

# Quantum 7B Digital Mixing Console



[Full product information online](#)

## 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 432 (combination of Input Channels / Aux / Solo Group Busses)
- Busses Up to 128 Aux / Group busses with full processing Mono / Stereo / LCR / 5.1
- Matrix Up to 48 Input / 48 Outputs with full processing
- Control Groups Up to 36, selectable for VCA-style, Moving fader, Mute Group
- Graphic Eq 48 x 32-band, Gain +/- 12dB
- Internal FX Up to 48 stereo effects comprising 16 floating point reverbs and 32 delay/chorus/pitch/enhancer
- Local I/O 12 x mic/line I/O, 12 x AES I/O
- 8 x MADI interfaces @ 48kHz, 4 redundant interfaces @ 96kHz, BNC connectivity
- Standard Optocore (Dual Loop – Optional)
- Sampling rates 48kHz / 96kHz
- GPIO: 2 x DSub37 – 16 as standard, expandable to 32
- Video Inputs x 2, Outputs x 2
- DMI: 2 x DiGiCo Multichannel Interface
- Waves: Fitted as Standard
- Ext Sync Wordclock, AES, Video, MADI, Optocore
- SD7 Quantum Dimensions: 1496mm (w) x 875mm (d) x 503mm (h)
- SD7 Quantum Weight 141Kg / 311lbs (245Kg / 540 lbs. with flightcase)
- SD7 Quantum Flightcase: 1600mm (w) x 600mm (d) x 1240mm (h)
- Power Requirements 90V-260V, 50-60Hz, 600VA

### Audio Specification

- Sample Rate: 48kHz or 96kHz
- Processing 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: <90dBu Typical
- Noise: (20Hz – 20kHz)
- Microphone Input: Better Than -126dB: Equivalent Noise
- Maximum Output Level: +22dBu
- Maximum Input Level: +22dBu

## Processing Channel Specification

### Input Channel

- 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)
- DiGiTuBe: Drive 0.01 – 50.0
- Bias 0 – 6
- LPF: 20 – 20kHz, 24dB/Oct
- HPF: 20 – 20kHz, 24dB/Oct
- Insert A: (Pre EQ/Dyn) On/Off
- Equalisation: 4 Band EQ: Parametric or Dynamic (Low/Lowshelf, Lower-Mid/Lowshelf, Upper-Mid/Hi Shelf, Hi/Hishelf)  
On/Off  
Freq; 20 – 20kHz  
Gain; +/- 18dB  
Q: 0.1 -20 (Parametric) / 0.10-0.85 (Shelf)  
Dynamic EQ On/Off  
Over/Under  
Band On/Off  
Threshold; -60 – 0dB  
Attack; 500us – 100ms  
Release; 10ms – 10s  
Ratio; 1:1 – 50:1
- Dynamics 1: Single or Multiband (3-Band) Compressor: On/Off  
Threshold; -60 – 0dB  
Attack; 500us – 100ms  
Release; 10ms – 10s  
Ratio; 1:1 – 50:1  
Gain; 0 to +40dB with  
Autogain Option

- Link; Any Channel/Buss
- Hi Crossover; 20Hz – 20kHz
- Lo Crossover; 20Hz – 20kHz
- Knee : Hard, Med, Soft De-Esser: Threshold : 20us – 20ms
- Release : 1ms – 100ms
- Ratio : 1:1 – 50:1
- Ess-Band : Listen On/Off
- Ess-Band Filter Freq / Width: 20Hz – 20kHz
- Dynamics 2: On/Off Gate / Ducker: Threshold; -60 – 0dB
- Attack; 50us – 100ms
- Hold; 2ms – 2s
- Release; 5ms – 5s
- Range; 0 – 90dB
- Key; Any Source
- Key Listen
- Freq/Width; 20 – 20kHz Compressor: On/Off
- Threshold; -60 – 0dB
- Attack; 500us – 100ms
- Release; 10ms – 10s
- Ratio; 1:1 – 50:1
- Gain; 0 to +40dB with
- Autogain Option
- Link; Any Channel / Buss
- Hi Crossover; 20Hz – 20kHz
- Lo Crossover; 20Hz – 20kHz
- S/C Source : Any Source
- S/C Listen : On/Off
- S/C Filter Freq/Width: 20Hz – 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: Input, EQ, Dyn, Aux, Pan, Fade/Mute, Inserts, Buss, Directs, Full Safe
- Output Routing: Buss, Insert A, Insert B, FX
- Direct: On/Off, Pre-Mute / Pre-Fade / Post-Fade, Level +/- 18dB
- Fader: 100mm Motorised Fader ∞ to +10dB

### **Processing Channel Specification**

#### **Aux / Group / Matrix Output**

- Name: User-Defined / Presets
- Phase: Normal / Reverse
- Digital Trim: -20 to +60dB

- Delay: >1 Sec (Coarse & Fine control)
- DiGiTuBe: Drive 0.01 – 50.0  
Bias 0 – 6
- LPF: 20 – 20kHz, 24dB / Oct
- HPF: 20 – 20kHz, 24dB / Oct
- Insert A: (Pre EQ/Dyn) On/Off
- Equalisation: 8 Band EQ: 4 band Parametric and 4 band parametric or Dynamic (Low/Lowshelf, Lower-Mid/Lowshelf, Upper-Mid/Hi Shelf, Hi/Hisshelf)  
On/Off  
Freq; 20 – 20kHz  
Gain; +/- 18dB  
Q: 0.1 -20 (Parametric) / 0.10-0.85 (Shelf)  
Dynamic EQ On/Off  
Over/Under  
Band On/Off  
Threshold; -60 – 0dB  
Attack; 500us – 100ms  
Release; 10ms – 10s  
Ratio; 1:1 – 50:1
- Dynamics 1: Single or Multiband (3-band) Compressor: On/Off  
Threshold; -60 – 0dB  
Attack; 500us – 100ms  
Release; 10ms – 10s  
Ratio; 1:1 – 50:1  
Gain; 0 to +40dB  
with Autogain Option  
Link; Any Channel / Buss  
Hi Crossover; 20Hz – 20kHz  
Lo Crossover; 20Hz – 20kHz  
Knee : Hard, Med, Soft De-Esser: Threshold: 20us – 20ms  
Release: 1ms – 100ms  
Ratio: 1:1 – 50:1  
Ess-Band: Listen On/Off  
Ess-Band Filter Freq/Width: 20Hz – 20kHz
- Dynamics 2: On/Off Gate / Ducker: Threshold; -60 – 0dB  
Attack; 50us – 100ms  
Hold; 2ms – 2s  
Release; 5ms – 5s  
Range; 0 – 90dB  
Key; Any Source  
Key Listen  
Freq/Width; 20 – 20kHz Compressor: On/Off  
Threshold; -60 – 0dB  
Attack; 500us – 100ms

Release; 10ms – 10s

Ratio; 1:1 – 50:1

Gain; 0 to +40dB

with Autogain Option

Link; Any Channel/Buss

Hi Crossover; 20Hz – 20kHz

Lo Crossover; 20Hz – 20kHz

S/C Source : Any source

S/C Listen : On/Off

S/C Filter Freq/Width: 20Hz – 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  $\infty$  to + 10dB