Preliminary Information

DiGiCo

S21

S21: Rewriting the rule book

Since its inception in 2002, DiGiCo has always tried to innovate and push technology to deliver more in terms of flexibility and audio quality. There are limitless highlights, but two immediately come to mind; DiGiCo was the first console manufacturer to use TFT touch screen technology, and then went on to pioneer Stealth Digital Processing's™ FPGA technology to replace DSP as the main audio processor. Stealth Digital Processing™ has been instrumental in the SD Series range, where, in a recent independent survey, DiGiCo played a pivotal role in eight of the top ten international grossing tours of 2014; evidence enough that when it comes to live sound consoles, DiGiCo pioneers the way.

'Cutting edge' means leading the world against the norm by demonstrating what can be possible with new unharnessed technology. That's exactly what the vision of FPGA and Stealth Digital Processing™ promised and the thousands of users today will confirm the reality. The flexibility of being able to reprogram devices from switch on to taking advantage of new compiling tools has allowed the SD range functionality to expand beyond expectation.

Using SD9 as our reference example, those investing at the time of launch of this ground breaking product have seen their console evolve into something more comprehensive and powerful - as the details below demonstrate:

Channels - at launch 40 Flexi channels, today 48 flexi channels (20 % more)
Busses - at launch 16 Flexi busses, today 24 Flexi busses (50 % more)
Output Matrix - at launch 8 In / 8 Out, today 12 In / 8 Out (50 % more)
Onboard FX - at launch 4 FX, today 8 FX (100 % more)
Dynamic EQ - at launch 4 DYN EQ, today 8 DYN EQ (100 % more)

No other console has evolved in terms of core processing to this level, and to take it further the complete sample rate shifted from 48kHz to 96kHz. This sample rate increase, in any ordinary console, would mean a reduction in audio processing. This is not the case with Stealth Digital Processing™. When SD9 switched to 96kHz in 2012, there was no reduction in audio processing.

All these updates were provided to existing owners at no additional cost, allowing them to make an exceptional return on their investment.

DiGiCo's belief in audio quality and roadworthy mechanical design has limited their ability to release an affordable introductory product. These values have required the same pioneering approach to design, not to follow the trend but to deliver the flagship for a price point - and change expectations. DiGiCo's S21 does exactly that. By using new, lower cost FPGA components programmed with the same audio algorithms, and combined with a new form of control processor, DiGiCo is able to deliver the S21 with the fundamental technological values at its core. Running in harmony with the FPGA core is a new ARM QuadCore RISC processor. Delivering faster processing with lower power consumption, this efficient tool, combined with the audio core, has allowed the development of a cost effective console worthy of carrying the DiGiCo brand to existing and new owners and users.

How to make the step

To date, it has been the Tiger SHARC™ controlling the FPGA, but integrating these three technologies, along with networking capabilities, was a brand new challenge. Using the high power QuadCore SoC, associated with high bandwidth memory, S21 connects to a low power 484-ball array FPGA which in turn connects to fourth generation control SHARC DSP, capable of not only controlling the FPGA, but offering the potential for additional processing in the future. The compact footprint of the S21 has no relationship to the scale of processing power going on under the polycarbonate worksurface.


DiGiCo

DMI-DANTE

DMI-MADI-B

DMI-HYDRA 2

DMI-ADC

S21 comes complete with dual DMI (DiGiCo Multichannel Interface) option card slots, perfect for expandability, as it can interface with industry formats be it Analogue expansion, MADI, Dante, Optocore, Waves SoundGrid, or Calrec's Hydra 2 Network. All bases are covered.

DMI-MADI-C

DMI-OPTO

DMI-AVIOM

DMI-AES

DMI-DAC

DMI-SOUNDGRID

Touch screens are now part of our daily lives, but if you go back to our digital beginnings, DiGiCo incorporated them in designs as long ago as 1997. Continuing their integration, with the advantages of speed of control and user feedback, meant that S21 had to bend the rules again. We utilised the latest P-CAP multi-touch screens for clear visual feedback and gesture control, but also did not limit the user to a single screen - by providing multiple multi-touch screens!

