Quantum 5

Own the stage with the third coming of a classic console

OVERVIEW

The DiGiCo Quantum 5 is a 256 channel mixing console with 37 physical faders and 3 x 15" LCD high-resolution touchscreens. Combining the extraordinary might of three large-scale FPGAs, the Quantum 5 offers a powerful upgrade from the legendary SD5.

KEY FEATURES

Up to 256 Input Channels with full processing

Up to 128 Aux/Sub-Group busses with full processing

36 x 36 Matrix with full processing

48 Insertable Mustard processing strips

128 Nodal processing instances

True Solo function

Assignable channel layout

User programmable macros

Capable of redundantly mirroring with another Quantum 5 console

Redundant PSUs as standard

Snapshots for seamlessly changing many parameters at once

2 DMI Slots to expand the I/O as desired

Integrated UB MADI

Offline software

iPad control

Broadcast software option

DiGiCo Quantum

Quantum is developed with seventh-generation FPGA devices that further expand audio processing power and ultimately allows DiGiCo to provide its users with an unrivalled amount of additional flexibility.

Quantum. Power. Connectivity. Flexibility

TECHNICAL SPECIFICATIONS

WORKSURFACE

37 x 100mm touch-sensitive, motorised faders

3 x 15" LCD high-resolution touchscreen

2 x Custom mounted LCD high-resolution TFT-LCD Meterbridge screens

2 x ¼" Headphone socket

1 x USB 2.0 slot

Integrated Light Bar

OPTIONS

Upgrade to Dual Loop Optocore (HMA, OpticalCon or ST)

Upgrade to SingleMode Optocore

Broadcast Software

Flightcase

Quantum Upgrade kit for SD5 (including Quantum power distribution board)

Compatible DMI Cards: ADC / AES / AMM / Aviom / DAC / Dante / Dante 64@96 / Hydra 2 / KLANG / MADI B / MADI C / ME / Mic / Waves

REAR

2 x Redundant PSUs

8 x XLR Mic/Line Inputs

8 x XLR Line Outputs

4 x XLR AES/EBU Inputs (8 x channels)

4 x XLR AES/EBU Outputs (8 x channels)

8 x MADI BNC I/O at 48k, 4 interfaces at 96k

1 x MultiMode Optocore Interface (expandable to 2)

1 x Waves port as standard

2 x DMI Slots (up to 64 I/O per slot)

1 x UB MADI (USB Type B Audio I/O interface for recording and playback of up to 48 channels)

4 x Ethernet ports (switched together)

2 x USB 2.0 slots

1 x DSub37 GPI (16 inputs)

1 x DSub37 GPO (16 outputs)

1 x MIDI In/Thru/Out (5 pin DIN)

1 x Word Clock I/O BNC

1 x DisplayPort Output

1 x AES/EBU Sync I/O

1 x BNC Video Sync

1 x RS422 port (9 pin)

SIGNAL PROCESSING

Up to 256 Input Channels (Mono)
- Main & Alternative input
- Analogue Gain
- Phase Inversion Control
- Gain Tracking
- Digital Trim (-40dB to +40dB)
- Variable Delay (0ms to 1.3s)
- DiGiTube
- HPF/LPF (-24dB/Oct)
- 4 Band Parametric EQ / Dynamic EQ
- DYN 1: Compressor, Multiband Compressor, Desser
- DYN 2: Gate, Duck, External Input Compressor
- EQ/Dyn Order Control
- 2 Insert Points per Channel
- Channel Mute & Hard Mute
- Channel Direct Outputs

Up to 128 Aux/Sub-Group Busses
- Phase Inversion Control
- Digital Trim (-40dB to +40dB)
- Variable Delay (0ms to 1.3s)
- DiGiTube
- Merge Input
- Tone Generator
- HPF/LPF (-24dB/Oct)
- 8 Band EQ: 4 Band Parametric EQ and 4 Band Parametric or Dynamic EQ
- DYN 1: Compressor, Multiband Compressor, Desser
- DYN 2: Gate, Duck, External Input Compressor
- EQ/Dyn Order Control
- 2 Insert Points per Channel
- Channel Mute & Hard Mute

1 LR/LCR/LCRS/5.1 Master Buss (with full processing)

36 input x 36 output Full Processing Matrix

36 Control Groups (CGs)

2 Solo Busses

32 x 32-band GEQs

36 x Internal Stereo FX Processors
- Delays
- Audio Enhancer
- Choruses
- Pitch Shifters
- Reverbs

