a simple matter for an engineer to move from one type of D Series console to another.

These self-contained systems do away with the need for a multicore, splitters, line drivers, dynamics processors and an entire effects rack. You can store a complete show’s settings on a tiny USB key, providing an instant backup of rehearsal or live performance settings and the ability to transfer your show from one desk to another in seconds.

In terms of sonic performance, D Series consoles are true thoroughbreds. With their D/A converters providing an impeccable noise floor while up to 40-bit floating point internal processing delivers pure, smooth, rich musicality. The powerful bespoke DSP engine runs every channel continuously – giving you the benefit of just 2mS latency from analogue input to analogue output, equal on every channel at all times. Security modes prevent accidental changes during a live show, and there’s failsafe recovery with no audio loss on mirrored consoles.
With the D Series, DiGiCo set out not only to emulate the directness and simplicity of an analogue board, but to improve on it wherever possible.

The first impression is of a blend of the familiar – the input groups of long-throw motorised faders with a row of large illuminated buttons above them, three rows of rotary controls and input trim controls at the top – and the 21st century, in the shape of large, full colour backlit LCD touchscreens and electronic 'scribble strips'.

One glance at the innovative control surface tells you that the D Series has been designed for sound engineers by sound engineers. Virtually every feature is there to see at a glance, or at most a single, logical fingertip press away. The large LCD touchscreens present their facilities exactly as you'd expect to find them on an advanced analogue console, with instant access and a refreshing lack of menus to navigate. This thoroughly intuitive approach means that, despite the wealth of facilities, an engineer's learning curve is as short as the feature list is long.

At every step you'll find a wealth of clear tactile and visual information. The smooth, long-throw moving faders react precisely and predictably, and the moment you move one an adjacent backlit button shows you the level change in real time accurate to 0.1dB. 24 VCA-style control groups are at your disposal, also on D1 with V4 software (8 on DS-00 and D4) and you can swap inputs between physical faders and groups of faders to suit your needs in a second.

The worksurface is divided into input sections and the master section, whose touchscreen controls the master and matrix sections, automation and console set-up pages.

All touchscreens are pressure-sensitive, requiring a light press to select a control or change a setting: this protects functions from accidental change by the sweat on a hand or an accidental brush with a finger. This type of tactile feedback is consistent throughout the desk and contributes to the feeling of security and predictability in mixing with it. Each screen shows the settings of eight input channels simultaneously and provides interactive control over all functions per fader via a combination of LCD buttons and 'real' controls, while an input channel overview can be displayed on the master screen.

With the D5 each of the surface screens has an equivalent dedicated VGA video output on the back of the console, which allows you to view a duplicate of each surface screen on an external colour monitor. There's also a dedicated VGA output allowing you to connect an optional external 'total console overview' monitor. All D Series consoles have a dedicated VGA output allowing you to connect any type of VGA monitor (standard, LCD or plasma) and the output provides up to 1280 x 1024 resolution.

Using the Layout page, each operator can decide what information is displayed on this screen, according to the demands of the project being worked on. The overview screen has the ability to display matrix outputs and all bus outputs for auxiliaries, groups and the main buss. Again, these show full metering, insert switching, mute and solo, and dynamic fader positions. You can also view the fader positions and muting status of VCA-style fader groups when these are in use. All channel strips can be displayed in full on the overview screen, showing peak LED, full channel metering, insert point switching, gain reduction, gate movement, muting and solo settings, and dynamic, real-time fader movement.

Each touchscreen has an adjacent bank of rotary encoder controls to allow instant, real-time adjustment of all equaliser and dynamics settings with an accompanying frequency curve display. It's all simple, direct and instantly displayed.

All live and theatre groups of channel faders have a row of illuminated, digitally labelled, fader bank buttons alongside them, allowing each fader group to be switched between six fader banks at a touch, the faders moving precisely to their memorised positions as you change banks. Labelling, in fact, is plentiful throughout: with the touch screen keyboard or the full-size QWERTY keyboard you can quickly assign names to the LCD scribble strip, screens, busses and fader banks.

Metering is comprehensive, while the 30-segment LED meter overbridge displays input level, gain reduction, gate activity, insert send level and direct output level. It also carries a console illumination strip of white LEDs which, in common with the touchscreens and scribble strips, can be dimmed down in steps when working in a light sensitive environment.

The combination of so much visual and tactile feedback, and the small footprint, makes it a very comfortable console to use live, with no need to stretch or crane your head to see the positions of controls or status settings.
DIGICO D SERIES - Input Channels

Each D Series input channel has its own analogue input gain and digital trim, with Gain Tracking™ switch and presets for the whole channel, along with phase reverse, phantom power, six-band EQ and a delay function which allows you to add 240mS of delay to any or all of the channels.

The input sections of all D Series consoles are essentially identical, providing instant access to virtually all the major features the sound engineer requires for mixing. The powerful touchscreen interface gives fast, intuitive and responsive control over EQ and dynamics, while further input channels, in banks of eight, are just one touch away using the dedicated bank selector buttons.

Each channel has four bands of fully parametric 20Hz-20kHz EQ, while the upper and lower bands can be switched between different curve types and shelving characteristics. On top of that are dedicated high and low pass filters, and a preset library, which allows you to save an almost unlimited number of EQ presets for instant recall.

The dynamics section for each input channel is called up with another press on the screen, displaying all the settings for the compressor / limiter and gate, and a powerful sidechain equaliser which allows frequency-conscious dynamics. The same press assigns that channel to the group of dedicated dynamics rotary controllers alongside the screen. The sidechain EQ can also be allocated to the compressor, providing a wide range of uses including highly effective de-essing. A dedicated user preset library accompanies the section.

Under the screens are three rows of versatile, user-assignable rotary controls, which are designed to give you the option of selecting the controls you use most often closest to you as physical controls. Functions can be assigned to them as you wish, including auxiliary sends, pans and dynamics controls. Access is available to any of the 40 busses (72 on DST, 124 on D4), 36 (72 on D5T) of which can be assigned as either auxiliary busses or group busses. Auxiliaries can also be assigned to faders, allowing a visual feedback of aux levels by channel at the master fader section.

The console is capable of stereo, LCR(S) and 5.1 mixing, while 5.1 joystick-style panners (one per 8-fader input section) provide instant sound image control. Assignment can be made either by touching the screen or scrolling to the bus required. Touching the aux onscreen brings up an expanded view of all auxiliary sends, and routing buttons show stereo or surround designations clearly. Input routing displays a warning if the signal is already in use, while the analogue output routing includes a -10dB switch.

Below these three rows on the D1, CS-D5, D5 and D5T is a row of large, backlit liquid crystal buttons, one above each physical fader. The buttons feed back an immense amount of information about what that individual fader is doing, using a combination of text and backlight colours which change automatically according to the button’s status. The button displays channel number, mono or stereo status, whether the button is currently acting as a solo, fader to aux, safe switch, fader gang, and a fader level readout accurate to 0.1dB, which appears the instant a fader is touched. Alongside the button is the LCD assign button, displaying the liquid crystal button’s various functions – Solo and Revert To Solo, Safe (which removes the channel from a snapshot and turns the button red as an alert), Aux Send to Master Faders, Fader Ganging, Solo Buss one or two assignment, Name Only and Solo and Revert To Solo.

The Gang function allows similar channels to be locked together in a gang so that level, EQ and dynamics settings can be applied to all of them simultaneously, confirmed by a coloured line in the touchscreen. If, for example, multiple channels require the same high pass filter settings, it’s simple to gang the channels and make a single EQ adjustment. Multiple gangs can be built within each input section and an individual channel can be temporarily dropped out of the gang for individual adjustment by holding the Solo button. Fader assign and solo assign are further ways of assigning the channels to the hardware controls.

All D Series consoles provide extensive snapshot facilities. At any time you can commit the console’s entire status to a snapshot memory and as there’s almost no limit to the number of snapshots you can store, you can effectively record an entire show’s mix settings. Then store it on a tiny USB key and recall the whole show on another continent with another D Series console. Snapshots can be self-timed, allowing automated sequencing; relative snapshots allow venue adjustments independently of scene changes; and current or master snapshots can be updated with one touch.
The DiGiCo DS-00 is a fully flexible, non-compromised digital console designed to face head-on a market in transition. Meeting today’s budget constraints, yet rich in features, it fits into any user application with a huge array of options to exceed any requirement. The compact frame of the DiGiCo DS-00 houses a comprehensive feature set. Yet while some compact consoles achieve their dimensions by implementing complex layers of menus and submenus and multi-function controls, the DS-00 is as user-friendly as you would expect from a DiGiCo console. It also allows expansion, so whereas other consoles offer little or nothing in terms of future expansion, the DS-00 is the heart of a system that can expand to meet your own requirements.
DS-00 digital console

As standard, it comes with 64 channels of full processing, 40 busses and mixing in surround formats up to 7.1. It also comes with eight analogue inputs, 16 analogue outputs, 24 AES I/O with sample rate conversion per XLR, and 8 I/O optical connection. It also has a dedicated MADI input and output, to connect a third-party hard disk recording system such as Sadie, Nuendo, Pro Tools etc.