DiGiCo pioneering virtual sound checks with the D5 console in 2002 is a 'must have' feature these days, and S21 comes complete with integrated USB to DAW connectivity to continue that trend. Taking the UB MADI unit and integrating it into S21 delivers up to 48 tracks of recording to your chosen DAW via a standard USB2 connection. Drivers are included for CORE Audio or ASIO connection. Whether used for recording, playback or both, S21 has the connectivity in the surface ready to interface.


S21
Clear Solos
Photo Session (9 of 10)
00:53:
Bass
Guit 1
Guit 2
Ac Gut
Keys
Brass
Vocal
BV 1
BV 2
FX

As an audio engineer, when you first stand in front of an S21, it looks and feels remarkably inviting. You want to touch and control the audio. This level of connection with the audio sources and their manipulation is something the world's leading audio engineers experience when they harness the powerful SD7.

From the aerospace graded aluminium extrusion, the durable polycarbonate overlays, the RGB LED Hidden Til Lit technology coupled with touch sensitive faders / encoders and integrated LED light bar, you know it's a DiGiCo before you turn the PA on.

The S21 redefines industry expectations at its price point.

The compact dual screen design of S21 provides 10 channel strips per screen allowing the operator instant feedback and control on 20 simultaneous channels. This amount of instantaneous feedback offers total reassurance when mixing large shows, but the newly designed drag, swipe and drop channel layout system makes it simple for operators to move channels and busses across the surface to design their own custom fader layouts.