12 x Internal Spice Rack Slots
- 6 band Dynamic Multiband Compressor/Expander

48 x Mustard Processing Strips
- Tube
- Tube Emulation
- HPF/LPF (-24dB/Oct)
- 4 Band EQ: 2 Band Parametric EQ and 2 Band Parametric EQ or All Pass Filters
- DYN 1: Classic RMS/Peak Compressor, Vintage VCA Compressor, Optical Compressor, FET Limiter
- DYN 2: Gate, Ducker

128 x Nodal Processing
- 4 Band Parametric EQ / Dynamic EQ
- DYN 1: Compressor, Multiband Compressor, Desser
- DYN 2: Gate, Duck, External Input Compressor

Multiband Compressors available on every channel, Buss and Nodal Processor

Dynamic EQs available on every channel, Buss and Nodal Processor

DiGiTuBes available on every channel & Buss

True Solo function

Virtual Souncheck

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 and audio tools as well thought out for every major application as they are designed for the art and science of sound engineering.

A&E SPECIFICATION

The DiGiCo Quantum 5 shall have 37 faders split into 3 worksurface sections plus a master fader. The left and the right worksurface sections shall have 3 layers of 5 banks. The centre worksurface section shall have 3 layers of 4 banks. All faders can be assigned to control any of the channel types. The console shall be capable of up to 288 processing channels split into input channels, Auxes and Groups. The individual channel type limits shall be up to 256 input channels and up to 128 Aux/Sub-group Busses. On top of these 288 processing channels, there shall be a LR/LCR/LCRS/5.1 Master Buss, a 36 input x 36 output full processing Matrix, 36 VCA style or mute group style Control Group channels and 2 Solo Busses. All processing paths shall have full processing including Tube emulation, Dynamic EQ and Multiband Compression. Tube emulation, Dynamic EQ and Multiband Compression shall be available on every channel and Buss on the console. All processing shall be internal and FPGA-Based.

An internal FX rack shall allow users to pick from 34 different FX. Up to 36 stereo FX can be added, compromising of 16 floating point reverbs and 32 delay/chorus/pitch/enhancer effects. An internal set of 32 32-band GEQs shall also be accessible. There shall be an additional processing Rack called the Spice Rack, allowing up to 12 mono effects. There shall also be 48 insertable Mustard Processing Strips. The position of these, and of inserts, shall be chosen from pre-processing, pre-EQ/dynamics, mid-EQ/dynamics, pre-fader or post-fader. 128 instances of nodal processing shall also be available. These shall allow EQ and dynamics (including Dynamic EQ and Multiband Compression) to be applied to the aux node of a channel.

Three 15" (38cm) LCD high-resolution touch screens shall be provided to show the channel strips. The centre screen shall also show the master screen. The view of the centre screen shall be controlled by a physical button on the worksurface. The two side screens shall each have a dedicated hardware channel strip, allowing control over filters, EQ, dynamics, insert points and 5.1 panning. Each side screen shall also have 7 quick select buttons to allow easy reassignment of the underscreen rotaries. The master section below the centre screen shall have physical controls to allow control over some snapshot functions, control over basic Solo functions and source and speaker selection (Broadcast software). There shall also be 4 layers of 10 user-assignable LCD macro buttons on the worksurface. The user shall also be able to program macros that can be triggered with fader movements, GPI, MIDI and keyboard functions. This master section shall also have a USB port.

The rear panel shall have 8 Mic/Line inputs, 8 line outputs, 4 AES/EBU inputs (8 channels), 4 AES/EBU outputs (8 channels) and 4 redundant MADI interfaces which can also be configured as 8 interfaces at 48kHz. The console shall come with one loop of MultiMode Optocore as standard, providing 504 additional audio paths at 48kHz and 96kHz. The Optocore connection type shall be chosen from HMA, OpticalCon or ST. It shall also have a Waves Soundgrid port as standard providing 64 inputs and 64 outputs to the SoundGrid Network at 48kHz and 96kHz, 2 DMI slots, inbuilt UB MADI (USB Type B audio I/O interface for recording and playback of up to 48 channels), 1 DSub37 GPI and 1 DSub37 GPO (16 inputs and 16 outputs), MIDI In, Thru and Out, AES sync, video sync, external Wordclock I/O, a DisplayPort, 4 switched ethernet ports, 2 USB ports, and an RS422 port. It shall also have 2 redundant and hot-swappable power supplies.