Up to four EX-00 eight-fader expansion units, each with a TFT touchscreen and full metering, can be added to extend the console to up to a 49-fader surface. Every channel has the same full processing including eight equalisers - six fully parametric bands, plus high and low pass filters in the side chains, dynamics and access to all 40 busses – per channel.

Input assign allows you to bring a second full input section into the master section, allowing the operator to see 16 full channels' worth of information simultaneously for maximum visual feedback. There are eight user-definable Macros on the top of the Master section, which can fire either individual or multiple functions on the console. This allows the operator to create user presets that handle multiple functions at the press of one button.

The powerful DSP engine is shielded inside the console’s rigid steel and aluminium chassis and provides every channel with full processing and full functionality at all times, so there is no variation in performance no matter how many features are in simultaneous use.

The optional effects package comes with its own dedicated DSP card which slots inside the chassis. To transfer console settings and automation snapshots to other DiGiCo products, or to edit your console settings on a laptop PC, simply plug in the miniature USB key to a port on the front of the console.

MIDI implementation allows programme changes to be fired from the console to recall outboard settings, and the console can be controlled externally via MIDI continuous controllers for remote snapshot firing. 40 busses are freely assignable between group busses and auxiliary busses.

Up to 28 aux sends can be created in a mixture of mono and stereo, while group busses can be mono, stereo, LCRS, 5.1 and 7.1, allowing simultaneous multi-format mixing, making it possible to do all the fold-downs you need from any surround format with stereo and mono compatibility checking. Any fader on the surface can be made mono or stereo.

When in stereo mode, M/S decoding is provided with a mono/stereo width control and a left/right leg reverse. Channel ganging allows the operator to link multiple channels together. This makes easy work of inputting 5.1 signals or pre-dubs on a single surface fader. Offsets can be individually applied to each leg of the source, by momentarily removing them from the gang.

The surface meter bridge can be set to emulate PPM or VU metering, with the option of dedicated meter outputs that can also be allocated for external metering purposes, allowing any buss to be independently metered.

Full transport control with jog and shuttle on the surface, controls machines via RS422 9-pin and MIDI machine control with SMPTE, MIDI and 9-pin outputs. The latest digitally-driven TFT touch screen technology is featured, and an SVGA output is provided for an overview screen for a complete overview of channels and buss outputs.
## Post Production & Film

The DS-00 from DiGiCo provides a powerful array of standard features for post production and film, including comprehensive automation and a full monitor matrix, with further dedicated film mixing facilities provided by the optional FP-00 module.

The post production features start with a fully featured monitor matrix in the lower master section. The 40 x 8 matrix not only allows for bus/tape switching, but also two calibrated levels and insert points required for Dolby insertion, either in the analogue or digital domain.

An optional Film Panel Expander, (see the FP-00), is configured specifically for mixing large scale feature films, with dedicated paddle switches to bus/tape switch, and user presets that allow the engineer to recall the routing of sources to each paddle during the session.

A powerful automation system is provided. Among its many facilities is the ability to record and play automation at any speed, forwards or backwards. Off-line editing facilities include a complete real-time graphical display of the automation, and the ability to insert blank automation and cut automation based on the picture source. Write to Start and Write to Endfunctions are also incorporated to make it straightforward to insert automation across a whole scene or a section.

### Post production and film features
- 40 x 8 monitor matrix
- Dolby inserts
- Full dynamic automation
- Any speed
- Networking and file share
- Speed of operation
- Surround formats up to 7.1

## Broadcast

The DS-00 is ideally suited to live-to-air mixing with its straightforward layout and channel strip on-screen displays. The optional broadcast kit brings with it all the key features and functionality required in modern analogue and digital broadcast.

A dedicated mix minus output is available on 96 channels, with a direct talk-to-output and the ability to source the bus from one of four independent mix minus busses. A subtractive buss mix minus is also featured on every buss output.

Soloing options include back stop PFL and auto PFL, switched per channel, with a dedicated PFL output. A GPO card can be added to provide fader starts, machine starts and red light ons.

Redundancy on the system is not only possible for power supplies, but also for the whole DSP engine. It is possible to shadow two DS-00 consoles in parallel, each console can control the same audio, and if one console fails, everything is instantly switched within one sample to the second console. This kind of security has never been possible at this price point.

Safetracs® is built in, enabling a full worksurface restart without loss of audio, the console restarting to within a quarter frame of its previous status using NVRAM.

### Broadcast features
- Full console shadowing
- 100% redundancy
- Back-stop PFL
- 96 Dedicated mix minus sends
- Subtractive buss mix minus
- GPO-GPI option
- 8 User defined macro buttons

## Outside Broadcast

The DS-00’s compact but expandable size with its powerful feature list makes it ideally suited to installations in both small and large OB applications. The OptoCore option makes it possible to run longer distances via fibre optics as well as straightforward connection to the DiGiCo range of consoles.

The ability to route any input to any channel and route busses to multiple outputs makes it possible for the console to fit into the toughest OB application.

The option of adding the optical connection allows the I/O rack to go greater distances than 50 metres via optical fibre.

The application software can also be installed on a standard desktop or laptop PC for off-line configuration of the whole console.

Prior to the broadcast it can be loaded into the console on site via a dedicated USB key port. The limitless amount of snapshots with full scope and timing makes it possible to set up complex audio follow video sequences to fit in with sports and variety show programming.

A conveniently located next and previous button is provided for easy control of snapshot firing.

### Outside broadcast features
- Off-line configuration on lap-top
- Full snapshots with channel scope and timing
- Redundant PSU option
- SVGA channel and output overview screen
- Simple connection to digico D5 live system

## Music Recording

The expandable work surface of the DS-00 and the modular I/O rack frames makes it possible for a music studio to tailor the system to fit in with existing outboard equipment. The consoles expandable channel count makes it possible to create large mixes with unrivalled visual feedback.

By adding the onboard effects to the system the engineer has access to four stereo and up to two 7.1 effects processors. These can be saved and automated within the session making it possible to recall all the settings. The console also offers the option of full 96kHz operation, and multiple sample rates can be run simultaneously through the console to the outputs, perfect for smoothing the transition to the higher rate. Multiple sets of monitors can also be run simultaneously at 48kHz and at 96kHz, allowing A/B comparisons between the two.

### Music Recording features
- Expandable surface with EX-00
- Up to 160 channels with full processing
- On-board FXG 96kz operation with multiple output sample rates
- 40-Buss plus 96 direct sends
The optional onboard effects package provides six simultaneous effects – four of them stereo and two up to 7.1 - including reverbs, delays, chorus, flange, output processing and more.

The channel upgrade option allows channels to be added to the console up to a maximum of 160 channels. 24-bit I/O expansion is available in blocks of eight in any of the following formats: analogue line/mic, line outputs; AES/EBU I/O with full sample rate conversion at up to 96kHz; ADAT optical and TDF I/O; and up to four MADI/I/Os for a total of 224 inputs and outputs.

NetTracs file sharing and the OptoCore audio networking allows multiple consoles to be connected together. NetTracs is ideal for a multi-room facility, with a DS-00 in each room connected via a CAT-5 network, allowing file backups and for projects to move from room to room, including settings for automation and onboard effects.

The complete DiGiCo range of consoles are also compatible, allowing file sharing between different models. With Audio Network a local rack is provided per console and control room, providing local I/O. Shared racks can be connected to the system via fibre to all rooms, allowing any room to pick up I/O in blocks of eight on a redundant loop.

**DS-00 expander units**

- **EX-00**
  - 8-fader expander unit
  - Up to four EX-00 eight-fader expansion units, each with a TFT touchscreen and full metering, can be added to extend the console to up to a 49-fader surface. Every channel has the same full processing including eight equalisers – six fully parametric bands, plus high and low pass filters in the side chains, dynamics and access to all 40 busses – per channel.

- **FP-00**
  - Film panel expander unit
  - Configured specifically for mixing large scale feature films, with dedicated paddle switches to buss/tape switch, and user presets that allow the engineer to recall the routing of sources to each paddle during the session.

