16.8 System Specifications

Inputs	**Mic/Line Inputs**	Balanced, XLR and 1/4" TRS jack, fully recallable
	Input Sensitivity (XLR / TRS)	-60 to +5dBu / -50 to +15dBu
	Analogue Gain	-5 to +60dB, 1dB steps
	Maximum Input Level (XLR / TRS)	+19dBu / +29dBu
	Input Impedance (XLR / TRS)	>5kΩ / >10 kΩ
	THD+N, Unity gain 0dB	0.0005% -89 dBu (20-20kHz, Direct Out @0dBu 1kHz)
	THD+N, Mid gain +30dB	0.001% -83dBu (20-20kHz, Direct Out @0dBu 1kHz)
	Phantom Power	+48V
	Stereo Line Inputs	
	ST1, ST2 connector	Balanced, 1/4" TRS jack, half normalled
	ST3 connector (not Qu-SB)	Unbalanced, stereo 3.5mm Mini Jack
	Input Sensitivity (ST1, ST2 / ST3)	Nominal +4dBu / 0dBu
	Trim	+/-24dB
	Maximum Input Level (ST1,ST2 / ST3)	+22dBu / +18dBu
	Input Impedance	>7kΩ
Outputs	**Mix1-10 and LR Out**	Balanced, XLR
	Group and Matrix Out (not Qu-16)	(1/4" TRS Matrix Out on Qu-SB)
	Output Impedance	<75Ω
	Nominal Output	+4dBu = 0dB meter reading
	Maximum Output Level	+22dBu
	Residual Output Noise	-90 dBu (muted, 20-20kHz)
	Stereo Alt Out & 2Trk Out (not Qu-SB)	Balanced, 1/4" TRS jack
	Source (Alt Output / 2Trk Output)	Patchable / LR post-fade
	Output Impedance	<75Ω
	Nominal Output	+4dBu = 0dB meter reading
	Maximum Output Level	+22dBu
	Residual Output Noise	-90 dBu (muted, 20-20kHz)
	AES Digital Output (not Qu-SB)	2 channel, 48kHz sampling rate, XLR
		2.5Vpp balanced terminated 110Ω
dSNAKE	**Inputs**	Patchable to CH1-32, ST1, ST2, ST3
	Outputs	Patchable from Mix1-10, LR, Grp1-8, MTX1-4
		Compatible with AudioRacks AR2412, AR84, AB168
		Compatible with ME personal mixing system
System		Measured balanced XLR in to XLR out, 0dB gain, 0dBu input
	Dynamic Range	112 dB
	Frequency Response	+0/-0.5dB 20Hz to 20kHz
	Headroom	+18dB
	Internal operating Level	0dBu
	dBFS Alignment	+18dBu = 0dBFS (+22dBu at XLR output)
	Meter Calibration	0dB meter = -18dBFS (+4dBu at XLR out)
	Meter Peak indication	-3dBFS (+19dBu at XLR out), multi-point sensing
	Meter Signal indication	-48dBFS (-26dBu at XLR out)
	Meter Type	Fast (peak) response
	Sampling Rate	48kHz +/-100PPM
	ADC, DAC	24-bit Delta-Sigma
	Latency	1.2 ms (local XLR in to XLR out)
		0.7 ms (local XLR in to AES out)
	Operating Temperature Range	0 deg C to 35 deg C (32 deg F to 95 deg F)
	Mains Power	100-240V AC, 50/60Hz
	Max Power Consumption Qu-16/24/32/Pac/SB	82W/120W/150W/55W/49W
USB Audio	**Qu-Drive**	USB A
	Stereo Record	2 channel, WAV, 48kHz, 24-bit, patchable
	Stereo Playback	2 channel, WAV, 44.1 or 48kHz, 16 or 24-bit, to ST3
	Multitrack Record	18 channel, WAV, 48kHz, 24-bit, patchable
	Multitrack Playback	18 channel, WAV, 48kHz, 24-bit
	USB Audio Streaming	USB B, Core Audio compliant
	Send (upstream) Qu-16/24/32/Pac/SB	24/32/32/32/32 channel, WAV, 48kHz, 24-bit
	Return (downstream) Qu-16/24/32/Pac/SB	22/30/32/32/32 channel, WAV, 48kHz, 24-bit
Dimensions & Weights	**Qu-16**	Width x Depth x Height
	Desk mounted	440 x 500 x 186 mm (17.4" x 19.7" x 7.4")
	Rack mounted	483 x 472 x 190 mm (19" x 18.6" x 7.5")
	Packed in shipping box	610 x 680 x 350 mm (24" x 27" x 13.8")
	Unpacked weight	10 kg (22 lbs)
	Packed weight	13.5 kg (30 lbs)
	Qu-24	Width x Depth x Height
	Desk mounted	632 x 500 x 186 mm (24.9" x 19.7" x 7.4")
	Packed in shipping box	670 x 790 x 350 mm (26.4" x 31.1" x 13.8")