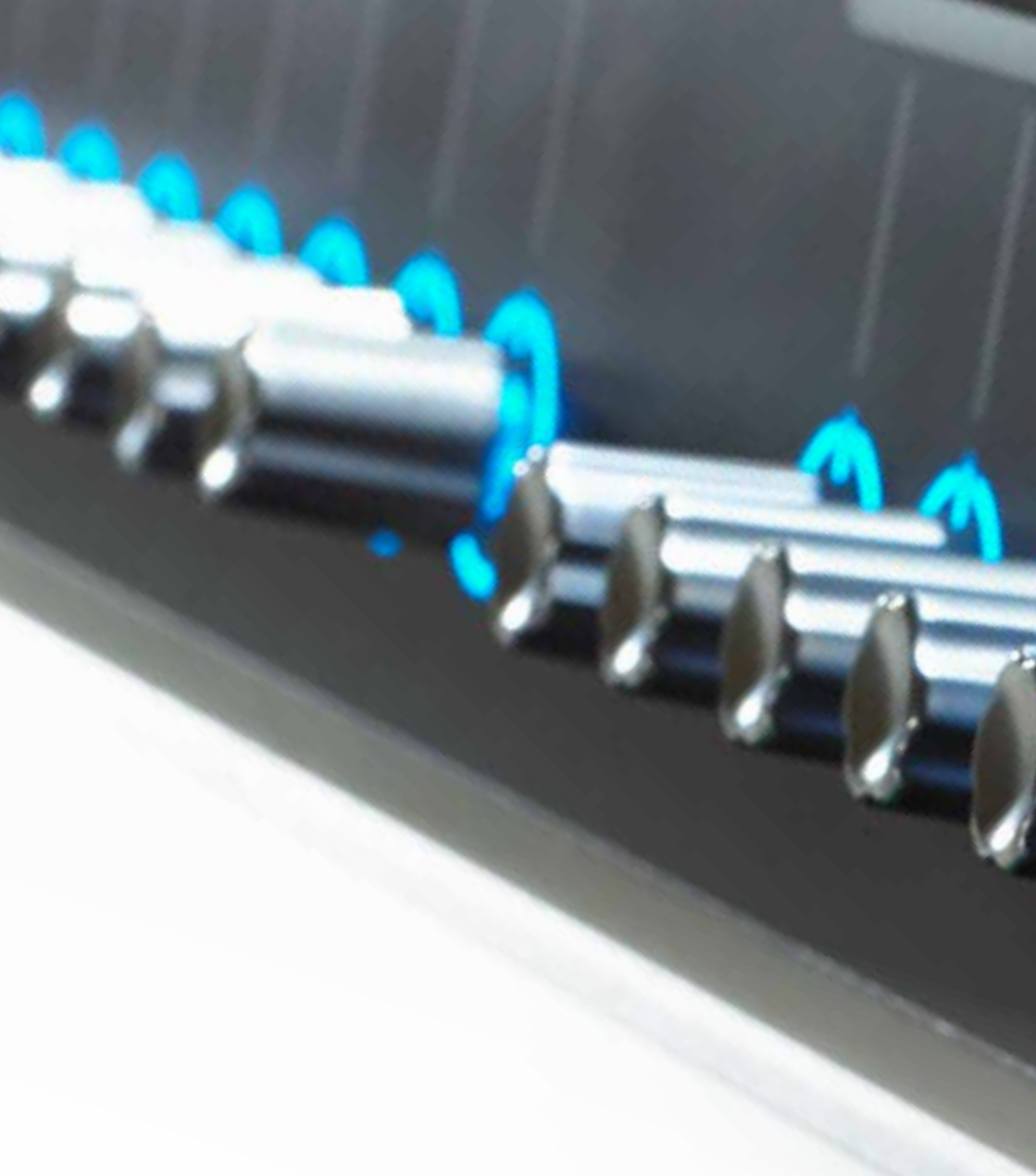
Inputs with EQ

Aux

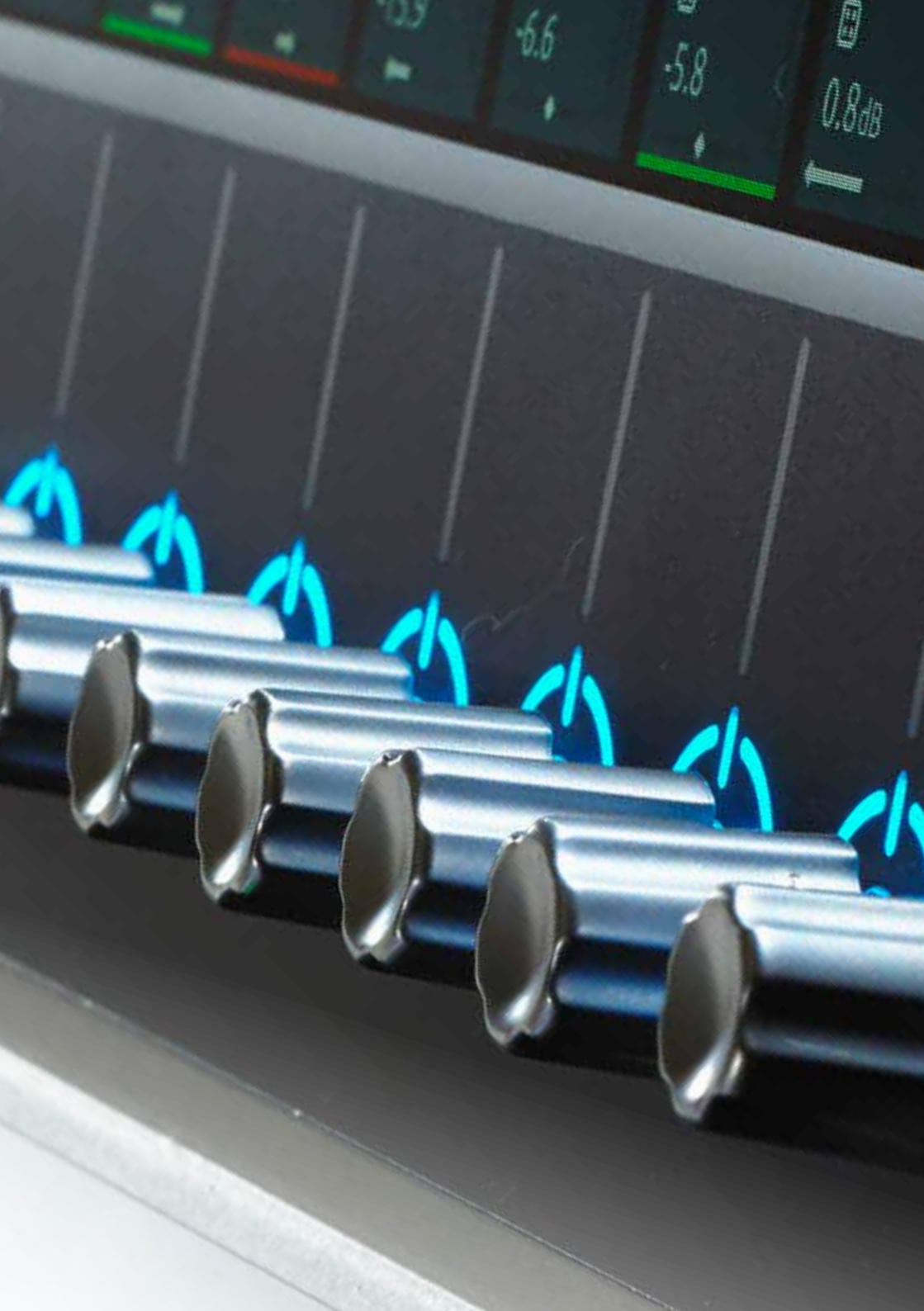
Groups

Whatever function you are using, there is an interactive meter where you would expect it, and helpful colour coding so you know which section you're looking at, be it channel, aux, or group.


Dynamics 2
-9.8
Headphones
-20.0
Threshold
-20.0
Threshold
2ms
Attack
140.0ms
Hold
140.0ms
Hold
140.0ms
Release
140.0ms
Release
Vocal
BV 1
BV 2
FX
S21

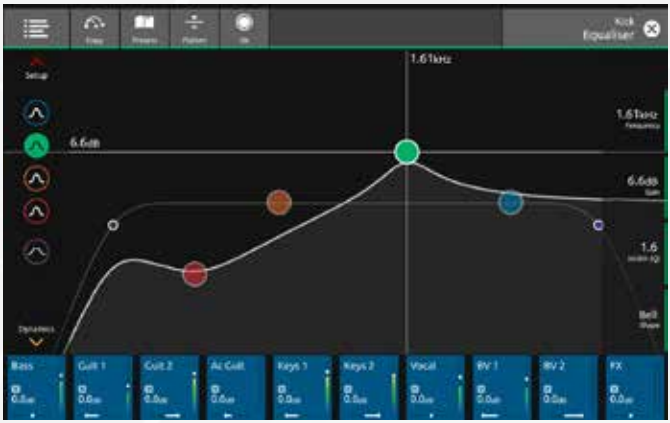