- **HD-00**
  - 19-inch rack or surface mounted section, which allows the user to drop in either external outboard gear or a hard disk editor controller.
DiGiCo DS-00 specifications

**Analogue inputs**
- Quantization range: 24-bits
- Frequency response 20Hz-20kHz: ±0.2dB
- Level linearity deviation
  - 0dB to –90dB: ±0.3dB
- Phase difference between channels 20Hz to 20kHz: <2 degrees
- Channel separation 100Hz to 1kHz: >90dB
- Total harmonic distortion 100Hz to 1kHz: <0.004%
- Maximum input level (at unity gain) mic and line: +22dBU
- Microphone equivalent input noise (150Ω, 60dB gain): –127.5dB
- Maximum analogue gain (mic and line): +60dB
- Mic input impedance: >1kΩ
- All other analogue inputs impedances: >5kΩ

**Analogue Outputs**
- Quantization range: 24-bits
- Frequency response 20Hz-20kHz: ±0.2dB
- Level linearity deviation
  - 0dB to –90dB: ±0.3dB
- Phase difference between channels 20Hz to 20kHz: <2 degrees
- Channel separation 100Hz to 1kHz: >90dB
- Total harmonic distortion 100Hz to 1kHz: <0.004%
- Idle channel noise ratio: <103dB
- Maximum output level: +22dBu
- Output impedance: 50Ω

**Digital I/O**
- AES/EBU: 4-bit (with sample rate converters)
- MADI: 56 channels of 24-bit audio
- OPTICAL (Option: 512 channel redundant optical loop

**Clocking**
- **Clock sources**
  - Internal: 32, 44.1, and 48kHz using a high stability numerically controlled oscillator
  - External: From any digital input
- Reference and Wordclock I/O

**Power requirements**
- Console: 87 to 260v AC 50/60Hz autosensing. 300 watts max
- Audio rack: 87 to 260v AC 50/60Hz autosensing. 150 watts max

**Channel Equaliser**
- High pass filter
  - High pass slope: 12dB/octave
  - High pass frequency range: 3dB: 20Hz to 20kHz
- Low pass filter
  - Low pass slope: 12dB/octave
  - Low pass frequency range: 3dB: 20Hz to 20kHz

**Channel Dynamics**
- Compressor
  - Threshold range: 50dB to 0dB
  - Attack range: 50μS to 100mS
  - Ratio: 1:1 to 50:1
  - Gain make up range: 0 to 40dB
  - Gate
    - Threshold range: 50dB to 0dB
    - Attack range: 50μS to 100mS
    - Decay range: 50μS to 100mS
    - Gate depth range: 0 to –90dB
- Output bus limiter
  - Attack time: 1 audio sample
  - Threshold range: 0 to –60dB
  - Release time: 5mS to 5S

**DS-00 dimension drawings**
The DiGiCo D1 Live is your passport to the world of digital mixing, in a cost effective and flexible system. Based on the award-winning D5 Live, the console which broke the mould of digital live mixing, the D1 provides the same outstanding sonic purity and much of its powerful, instantly accessible control, in an even more compact frame and at an Access All Areas price!
The benefits of the D1 Live digital mixing system are as compelling as the D5’s in a host of different applications, whether as a superbly versatile, high quality mixer in a fixed installation such as a theatre, conference hall or house of worship, in daily action with a mid-sized or regional rental company, or as the logical companion to a D5 Live. Either way, you’ll enjoy the same tactile, intuitive, hands-on simplicity of the worksurface with its clear, bright backlit TFT touch screens, snapshot controlled fully automated moving-fader mixing, powerful built-in dynamics and digital effects and complete recallability of every function. The D1 Live provides simultaneous processing of 64 mono/stereo channels and can be expanded up to 160 channels, in any combination of mono/stereo with full access to 224 inputs and 224 outputs. Each channel provides full routing from the remote mic pre amps, 240mS delay, Hi and Low pass filters, 4 fully parametric EQs and dynamics with side chain filtering. The 25 layered faders, are grouped in blocks of eight with six user definable fader banks per section.

The full digital effects system’s six independent effect processors include everything from high quality reverbst, delays and pitch change to multiband compressors and 28-band graphic equalisers. The 40 output buses can be used for up to 28 mono/ stereo auxes or up to 36 mono/stereo LCR (S)/5.1 surround busses, each with a limiter and insert point. It also provides a user configurable 38x8 matrix, all with insert points. All 32 IPC’s (V4 software) (Insertable Processing Channels – see page 30 ) include 6-band, fully parametric EQ, compressor and up to 510mS of delay. They can be inserted across any input or output, or used as individual output processors, making the D1 a powerful system controller. With 16 VCA style control/mute groups able to control inputs and outputs, D1 is ready for any kind of application, and the flexible, modular remote input and output racks make it easy to adapt it to any system.

Add to that road-proven stability and reliability, the tough but comparatively lightweight physical design and small, space-saving footprint, and you have a mixing system that is suited to an enormous variety of live sound applications in every professional genre.

D1 LIVEmaster section

The D1 Live’s master section, as well as the customary output groups and master fader, provides powerful control of the console’s overall setup via a series of pages instantly selectable on the third touchscreen.

session menu: This menu stores, recalls and sets up individual sessions. As well as the standard default files, it includes features such as Load Preset Library for recalling user presets of EQ and dynamics settings, which can also be merged when, for example, two engineers are using the desk in the same session or show.

layout menu: The Layout menu allows you to bring all the correct channels straight to the console’s physical faders. On this page, too, are the extensive labelling facilities, enabling you to type in alphanumeric labelling on screen or using the supplied QWERTY keyboard. Channel settings may be copied or moved here from one to another, and a channel’s settings can be copied to multiple channels using the Duplicate feature.

snapshot page: The store-and-recall functions are comprehensive, providing an almost unlimited number of desk status and the ability to build these into complete scenes. All of these, along with their associated EQ, dynamics and optional effects preset libraries, can then be transferred to another D1 Live or D5 Live via USB key. Snapshots can be triggered either manually or automatically, and can be self-timed for automatic sequencing. The feature also allows you to decide which controllers on the channel will change including input gain and more! Direct send routing can also be changed with the snapshot. This is where you can make automated fader bank changes to prepare for the next band on stage or the next song. It also controls fader ganging, control groups and cross-fade times between snapshots.

output page: The on-screen scroller provides fast access to group, master output and auxiliary output routings, and a touch on the screen displays current routing settings. Each output has a brick-wall master limiter with variable threshold and variable release time, along with routing to allow the buss to be routed to as many of the outputs - analogue or digital - as desired. There’s also an output buss insert point for an external processor. Auxiliary outputs are handled in exactly the same way with an additional pre/post fade switch. The auxiliary master outputs are assigned here to the physical faders on the master fader bank. The master bank provides eight master faders which can be assigned as matrix outputs, group outputs, auxiliary outputs and control group masters.

control groups page: Here you have the option of either VCA-style fader control in which the individual faders remain in position when the VCA group fader is moved, or digital-style in which all the moving faders physically follow the group fader. The choice of working method is yours; their functionality is identical. There are 24 control groups (V4 software), these can be moving fader or VCA style and can be assigned to inputs, outputs or both. Making a channel part of a group simply requires selecting Touch and then touching all the faders required for the control group. Further touches add or remove each fader from the group. Channels/busses can be assigned to multiple control groups, which also appear on screen. The comprehensively-equipped 38 x 8 output matrix allows any channel, buss or physical input to be routed into the matrix, and then routed out to any of the physical outputs. The touchscreen gives you control over all the matrix inputs via a dedicated rotary control and a switch. The output matrix faders appear in a dedicated bank on the master section.
D1 Live 40 System Package, with its 40 mic/line inputs, 64 channels and MADI connectivity, is the perfect addition to an installation or rental system. The 'local' DiGiRack, configured as 40 mic/line ins plus 24 line outs and located next to the console, performs the mic/line input channel conversion and enables theatres and regional audio companies to use an existing copper multicore from stage – creating a direct replacement for an analogue console. The D1 Live 40 is supplied with full input EQ, dynamics processing and onboard effects, 38x8 matrix, 24 VCA control groups (V4 software) and a full effects system, eliminating the need for most external processing.

D1 Live 48DP (Dual Purpose) System Package, which also has a single, 'local' DiGiRack and utilises existing copper multicore, extends the Live 40's facilities with a total of 48 mic/line inputs and 24 IPCs (V4 software). The IPCs give the D1 Live true dual purpose functionality, allowing the console to perform powerfully in both front-of-house and monitor roles, as well as providing an extensive onboard feature set for flexible but space and cost-saving installations in theatres and other live venues.

D1 Live 48DR (Dual Rack) System Package takes the D1 Live 48DP fully into the integrated digital domain, the inclusion of both local and stage-end DiGiRacks creating a totally digital signal path between stage and console. The latest implementation of the DiGiCo high performance MADI board in the D1 Live 48DR supports cable runs of up to 100 metres. The D1 Live 48DR includes both the effects system and insertable processing channels for superb functionality as a true dual-purpose (Front of House/Monitor) console.

D1 Live 56EX System Package is a fully enabled D1 Live system with two D1 Live worksurfaces, a local Mini-DiGiRack and a full stage end DiGiRack, two 100 metre drums of fibre optic cable for a fully redundant digital signal path, and 56 physical inputs on stage. This complete, self contained system does away with the need for a multicore, splitters, line drivers, dynamics processors and an entire effects rack. It offers similar functionality to the D5 Live 56EX but in a more compact worksurface frame.