There shall be an option to add a second Optocore loop. This shall give an additional 504 audio paths at 48kHz and 96kHz. The Optocore interface can also be upgraded to SingleMode.

There shall also be a Broadcast Software option available that shall provide a Monitor Matrix, Backstop PFL and Mix Minus Busses.

AUDIO SPECIFICATIONS

Sample Rate: 48kHz or 96kHz
Procesing Delay: 2ms Typical @ 48K (253 Channels, Stage input Through L-R Buss to Stage Output) 1.1ms @ 96k
Internal Processing: Up to 40-bit, Floating Point
A>D & D>A: 24-bit Converter Bit Depth
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 Typical (20Hz-20kHz)
Microphone Input: Better Than -126dB: Equivalent Noise
Maximum Output Level: +22dBu
Maximum Input Level: +22dBu

The dimensions of the Quantum 5 shall be: 1465 (w) x 838 (d) x 458 (h) mm
The weight of the Quantum 5 shall be: 116kg
The DiGiCo Quantum 5 shall be supplied with a dust cover.

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 and audio tools as well thought out for every major application as they are designed for the art and science of sound engineering.

LINE DRAWING
All dimensions in mm

838mm (32.99")

1465mm (57.67")

458mm (18.03")
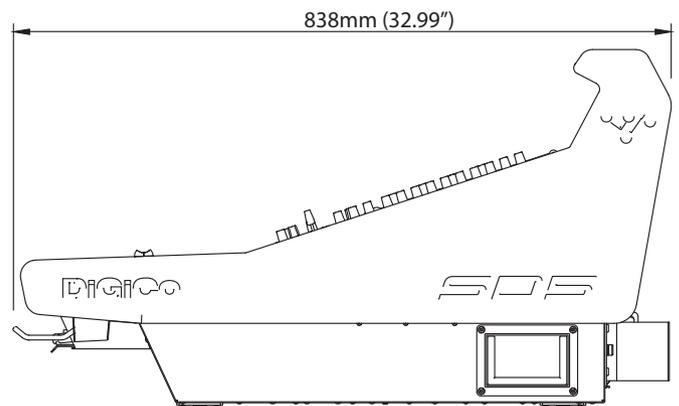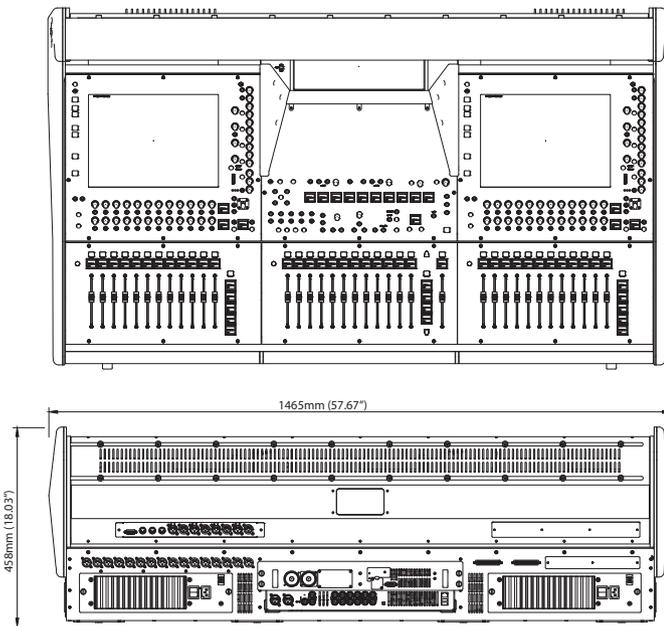
PHYSICAL

Dimensions: 1465mm (w) x 838mm (d) x 458mm (h)

Weight: 116kg (235kg with optional flightcase)

Flightcase: 1600mm (w) x 600mm (d) x 1200mm (h) (Optional)

Power Requirements: 90-260 V, 50-60Hz, 790VA

Redundancy: Internal PSU x 2

Product Code: X-Q5-WS-OP (HMA optics)

Product Code: X-Q5-UP-OP (Upgrade from SD5 with HMA optics)

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