Visual feedback is all reinforced with the HTL functionality of the encoder rings, and anything not in use is automatically greyed out on the console so operators attention is drawn to the right controls.


-6.6
-5.8
0.8dB

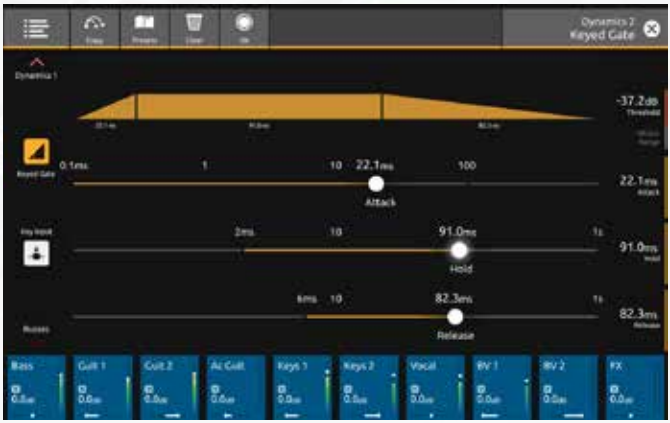
The beauty of having two screens not only gives you more channels to view at any one time, but it allows you to utilise one as a setup or master screen, while still operating with the other. You are always looking in the same location, whatever function you have highlighted.