D1 Live 48Mini-DR (Mini-Dual Rack) System Package includes the same components as the D1 Live 48DR package, except that a Mini-DiGiRack is provided for the 'console end', for applications where a full local DiGiRack is not required.

For maximum versatility, the D1 Live is available in five main systems to suit different applications, complemented by a range of options which allow you to tailor the console to your own specific needs. All four main systems offer similar functionality to the D5 Live, with remote mic preamps, studio quality equalisation and effects processing, but in a more compact worksurface frame.

A comprehensive range of I/O options allows you to tailor your D1 Live system precisely to your own needs. The options allow for connection with external recording and outside broadcast facilities in either analogue or digital signal formats, as well as interfacing with a wide range of installation systems. The D1 Live 40 and D1 Live 48DP systems come as standard with MADI interfacing but optical I/O is available as an option.

Interfacing: The D1 Live 48DR and D1 Live 56EX systems are fully digitally integrated and offer a choice of MADI or optical interfacing. These can also be specified as dual-console systems, with both consoles, whether at FOH or monitor positions, providing Gain Tracking™. This allows either console operator to change any input gain without affecting the sound balance on either console - Gain Tracking™ is selectable on each channel independently on each console.

DiGi-Rack: The DiGiRack is a 9U-high, 19 inch rackmount unit which provides A/D conversion to and from the console’s DSP and effects engines. One DiGiRack contains 14 slots, with slots 1-7 provided for inputs and slots 8-14 for outputs. Each slot handles eight individual connections, allowing a total of 56 inputs and 56 outputs per rack, and the D1 Live system capable of supporting up to four racks simultaneously.

Combi Card: A further option is the Combi Card, which provides 16 GPs, 16 GPO’s and an extra MIDI port.

D1-Live configurations & options

For maximum versatility, the D1 Live is available in five main systems to suit different applications, complemented by a range of options which allow you to tailor the console to your own specific needs. All four main systems offer similar functionality to the D5 Live, with remote mic preamps, studio quality equalisation and effects processing, but in a more compact worksurface frame.

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Interfacing: The D1 Live 48DR and D1 Live 56EX systems are fully digitally integrated and offer a choice of MADI or optical interfacing. These can also be specified as dual-console systems, with both consoles, whether at FOH or monitor positions, providing Gain Tracking™. This allows either console operator to change any input gain without affecting the sound balance on either console - Gain Tracking™ is selectable on each channel independently on each console.

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Combi Card: A further option is the Combi Card, which provides 16 GPs, 16 GPO’s and an extra MIDI port.
### D1-Live specifications

**Analogue Inputs**
- **Quantization range:** 24-bits
- **Frequency response:** 20Hz-20kHz: +/-0.2dB
- **Level linearity deviation:** 0dB to -90dB: <0.3dB
- **Phase difference between channels:** 20Hz to 20kHz: <2 degrees
- **Channel separation 100Hz to 1kHz:** >90dB
- **Total harmonic distortion:** 100Hz to 1kHz: <0.004%
- **Maximum input level (at unity gain):** mic and line: +22dBU
- **Microphone equivalent input noise (150 ohm, 60dB gain):** -127.5dB
- **Maximum analogue gain (mic and line):** +60dB
- **Mic input impedance:** >1kΩ
- **All other analogue inputs impedances:** >5kΩ

**Analogue Outputs**
- **Quantization range:** 24-bits
- **Frequency response 20Hz-20kHz:** +/-0.2dB
- **Level linearity deviation:** 0dB to -90dB: <0.3dB
- **Phase difference between channels:** 20Hz to 20kHz: <2 degrees
- **Channel separation 100Hz to 1kHz:** >90dB
- **Total harmonic distortion:** 100Hz to 1kHz: -0.004%
- **Idle channel noise ratio:** <112dB
- **Maximum output level:** +22dBU
- **Output impedance:** 50Ω

**Digital I/O**
- **AES/EBU (w/sample rate converters):** 24bit
- **MADI:** 56 channels of 24 bit audio
- **OPTICAL:** 512 channel redundant optical loop

**Clocking**
- **Clock sources:**
  - Internal: 44.1 and 48kHz using a high stability numerically controlled oscillator
  - External: From any digital, input Black burst 75ohm video, Wordclock
  Sample range 30kHz to 50kHz (note: all measurements are made with a 22Hz to 22kHz filter and RMS detector)

**Power requirements**
- **Console:** 87 to 260v AC 50/60Hz autosensing. 300 watts max
- **Audio rack:** 87 to 260v AC 50/60Hz autosensing. 150 watts max

**Delay**
- **Input Channel:** Up to 240mS in 0.65mS increments.
- **IPC's:** Up to 512ms in 2 sample increments

**Channel Equaliser**
- **(IPC Eq has two extra bands with individual band switching)**

**High Pass Filter**
- **High pass slope:** -12dB/octave
- **High pass frequency range:** (-3dB): 20Hz to 20kHz

**Low pass filter**
- **Low pass slope:** -12dB/octave
- **Low pass frequency range:** (-3dB): 200Hz to 20kHz

**High Band**
- **Mode 1:** Bell
  - **Gain range:** +/-18dB
  - **Frequency range:** 20Hz to 20kHz
  - **Q range:** 0.1 to 20
- **Mode 2:** High Shelving
  - **Gain range:** +/-18dB
  - **Frequency range:** 20Hz to 20kHz
  - **Q range:** 0.1 to 0.85
- **Mode 3:** Low Pass
  - **Low pass slope:** -12dB/octave
  - **Low pass frequency:** 20Hz to 20kHz

**Upper Mid Band**
- **Gain range:** +/-18dB
- **Frequency range:** 20Hz to 20kHz
- **Q range:** 0.1 to 20

**Lower mid band**
- **Gain range:** +/-18dB
- **Frequency range:** 20Hz to 20kHz
- **Q range:** 0.1 to 20: 0.1 to 20

**Low Band**
- **Mode 1:** Bell
  - **Gain range:** +/-18dB
  - **Frequency range:** 20Hz to 20kHz
  - **Q range:** 0.1 to 20: 0.1 to 20
- **Mode 2:** Low Shelving
  - **Gain range:** +/-18dB
  - **Frequency range:** 20Hz to 20kHz
  - **Q range:** 0.1 to 0.85
- **Mode 3:** High Pass
  - **Low pass slope:** -12dB/octave
  - **Low pass frequency:** 20Hz to 20kHz

**Dynamics**
- **Compressor channel and IPC**
  - **Threshold range:** -50dB to 0dB
  - **Attack range:** 50µS to 1000µS
  - **Decay range:** 50µS to 10S
  - **Ratio range:** 1 to 100:1
  - **Gain make up range:** 0 to 40dB
- **Gate**
  - **Threshold range:** -50dB to 0dB
  - **Attack range:** 50µS to 1000µS
  - **Hold range:** 2µS to 10S
  - **Gate depth range:** 0 to -90dB

**Output buss limiter**
- **Attack time:** 1 audio sample
- **Threshold range:** 0 to –50dB
- **Release range:** 5mS to 5s

### D1-Live dimension drawings

![D1-Live Dimension Drawings](image-url)
DIGICO D5-LIVE digital mixing consoles

The D5 Live digital mixing system sets a completely new standard for live sound mixing. Its audio quality, convenience, simple and intuitive operation and cost effectiveness are a world apart from conventional mixing. This complete, self-contained system does away with the need for a multicore, splitters, line drivers, dynamics processors and an entire effects rack. You can record live to multitrack using the optional MADicorder recording system, and store a complete show’s settings on a tiny USB key.
DS-LIVE  truly innovative digital mixing

Designed from the ground up to bring you superb sonic purity and powerful, instantly accessible control, the award winning DS Live is a live music mixing system like no other.

The console is available in a choice of four different packages, providing options for the number of input channels and house and/or monitor configurations. The DS Live is the digital mixing system that changed the professional audio industry’s perceptions of what a digital console can do, and how it should do it.

For the first time, the undisputed power and flexibility of digital audio is matched with unparalleled ease of use that meets or exceeds that of the finest analogue desks. For the first time, it’s digital without compromise.

The DS Live software gives you unparalleled flexibility in configuring your console precisely to suit the show. Whether you choose the 56 or 112 input version, your internal busses can be set up as mono or stereo auxiliaries and mono or stereo or surround busses (the console is fully 5.1-ready as well as for LCR(S), with three joystick surround sound panners for instant sound placement).

And you can instantly select a basic set-up for either front-of-house or monitor mixing. With both types of console sharing the same fibre optic loop, automatic Gain Tracking™ allows either console operator to alter input gain without affecting the mix on either console.