	Unpacked weight	14 kg (31 lbs)
	Packed weight	18 kg (40 lbs)

Control	Faders Qu-16, 24, 32	100mm motorised
	Touch Screen Qu-16, 24, Pac	5" TFT, 800x480 resolution
	Touch Screen Qu-32	7" TFT, 800x480 resolution
	SoftKeys	4 (Qu-16), 10 (Qu-24, 32), 15 (Qu-Pac)
	Mute Groups / DCA Groups	4 / 4
	Network	TCP/IP Ethernet for MIDI and iOS apps
Input Processing	**Source**	
	CH1-32, ST1, ST2	Local, dSNAKE, or USB
	ST3	Local, dSNAKE, or USB Stereo
	USB Global Source	Qu-Drive or USB B Streaming
	Stereo Linking	Odd/even input pairs
	Parameters linked	EQ, dynamics, insert, delay, assignments, sends, Ducker
	Link options	Preamp, polarity, sidechains, fader/mute, pan
	Polarity	Normal/Reverse
	High Pass Filter	12dB/octave 20Hz – 2kHz
	Insert	FX or Ducker
	Delay	Up to 85ms
	Gate	Self key Sidechain
	Threshold / Depth	-72dBu to +18dBu / 0 to 60dB
	Attack / Hold / Release	50us to 300ms / 10ms to 5s / 10ms to 1s
	PEQ	4-Band fully parametric, 20-20kHz, +/-15dB
	Band 1, Band 4	Selectable Shelving (Baxandall), Bell
	Band 2, Band 3	Bell
	Bell Width	Non-constant Q, variable, 1.5 to 1/9th octave
	Compressor	Self key Sidechain
	Threshold / Ratio	-46dBu to 18dBu / 1:1 to infinity
	Attack / Release	300us – 300ms / 100ms - 2s
	Knee	Soft/Hard
	Types	Peak Manual, RMS Manual, SlowOpto, PunchBag
	Channel Direct Out to USB	Follow Fader, follow Mute (global options)
	Source select (global)	Post-Preamp, Pre-EQ, Post-EQ, Post-Delay
Mix Processing	**Insert**	Assign FX into Mix channels
	Delay	Up to 170ms
	GEQ	Constant 1/3 oct, 28 bands 31Hz-16kHz, +/-12dB Gain
	PEQ	As Input PEQ
	Compressor	As Input Compressor
AMM	Available on	CH1-16
	Mode	Gain Sharing
	Sidechain Filter HPF / LPF	12dB/octave 20Hz – 2kHz / 120Hz - 20kHz
	Priority	-15dB to +15dB per channel
Ducker	Available on	CH1-32, ST1-3, Group
	Trigger Source	Selectable from any Input or Output
	Mode	Single or Ganged
	Threshold / Depth	-72dBu to +18dBu / 0 to 60dB
	Attack / Hold / Release	Fast, Medium, Slow
FX	Internal FX	4x RackFX engine, Send>Return or Inserted
	Types	Reverbs, Delays, Gated Reverb, ADT
		Chorus, Symphonic Chorus, Phaser, Flanger
	4 dedicated Stereo FX returns	Fader, Pan, Mute, Routing to Mix/LR, 4-Band PEQ
Audio Tools	**PAFL**	PFL or stereo in-place AFL, 0 to -24dB Trim, 85ms Delay
	Talkback	Assignable to any mix, Gain, 48V, 12dB/oct HPF
	Signal Generator	Assignable to any mix, Sine / White/Pink/Bandpass Noise
	RTA	31-Bands 1/3 octave 20-20kHz, follows PAFL source
Dimensions & Weights	**Qu-32**	Width x Depth x Height
	Desk mounted	850 x 500 x 186 mm (33.5"" x 19.7" x 7.4")
	Packed in shipping box	1000 x 680 x 350 mm (39.4" x 26.8" x 13.8")
	Unpacked weight	20 kg (44 lbs)
	Packed weight	24 kg (53 lbs)
	Qu-Pac	Width x Depth x Height
	Desk mounted	440 x 174 x 181 mm (17.4" x 6.9" x 7.1")
	Rack mounted	483 x 174 x 177 mm (19" x 6.9" x 7") 4U
	Packed in shipping box	620 x 310 x 310 mm (24.4" x 12.2" x 12.2")
	Unpacked weight	6.6 kg (14.5 lbs)
	Packed weight	8.5 kg (18.7 lbs)
	Qu-SB	Width x Depth x Height
	Desk mounted / stagebox use	435 x 174 x 162 mm (17.2" x 6.9" x 6.4")
	Packed in shipping box	550 x 270 x 270 mm (21.7" x 10.6" x 10.6")
	Unpacked weight	4.5 kg (9.9 lbs)
	Packed weight	5.7 kg (12.7 lbs)