Touch the EQ screen, and you can choose to pinch, touch and drag your curves on the touch screen, or for a more tactile experience, use the rotary encoders to fine-tune your frequencies, then press to change function or switch on/off. It's the same philosophy for all other processing functions within the console.



EQ


Comp

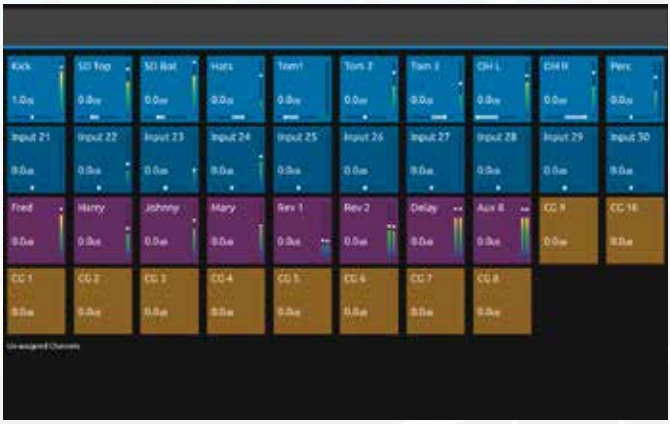


Gate


S21
-9.8
Headphones
100Hz
Frequency
-6.6
Gain
0.7Hz
A
Shape
BV 1
BV 2
FX

Inputs

The new look screen designs are all developed under the flat designs philosophy, to aid the user learning curve and take away distraction from an operator. These new designs will still be familiar to existing DiGiCo users, but allow new operators to feel at home and ready to take advantage of the wealth of integrated processing.



Overview

Channel Bank Layout: as with all DiGiCo products, you can alter where the banks are located, and mix and match any channel, aux, group, control group, or matrix within a bank, with the ease of drag and drop, at the touch of a screen.

Inputs with channel types


Console Overview
-9.8
Edit
Guit 1
Guit 2
Ac Guit
Keys
Brass
Vocal
BV 1
BV 2
FX
Input 31
Input 32
Input 33
Input 34
Input 35
Input 36
Input 37
Input 38
Input 39
Input 40
Master
Group 1
Group 2
Group 3
Group 4
Group 5
Group 6
Dashboard