There’s Ethernet support for console mirroring or a remote control PC, 32 insertable processing channels and a powerful effects card complete with graphic equalisers.

The DS Live comes in six basic packages. Each package then offers a range of options.
The DS Live master section, as well as the customary output groups and master fader, provides powerful control of the console’s overall setup via a series of pages instantly selectable on the fourth touchscreen.

**System page:** The first page, System, provides real-time diagnostics which constantly monitor the system, the MADI line, software versions, power supply levels, internal temperature and so on.

**Session page:** This page stores, recalls and sets up individual sessions. As well as the standard default files, it includes features such as Load Preset Library for recalling user presets of EQ and dynamics settings, which can also be merged when, for example, two engineers are using the desk in the same session or show.

**Layout page:** The Layout page allows you to bring all the correct channels straight to the console’s physical faders. On this page, too, are the extensive labelling facilities, enabling you to type in alphanumeric labelling on screen or the full-size slide-out QWERTY keyboard for the LCD scribble strip, screens, busses and fader banks. Channel settings may be copied or moved here from one to another, and a channel’s settings can be copied to multiple channels using the Duplicate feature.

**Snapshot page:** The DS Live’s store-and-recall functions are comprehensive, providing both an unlimited number of desk status ‘snapshots’ and the ability to build these into complete scenes. All of these, along with their associated EQ, dynamics and optional effects preset libraries, can then be transferred to another DS Live via the USB key.

Snapshots can be triggered either manually or automatically, and can be self-timed for automatic sequencing. The feature also allows you to decide which controllers on the channel will change including input gain and more, how faders and auxiliaries interact and the input level. Direct send routing can also be changed with the snapshot. This is where you can make automated fader bank changes to prepare for the next band on stage or the next song. It also controls fader ganging, control groups and cross-fade times between snapshots.

**Matrix page:** The comprehensively-equipped 38 x 8 output matrix allows any channel, buss or physical input to be routed into the matrix, and then routed out to any of the physical outputs. The touchscreen gives you control over all the matrix sends via a dedicated rotary control and a switch. The output matrix faders can also be assigned to the master section faders.

**Output page:** The on-screen scroller provides fast access to group, master output and auxiliary output routings, and a touch on the screen displays current routing settings. Each output has a brick-wall master limiter, variable threshold and variable release time, along with routing to allow the bus to be routed to as many of the outputs - analogue or digital - as desired. There's also an output buss insert point for an external processor. Auxiliary outputs are handled in exactly the same way with an additional pre/post fade switch.

**Control groups page:** Here you have the option of either VCA-style fader control in which the individual faders remain in position when the VCA group fader is moved, or digital-style in which all the moving faders physically follow the group fader. The choice of working method is yours; their functionality is identical.

There are 24 control groups, these can be moving fader, VCA style or mutes and can be assigned to inputs, outputs or both. Making a channel part of a group simply requires selecting Touch and then touching all the faders required for the control group. Further touches add or remove each fader from the group. Channels/busses can be assigned to multiple control groups, which also appear on screen.

**Master section:** The auxiliary master outputs are assigned here to the physical faders on the two master fader banks. The two master banks provide 16 master faders which can be assigned as matrix outputs, group outputs, auxiliary outputs and control group masters.

A Fader Flip function allows you to swap the two banks of eight faders, and there is the ability to build your own master banks, with the option to include control groups, input channels and so on by using the dedicated LCD assign button. Also here, is Solo Assigns ‘Aux to faders’ or ‘Aux to Rotaries’. Thus when an aux master is soloed that aux send is assigned to the faders. Another function that is duplicated on the master touchscreen. This feature provides a fast and simple method of using your DS Live as a monitor desk.
**D5 LIVE CS**

The CS-D5 Live digital mixing system provides the full, extensive feature set of the D5 Live, with the exception of the optical I/O, creating a D5 Live at a price point that’s competitive with more basic consoles. The CS-D5’s technical advantages include a full 48 busses – ideal for coping with the ever-increasing use of in-ear monitors, 128 input channels, which can be increased with extra DSP to 160. 224 inputs and 224 outputs can be connected to enable large routing capabilities for multi-stage events and large orchestral performances, while digital redundancy ensures the show will go on. 41 touch sensitive faders, four touch screens and multi-operator ability give direct instant access to crucial parameters, despite the compact frame size. MADI (standard) and Optocore™ (optional) interfaces improve versatility compared to proprietary systems, and the ability to share stage racks integrates live performance, broadcast, FOH and monitors – and eliminates the need for mic splitters. Sound quality remains peerless, with the CS-D5’s 40-bit floating point audio processing maintaining far greater dynamic range in a complex mix than other consoles’ fixed point processing.

**D5 LIVE FMX**

The D5 Live FMX package gives a full 112 Mic inputs on stage, with a worksurface for monitors and a second worksurface for front-of-house, both with their own local DiGiRacks. Three 150 metre drums of fibre optic cable are provided to allow for a digital split and full redundancy of your fibre multicore. The D5 Live FMX package can also be split into two independent, fully-featured D5 live 56 EX packages, therefore maximising rental flexibility. The D5 Live FMX package eliminates the need for outboard gear, splitters and multiple line systems, reducing setup and get-out to a matter of minutes and taking up a fraction of the truck space of analogue and other digital solutions. All D5 systems includes the digital effects card (see page 30) which allows you to run up to six digital effects per channel simultaneously, including dedicated reverb algorithms, flanging, phasing, double tracking, vocoder, delays, dynamics, compression and equalisation for up to 7.1 surround sound outputs and up to twelve 28 band graphic equalisers. It also includes the Insertable Processing Channels (IPCs - see page 30) which provide a total of 32 IPCs, each complete with 6 bands of fully parametric equalisation, a fully featured compressor / limiter and digital delay of up to 510 milliseconds. All routing, patching, effects parameter adjustments and user memory store and recall functions are performed on the touchscreens. All effects and their settings can be stored as part of the console’s snapshots and sessions, and can be saved on the USB key for instant recall on another D5 Live or D1 Live.

In a complete house-and-monitor D5 Live system, Gain Tracking™, a world first for DiGiCo, allows either console operator to change any input gain without affecting the sound balance on either console - Gain Tracking™ is selectable on each channel independently on each console.

**D5-Live EX**

The D5 Live EX package provides a versatile and cost effective package solution, with a choice of 56 or 112 mic/line inputs on stage and up to a full 160-channel console worksurface.

**D5-Live EX mini**

The 56 EX Mini-Rack system comprises the console worksurface plus flightcase, a 8 analogue I/O and 8 AES EBU I/O fitted local Mini-DiGiRack, a 56-in, 8-out stage DiGiRack and a 150m drum of fibre optic cable.

**D5-Live 56EX**

The 56 EX system comprises the console worksurface plus flightcase, a 40 analogue I/O and 16 AES EBU I/O local DiGiRack, a 56-in, 8-out stage DiGiRack and a 150m drum of fibre optic cable.

**D5-Live 112EX**

The 112 EX version adds a second, 56-in, 8-out stage DiGiRack and a 5 metre fibre optic connection between the two stage DiGiRacks.
## D5-LIVE specifications

### Analogue Inputs
- Quantization range: 24-bits
- Frequency response 20Hz-20KHz: +/-0.2dB
- Level linearity deviation 0dB to -90dB: <0.3dB
- Phase difference between channels 20Hz to 20KHz: <2 degrees
- Channel separation 100Hz to 10KHz: >90dB
- Total harmonic distortion 100Hz to 10KHz: <0.004%
- Maximum input level (at unity gain) mic and line: +22dBU
- Microphone equivalent input noise (150 ohm, 60dB gain): -127.5dB
- Maximum analogue gain (mic and line): +60dB
- Mic input impedance: >1k Ω
- All other analogue inputs impedances: >5kΩ

### Analogue Outputs
- Quantization range: 24-bits
- Freq. response 20Hz-20KHz: +/-0.2dB
- Level linearity deviation 0dB to -90dB: <0.3dB
- Phase difference between channels 20Hz to 20KHz: <2 degrees
- Channel separation 100Hz to 10KHz: >90dB
- Total harmonic distortion 100Hz to 10KHz: <0.004%
- Idle channel noise ratio: <112dB
- Maximum output level: +22dBU
- Output impedance: 50 Ω

### Digital I/O
- AES/EBU: 24bit (with sample rate converters)
- MADI: 56 channels of 24 bit audio
- OPTICAL: 512 channel redundant optical loop

### Clocking
- Internal: 44.1 and 48kHz using a high stability numerically controlled oscillator. With an upgrade option to 96kHz
- External: From any digital input Black burst 75ohm video Wordclock

### Power Requirements
- Console: 87 to 260v AC 50/60Hz autosensing. 300 watts max
- Audio rack: 87 to 260v AC 50/60Hz autosensing. 150 watts max

### Delay
- Input Channel: Up to 240 mS in 0.65mS increments.
- IPC's: Up to 512 mS in 2 sample increments

### Channel Equaliser
- (IPC Eq has two extra bands with individual band switching)

### High Pass Filter
- High pass slope: -12dB/octave
- High pass frequency range (-3dB): 20Hz to 20KHz

### Low Pass Filter
- Low pass slope: -12dB/octave
- Low pass frequency range (-3dB): 200Hz to 20KHz

### High Band
- Mode 1: Bell
- Gain range: +/-18dB
- Frequency range: 20Hz to 20KHz
- Q range: 0.1 To 20

### Mode 2: High Shelving
- Gain range: +/-18dB
- Frequency range: 20Hz to 20KHz
- Q range: 0.1 To 0.85

### Mode 3: Low Pass
- Low pass slope: -12dB/octave
- Low pass frequency: 20Hz to 20KHz

### Upper Mid Band
- Gain range: +/-18dB
- Frequency range: 20Hz to 20KHz
- Q range: 0.1 to 20

### Lower Mid Band
- Gain range: +/-18dB
- Frequency range: 20Hz to 20KHz
- Q range: 0.1 to 20

### Low Band
- Mode 1: Bell
- Gain range: +/-18dB
- Frequency range: 20Hz to 20KHz
- Q range: 0.1 To 20

### Gate
- Threshold range: -50dB to 0dB
- Attack range: 50us to 0.5s
- Decay range: 5ms to 5s
- Hold range: 5ms to 5s
- Gate depth range: 0 to -90dB

### Dynamics
- Compressor channel and IPC
  - Threshold range: -50dB to 0dB
  - Attack range: 50us to 0.5s
  - Decay range: 5ms to 5s
  - Ratio range: 1:1 to 5:1
  - Gain make up range: 0 to 40dB

### Output Buss Limiter
- Attack time: 1 audio sample
- Threshold range: 0 to –50dB
- Release range: 5ms to 5s

### D5-LIVE dimension drawings

![54.43'/1484](image1)
![34.17’/868nm](image2)
The DiGiCo DST is designed to put powerful, versatile, creative audio control right in the hands of theatre sound designers and operators. Designed in collaboration with some of the world’s leading theatre sound practitioners, it provides a unique range of functionality in a compact package.
**The DST sets a completely new standard for theatre sound mixing, with audio quality, intuitive operation and flexibility that are a world apart from conventional analogue or digital consoles.**

One glance at the innovative control surface tells you that this console has been designed for sound engineers by sound engineers, including several of the world’s most renowned theatre sound designers. Virtually every feature is there to see at a glance, or at most a single, logical fingertip press away. The four LCD touchscreens present their facilities exactly as you’d expect to find them on an advanced analogue console, with instant access and a refreshing lack of menus to navigate. This highly intuitive approach means that for anyone moving on from an analogue or digital console, the learning curve will be as short as the feature list is long.

The DiGiCo DST combines a wealth of facilities in a compact, 1484mm W x 868mm D (58.43in W x 34.17in D) worksurface that potentially will give back hundreds of seats a year to large productions.

Key features include dynamics processing with side chain EQ; up to 240ms of delay; four bands of parametric EQ, high and low pass filters; 72 user-assignable busses; 32 x 32 output matrix; group outputs each with delay, six bands of parametric EQ and compressor; and pre-equaliser group outputs for use by measurement systems such as SIM™; dedicated illuminated Next/Previous Cue buttons; full off-line DiGiCo Cue Composer Show Programming software; user definable I/O specification and high quality on-board digital effects.

The DST gives you unparalleled flexibility in configuring your console to suit the show. Any of the 72 internal busses can be set up as mono or stereo auxiliaries and mono or stereo surround busses (the console is fully 5.1-ready as well as for LCR(S), with three joystick surround sound panners for instant sound placement).

The DST ‘family’ makes sound production even more cost effective with the DS-RC remote control, an ultra compact operator’s console. For the most complex shows the DS-TC Theatre Masters Controller provides extended master fader controls and eight programmable macro buttons and a dedicated script space.

The DST also has the unique ability to configure multi-console setups to share common I/O within a redundant fibre loop, with the added advantages of remote control and console mirroring. This allows stage monitoring consoles to be connected to the same digital inputs, but with independent control, utilising the automatic Gain Tracking™ which allows either console operator to alter input gain without affecting the mix on either console.

External MADI hard disk recording and playback systems may be interfaced directly with the DST, allowing audio playback, settings storage and complete rehearsal or live performance recording.

Three solo modes and two solo busses are provided, along with the facility to ‘gang’ groups of input faders together for single-fader control. The dynamics package offers comprehensive frequency-conscious gating, compression and limiting with powerful sidechain EQ, and a four-band fully parametric equaliser plus high and low pass filters. Underlining the ease of use, the moment you touch an EQ control the screen displays a real-time EQ curve, with the same instant, highly accurate visual feedback provided for every other feature.

The DST provides powerful cue facilities. At any time you can commit the console’s entire status to a cue memory and as there’s no limit to the number of cues you can store, you can effectively record a complete show’s mix settings. Then store it on a tiny USB key and, if the need arises, recall the whole show in another location with another DST – ideal for multi-location productions. Cues can be self-timed, allowing automated sequencing; relative cues allow venue adjustments independently of scene changes; and current or master cues can be updated with one touch. The DST software allows communication with Cue Editor software running on an external PC, and the console recognises Channel Aliases and predefined Sets and responds accordingly when synchronising with the Cue Editor.

Live Update is a major feature enhancement of DST software, optionally allowing altered controller values to update themselves - without further operator intervention – throughout the cue list.

More innovations can be found throughout the DST. The compact and lightweight rigid frame houses a slide-out keyboard for naming channels and groups on the electronic scribble strips. The powerful bespoke DSP engine runs every channel continuously – giving you the benefit of just 2ms latency from analogue input to analogue output, equal on every channel at all times. The integral LED lighting behind the controls and the touchscreens can be dimmed, as can the elegant white LED illumination over the high resolution 30-segment LED meterbridge.

As with all DiGiCo D Series consoles you’ll find a wealth of clear tactile and visual information, from the smooth, long-throw moving faders to the backlit buttons and large touchscreens. Similarly, the DST’s sonic performance is matchless with 96kHz D/A converters and 32-bit floating point internal processing combining a low noise floor with pure, smooth, rich musicality.
The DST master section, as well as the customary output groups and master fader, provides powerful control of the console’s overall setup via a series of pages instantly selectable on the fourth touchscreen. Also controlled here are the powerful 32 x 32 output matrix and the console’s cue system.

‘We found the DST surprisingly intuitive to programme, which made the process of moving on to it from analogue consoles much easier than we thought it would be. I love the fact that unlike the competition it’s ideal for situations when there needs to be more than one pair of hands on the desk – a sound designer and an operator. You don’t have to swap the whole desk over, because it’s laid out in sections of eight channels which makes multi user operation a lot more manageable. Another simple but meaningful advantage over other consoles is that plugging it up is literally a matter of a single fibre optic lead and an IEC mains plug in the back – a lot less cabling than an analogue or even the digital competition.’

BOBBY AITKEN (Sound Designer)

system page: This is the first page. System, provides real-time diagnostics which constantly monitor the system, the MADI line, software versions, power supply levels, internal temperature, etc.

session page: This page stores, recalls and sets up individual sessions. As well as the standard default files, it includes features such as Load Preset Library for recalling user presets of EQ and dynamics settings, which can also be merged when, for example, two engineers are using the desk in the same session or show.

layout page: The Layout page allows you to bring all the correct channels straight to the console’s physical faders. On this page, too, are the extensive labelling facilities, enabling you to type in alphanumeric labelling on screen or the full-size slide-out QWERTY keyboard for the LCD scribble strip, screens, busses and fader banks. Channel settings may be copied or moved here from one to another, and a channel’s settings can be copied to multiple channels using the Duplicate feature.

output page: The on-screen scroller provides fast access to subgroup, master output and auxiliary output routings, and a touch on the screen displays current routing settings. Each output has a brick-wall master limiter, variable threshold and variable release time, along with routing to allow the buss to be routed to as many of the outputs - analogue or digital - as desired. There’s also an output buss insert point for an external processor. Auxiliary outputs are handled in exactly the same way with an additional pre/post fade switch.

matrix page: The comprehensively-equipped 32 x 32 output matrix allows any channel, buss or physical input to be routed into the matrix, and then routed out to any of the physical outputs. Each group output provides six bands of fully parametric EQ (the upper and lower bands can be switched between shelving EQ and filters), dynamics and delay. The touchscreen gives you control over all the group sends via a dedicated rotary control and a switch. Once again, a preset library allows you to save an unlimited number of matrix presets for instant recall.

control groups page: Here you have the option of either VCA-style fader control in which the individual faders remain in position when the VCA group fader is moved, or digital-style in which all the moving faders physically follow the group fader. The choice of working method is yours; their functionality is identical.