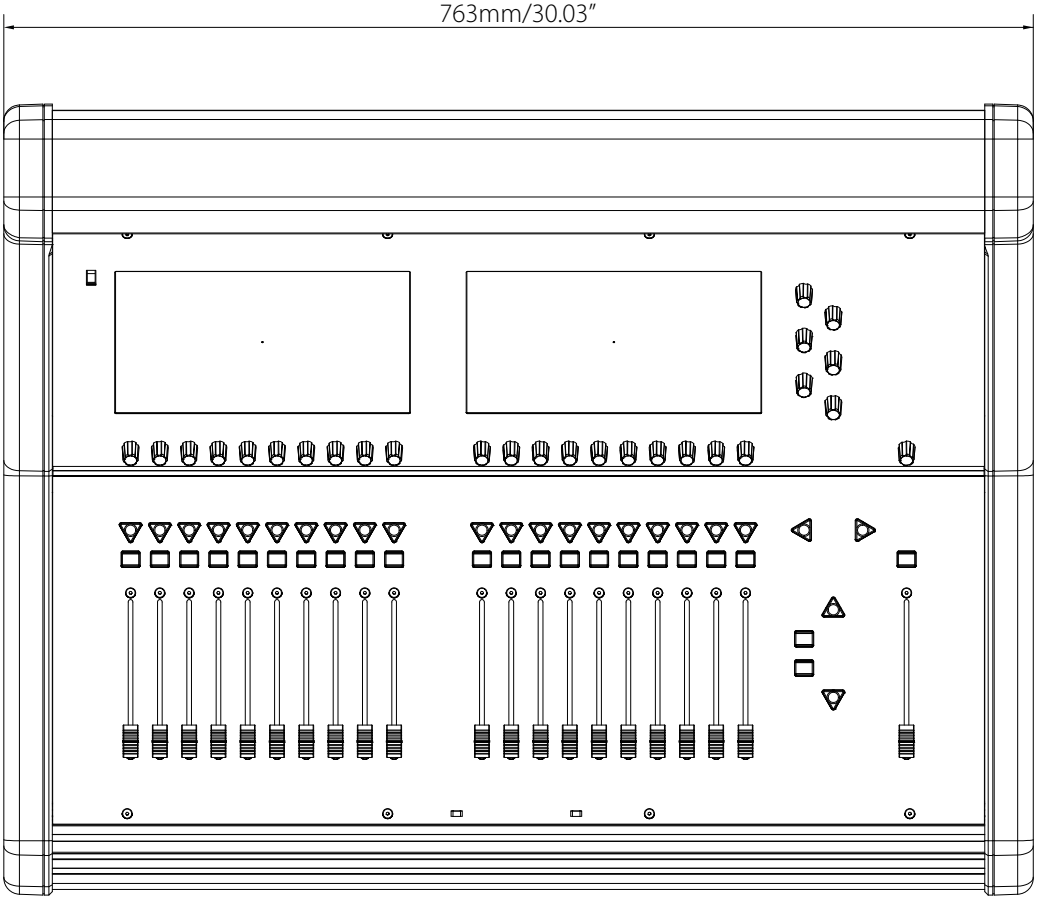

USB
Multi-touch screens
HTL (RGB)
100mm Faders

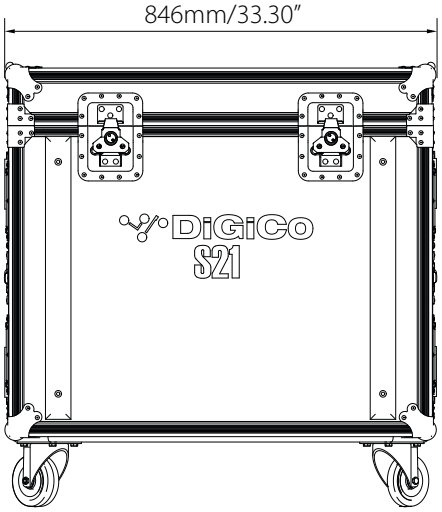

DMI Slot
UB MADI
DVI Out
Ethernet
USB
WORD CLOCK
GPI/GPO
AES I/O
DMI Slot

The Specification

- 96kHz as standard
- 24 mic line inputs
- 12 analogue outs
- 2 AES I/O (mono)
- Word Clock I/O
- 1 GPI and 1 GPO
- DVI out (for an external monitor)
- 2 DMI slots (up to 64 I/O per slot)
- 2 Ethernet connections for Networking
- 2 x 24 segment master/solo meters
- Touch sensitive rotaries with integrated switch & HTL
- 2 x multi-touch screens
- 21 x touch sensitive moving faders
- 4 x layers of banks of 10
- Customisable bank and channel layout
- Snapshots
- Integrated USB2 Audio I/O

- 46 busses 16 x stereo (32), stereo Master (2), solo busses (2 stereo, 4 total), and 10 x 8 Matrix (8)
- 40 x Flexi-channels Mono/Stereo (equivalent of 80 DSP channels)
- 16 x Flexi busses Mono/Stereo (equivalent of 32 DSP busses)
- 16 x assignable 32 band graphic EQs
- 8 x FX engines (reverbs, delays, w/modulation and enhancer)
- 4 x assignable DiGiTubes
- 4 x assignable Multiband comps
- 1 x compressor per channel and buss
- 1 x gate per channel and buss (switchable to ducker, or compressor with side chain access)
- User definable Macros
- An extremely high power headphone amplifier
- 1/4 inch and mini jack socket


763mm/30.03″


846mm/33.30″
DiGiCo
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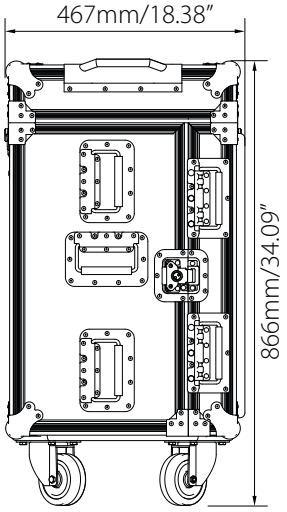
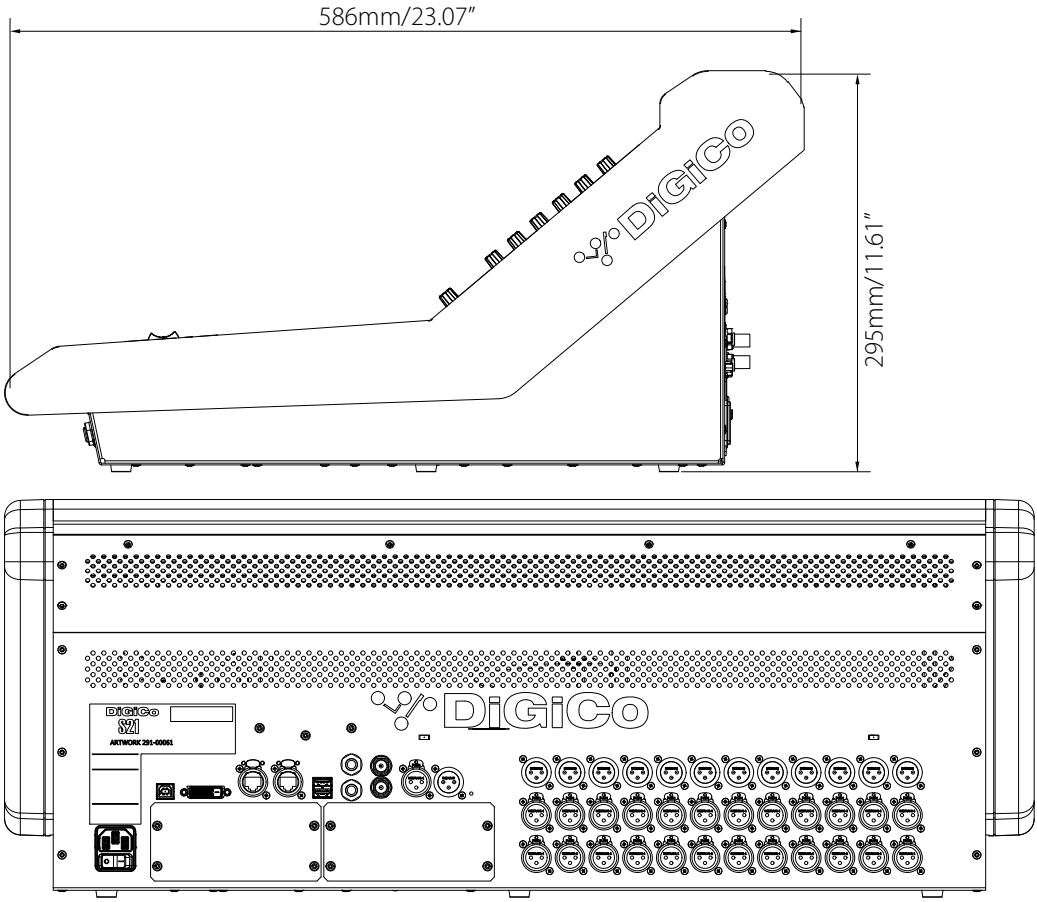

467mm/18.38″
866mm/34.09″



Console Weight 19kg/ 41.88lbs

E&OE

Company Profile

When the professional audio world first set eyes on the DiGiCo D5 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.

A decade on, the SD Series was the new 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.

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. So we added more depth and versatility to the SD Series; the DiGiCo SD7 is complemented by the SD5, powerful SD10, compact SD8, the ultra compact SD9 and rackmount SD11.

DiGiCo continues to rewrite the console rulebook with the new S21; a console with a compact footprint that bears no relationship to the incredible scale of its processing power.

DiGiCo

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