There are 24 control groups; these can be moving fader or VCA style and can be assigned to inputs, outputs or both. Making a channel part of a group, simply requires selecting ‘Touch’ and then touching all the faders required for the control group. Further touches add or remove each fader from the group. Channels/busses can be assigned to multiple control groups, which also appear on screen.

The Cue Editor Show programming software provides a fast and straightforward editing system for pre-programming DST cues, master assignments and MIDI program changes.

The auxiliary master outputs are assigned here to the physical faders on the two master fader banks. The two master banks provide 16 master faders, which can be assigned as subgroup outputs, auxiliary outputs and control group masters. A Fader Flip function allows you to swap the two banks of eight faders, and there is the ability to build your own master banks, with the option to include control groups, input channels and so on by using the dedicated LCD assign button.

Also here is Solo Assigns ‘Aux to faders’ or ‘Aux to Rotaries’. Thus, when an aux master is soloed that aux send is assigned to the faders - a function that is duplicated on the master touchscreen.
D5-TC theatre masters controller

The D5-TC (Theatre Masters Controller) provides alternative control over the 24 control group masters, outputs and cues, as well as all the normal display modes from the D5T master section on a TFT touchscreen. A row of 16 widely-spaced master faders with scroll function buttons display either the first 16 or the last eight control groups and include a bright, eight-character alphanumeric display above each fader showing master channel names independently of the LCD buttons. Eight programmable, interactive LCD macro buttons (and access button) allow access to pre-defined user macros in three banks of eight, and there are four Mute-all buttons (inputs, auxes, subs and groups) and five Safe-all buttons (inputs, subs, groups, MIDI and events). Previous/Next Cue buttons beside the faders can be relocated to the left or right hand side of the console. Footswitch sockets on the rear panel allow remote firing of “Next”.

Other features include a built-in permanent script tray to ensure that the controls are not obscured, while the tray conceals a lit internal QWERTY keyboard. The D5 Live’s meter bridge is absent on the D5T, allowing a clear view of the stage. Pre-defined macros allow full size metering to be displayed on the overview screen, Master fader motors are disabled by default to suit theatre operation.

CUE EDITOR programming software

DiGiCo’s offline Theatre Cue Editor gives console programmers all the advanced programming facilities that they have come to expect of a dedicated theatre console – and more. It complements the D5T’s own offline editor, which is designed for setting up console parameters, and is supplied as standard with the D5T.

Using a familiar spreadsheet-style graphical interface, the Cue Editor, which requires a Windows™ PC or Mac™ running Windows™ emulation software, allows complete pre-programming of cues, aliases, sets, and more.

Facilities provided include: cue creation, cuelist renumbering and block moving functions; defining up to 16 alias “character” names for any input source for the purpose of confining Live-Update within the currently selected alias; defining sets’ membership; “one-click” assignment/unassignment of a predefined aliases or sets to Control Groups, enabling alias-switching and assignment of multiple channels in a fraction of the normal time taken to build control group memberships; auto muting/unmuting of all channels not under control group control; naming of external devices under MIDI control with offset selection according to US or Japanese protocol; entry and display of MIDI program change data; special data-entry and display window for multiple MIDI control commands; recording and editing of dynamic MIDI sequences in an acquisition window; attachment and display of any pre-recorded *.mid sequence to cues; entry and display of event data and machine control commands; user definable colour, background and text highlighting features per cue; cuelist display showing attached step-times and external triggers; upcoming cues state preview; “one-click” synchronisation between console and Cue Composer software; “Notes” screen.
### Analogue Inputs
- **Quantisation range:** 24-bit
- **Frequency response 20Hz-20kHz:** +/−0.2dB
- **Level linearity deviation:** 0dB to −90dB: <0.3dB
- **Phase difference between channels:** 20Hz to 20kHz: <2 degrees
- **Channel separation 100Hz to 10kHz:** >90dB
- **Total harmonic distortion:** 100Hz to 10kHz: <0.004%
- **Maximum input level (at unity gain):** mic and line: +22dBU
- **Microphone equivalent input noise (150 ohm, 60dB gain):** −127.5dB
- **Maximum analogue gain (mic and line):** +60dB
- **Mic input impedance:** >1k Ω
- **All other analogue inputs impedances:** >5k Ω

### Analogue Outputs
- **Quantisation range:** 24-bit
- **Frequency response 20Hz-20kHz:** +/−0.2dB
- **Level linearity deviation:** 0dB to −90dB: <0.3dB
- **Phase difference between channels:** 20Hz to 20kHz: <2 degrees
- **Channel separation 100Hz to 10kHz:** >90dB
- **Total harmonic distortion:** 100Hz to 10kHz: <0.004%
- **Idle channel noise ratio:** <112dB
- **Maximum output level:** +22dBU
- **Output impedance:** 50 Ω

### Digital I/O
- **AES/EBU:** 24bit (with sample rate converters)
- **MADI:** 56 channels of 24 bit audio
- **OPTICAL:** 512 channel redundant optical loop

### Clocking
- **Clock sources:**
  - Internal: 44.1 and 48kHz using a high stability numerically controlled oscillator. With an upgrade option to 96kHz
  - External: From any digital input Black burst 75ohm video Wordclock
- **Sample range:** 30Hz to 50kHz

### Power Requirements
- **Console:** 87 to 260v AC 50/60Hz autosensing. 300 watts max
- **Audio rack:** 87 to 260v AC 50/60Hz autosensing. 150 watts max
- **Theatre Masters Controller (Tc):** 87 to 260v AC 50/60Hz autosensing. 150 watts max
- **Remote Controller (rc):** 87 to 260v AC 50/60Hz autosensing. 150 watts max

### Channel Equaliser
(Received Output EQ has two extra bands with individual band switching)
- **High Pass Filter**
  - **Mode 1:** Bell
  - **Mode 2:** High Shelving
  - **Mode 3:** Low Pass
- **Upper Mid Band**
- **Lower Mid Band**
- **Low Band**
  - **Mode 1:** Bell
  - **Mode 2:** Low Shelving
  - **Mode 3:** High Pass

### Dynamics
- **Channel and Group Output Compressor**
  - **Threshold range:** −50dB to 0dB
  - **Attack range:** 50μS to 100mS
  - **Decay range:** 5mS to 10s
  - **Ratio range:** 1:1 to 50:1
  - **Gain make up range:** 0 to 40dB
- **Gate**
  - **Threshold range:** −50dB to 0dB
  - **Attack range:** 50μS to 100mS
  - **Decay range:** 5mS to 25
  - **Hold range:** 2mS to 25
  - **Gate depth range:** 0 to −90dB
- **Output Buss Limiter**
  - **Attack time:** 1 audio sample
  - **Threshold range:** 0 to −50dB
  - **Release range:** 5mS to 5s
A comprehensive range of I/O options allows you to tailor your D Series system precisely to your audio needs. The options allow for connection with a variety of external digital recording and outside broadcast and analogue or digital input signal formats, as well as interfacing with a wide range of installation systems.
The D5 and D5T are also equipped with Optocore™ connections for use with our 150m optical fibre cable drums; up to three of these can be connected together to cover longer distances. Other consoles in the range can also be equipped with Optocore™ connections as an option.

If Optocore™ connections are used, up to 4 D Series consoles can share the stage racks’ input signals and each one can be set to independently compensate for any common gain change on the shared racks’ microphone pre-amps. This is known as Gain Tracking™.

In addition to the DiGiCo dedicated hardware remote controllers, the RC and TC, there is also the possibility of using a standard laptop or desktop PC for remote control. The PC can run any D Series console’s software linked to the control surface by an Ethernet crossover cable or a wireless network.
D SERIES recording

The D Series consoles all have the facility to split each Stage Rack’s 56 channel MADI stream from the rack’s Auxiliary MADI Out. If the rack is connected to the D5, DST, D1, DS-00 or D4 control surfaces with optical fibre then this split can also be taken from the surface itself. Once split, the MADI stream can be sent to any MADI compatible recorder such as ADK’s recording/plug-in machine or alternatively, the MADI stream can be sent to a third party converter (e.g. RME’s ADI-648 MADI to ADAT converter) for increased compatibility options.

When the 56 - 160 channels of audio have been split and recorded from the control surface, the resulting playback can be monitored via a MADI Input Port through the same channels as the original microphones. This is achieved at the press of a single console button, without the need to reboot and is therefore an ideal facility for soundchecks.

D SERIES plug ins

From day one, all DiGiCo Live consoles have been shipped with MADI 4 as a spare port, which means it can now be used for 56 channels of I/O for external plug in devices. A simple, two wire, coaxial connection allows an external device, such as the ADX 19" 4U recording/plug in machine, to connect and utilise a host of common platform software to interface third party plug ins with any DiGiCo product. Additional hardware, such as TC Powercore and UAD, further increases the scope for third party plug ins.

effects card

The versatile digital effects card, fitted as standard to all D Series systems (except the DS-00), effectively replaces a rack full of external effects processing units with a fully integrated suite of high quality multi effects. The D Series effects card features its own powerful, dedicated DSP engine which allows you to run up to six digital effects per channel simultaneously without any load being placed on the console’s central DSP engine. The effects processor has the capacity to support the simultaneous use of every effect on every channel without loss of performance or audio quality.

The first effect slot offers a range of dedicated reverb algorithms of exceptional quality, subtlety and depth. The next three slots also provide flanging, phasing, double tracking, vocoder and digital delays. Effects slots five and six provide extra digital dynamics, compression and equalisation for up to 7.1 surround sound and up to twelve 28 band graphic equalisers.

All routing, patching, effects parameter adjustments and recall functions are performed on the touchscreens. All effects and their settings can be stored as part of the console’s session, and can be saved on the USB key for instant recall on another D5 Live.

insertable processing channels

Insertable processing channels (IPCs) add features for theatre-style venue applications, AV and monitors. The flexibility of the D Series touchscreen-controlled work surface is demonstrated by the versatile IPC module.

The IPCs add a range of features that allow the console to perform powerfully as a monitor mixer or for installation in a theatre or other venue.

It will also effectively eliminate the need for racks full of processing hardware, saving considerable space and expense. The module provides a total of 32 IPCs (16 on D1), each complete with 6 bands of fully parametric equalisation, a fully featured compressor / limiter and digital delay of up to 510 milliseconds. The expanded equaliser view now appears across the screen, and is linked to the rotaries for frequency, Q and level below the screen, so as to distinguish output EQ from input channel EQ.

The IPCs’ facilities are displayed and controlled via the console’s backlit TFT touchscreens. When IPC mode is selected, the screen’s background colour changes to alert the engineer to this status.
D SERIES card options

Card Options
1. Mic input card with 24-bit A/D on XLR connectors
2. Line input card with 24-bit A/D on XLR connectors
3. T-DIF input/output card with Local clock output
4. ADAT input/output card with optical connections
5. Analogue input card with 24-bit A/D, mic & line inputs
6. Analogue output card with 24-bit D/A on XLR connectors
7. AES/EBU input/output card with Bi-directional sample rate conversion
9. Ethersound 8 channel input/output and control card
10. DiGiCo D-Tube - Remote controllable tube mic preamp

A further option is the Combi Card, which provides 16 GPIs, 16 GPOs and an extra MIDI port.

DiGiCo-RE outboard engine system

RE Redundant Engine
Total audio engine redundancy with transparent automatic audio switching. The D Series RE stand alone outboard engine system provides total audio engine redundancy through a few simple connections to any DiGiCo D Series console. The package is flight cased and contains a complete D Series engine assembly, two PSUs and trackball keyboard for set-up procedure.

To get up and running, the RE is daisy-chained to the console and stage racks via standard D Series optical fibre cables and additionally, connected from MADI port 2 on the RE to the auxiliary MADI port on the D Series local rack with two 5 metre BNC MADI cables (supplied). A crossed Ethernet networking cable is then connected between the CAT5 ports on console engine and RE and you are ready to sync sessions to enable the RE to mirror the D Series console.

Once set up, if in the unlikely event the master audio engine develops a problem, audio is automatically and transparently switched to the Redundant Engine without any interruption in program material.

The Redundant Engine always mirrors the master console's settings enabling the operator to transfer audio processing transparently back and forth between master console and RE at any time with the press of a single screen button.
**D SERIES digirack**

The DiGiRack is a 9U-high, 19 inch rackmount unit which provides A/D conversion to and from the console’s DSP and effects engines. One DiGiRack contains 14 slots, with slots 1-7 provided for inputs and slots 8-14 for outputs. Each slot handles eight individual connections, allowing a total of 56 inputs and 56 outputs per rack. Each D Series system is capable of supporting up to four racks simultaneously.

**The Mini-DiGiRack**

The MINI-DiGiRack was designed to give even more flexibility to the D1 and D5 live systems. The 19 inch rack mount unit itself is just 4U high. It houses two power supplies with separate mains connectors and switches. The MINI-DiGiRack can be fitted with a Standard MADI pod or even an Optical MADI pod. The back plane allows any slot to be either input or output for analogue connections, or both in and out for digital connections, such as AES/EBU.

It can be a local rack for front-of-house, allowing outboard equipment such as external effects, CD players and recorders to be connected to the console; it can be fitted with 32 AES/EBU for record and playback to external multitrack machines; it could have 32 Mic inputs and an optical interface, allowing 88 inputs from stage when added to an existing D5 Live 56EX; and 32 outputs could be fitted for extra feeds for a monitor console, extra IEM feeds or for multi-speaker venue applications such as theatre.

**D SERIES d-tube**

The world’s first integrated digital tube mic preamp

Valve/tube technology has long been considered an elegant means of reproducing music. Until now, the large dimensions of the traditional 19-inch rack mount valve/tube preamps have been a consideration, especially in the touring market where space is often at a premium. Not to say tubes sound better but they do colour the sound of a vocal or a particular instrument and make it sound different. Typically, sound engineers like to experiment, so they insert them into their systems to provide characteristics they can’t otherwise get from either analogue or digital mixing consoles. The new DiGiCo D-TuBe presents a unique alternative to this traditional technology by making it part of a digital console. This is true valve/tube-based technology, not a software emulation.

**D SERIES mini-digirack**

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**D SERIES other accessories**

**optical option**

Provides factory-fitted expanding beam optical chassis connectors, optical card interface and 150m of optical cable on a drum.

NOTE: If retro-fitted, customer pays freight to and from factory. Comes with full factory test and re-warranty.

**touring flight case**

Manufactured by Packhorse Cases to professional touring standards.

**sun shades**

Provides individual sun shade one for each touchscreen; dual angle allows for mixing either sitting down or standing up.
D SERIES v4

There are over sixty new features in V4 Software. Just a few features are highlighted below:

**System Options**
- If Solo Displays FX Insert is selected and internal effects are used on console insert points then soloing the relevant channel or output will automatically display the Effects controls for quick adjustment.
- If Solo Reverts to Buss is selected, when an output is in solo mode and then an input channel is soloed and released, the output solo will be switched on again.

**Sessions & File Management**
- A session can now contain up to 36 auxiliary busses.
- The New Session panel has an option to Auto-Route Inputs which will create a session with the first DiGiRack’s inputs already selected in input channels from number one onwards.
- Partial Session Loading allows certain parts of a session to be loaded without changing other settings. These include specific sets of input channels, matrix settings, IPCs, snapshots and layouts.

**Channel Functions**
- The Channel Presets now have a “Recall Scope” and can include input routing.
- The Copy Level From function in Aux Buss Control allows auxiliary settings to be copied from the channel fader or any other auxiliary buss.
- Link Aux Pans to Channels allows the stereo aux pan to be automatically updated when the channel pan is adjusted.
- Assign Buttons Aux to Masters in the channel LCD functions allows control of the channel’s aux sends to be controlled by the buss master faders. This is activated by the channel’s assignable switch.

**Monitoring Functions**
- The console headphone output can now be fed by either Solo 1 or Solo 2 and if the Solo system is in Single Mode then any soloed signal will automatically feed the headphone output.
- The master level for Solo 1 or 2 can be assigned to either the monitor rotary or the master fader as a user option in the Monitoring panel.
- When no Solo buttons are pressed the console headphone output can be fed by any Aux, Group or Master buss according to the selection in the Monitor buss drop down menu.
- If Solo Reverts to Buss is selected, when an output is in solo mode and then an input channel is soloed and released, the output solo will be switched on again.

**Master Functions**
- Output Phase +/- buttons have been added to the Aux, Group and Master busses and also the IPC’s.
- Channels can now be assigned to Groups by touching faders with the Touch Faders to Join/Leave Groups button in the Group Buss Control panel.
- A Macros panel has been created to allow quick access to most console functions via the keyboard F Keys.

**Effects Functions**
- Effects presets can be created and recalled in the Effects panel enabling the copying of Effects and Graphics settings and the recall of these presets with Snapshots.
- The Effects panel can now display up to 6 stereo effects or 6 graphic EQ’s at the same time and graphic EQ’s can be selected by touching the screen or using the worksurface scroll buttons.
- Graphics EQ’s can be ganged with relative offsets and individual faders can be reset using the worksurface LCD buttons.
- If Solo Displays FX Insert is selected and internal effects are used on console insert points then soloing the relevant channel or output will automatically display the Effects controls for quick adjustment.
- Effects decay times are now displayed in seconds.

**Snapshot Functions**
- FX presets can be changed with snapshots.