Série QL

Caractéristiques techniques des consoles QL/CL

		QL5	QL1	CL5	CL3	CL1
Mixing Capacity	**Input Mixing Channels**	64 mono + 8 stereo	32 mono + 8 stereo	72 mono + 8 stereo	64 mono + 8 stereo	48 mono + 8 stereo
	Mix Buses	16		24		
	Matrices	8 (Input to Matrix supported)		8 (Input to Matrix supported)		
	Stereo Bus	1		1		
	Mono	1		1		
	Cue	1 (Second Cue Bus supported in QL V4.0 or later)		1 (Second Cue Bus supported in CL V4.0 or later)		
Local Connectors	**Analog Inputs**	32	16	8		
	Analog Outputs	16	8	8		
	MY Slots	2		3		
	Dante I/O	Primary / Secondary		Primary / Secondary		
	Digital Out	1 (AES/EBU)		1 (AES/EBU)		
	GPI	5 in / 5 out		5 in / 5 out (CL V1.11 or later)		
	Word Clock I/O	Yes		Yes		
	MIDI I/O	In / Out		In / Out		
	External Redundant PSU	No		Optional PW800W		
	Meter Bridge	No		Output meter built-in	Optional MBCL	
	Ethernet	Yes		Yes		
	AC Inlet	V-Lock Type		V-Lock Type		
Scene Memory	**Number of Scenes**	300		300		
	Recall Safe	Yes		Yes		
	Focus Recall	Yes		Yes		

	Fade Time	Yes (0s ~ 60s)	Yes (0s ~ 60s)
	Preview	Yes	Yes (CL V1.51 or later)
	Selective Load / Save	Yes	Yes (CL V1.7 or later)
	Tactile Control Keys	No (on-screen)	Yes
Input Channel Functions	**Gain Compensation**	Yes	Yes
	Digital Gain	Yes (-96dB ~ +24dB)	Yes (-96dB ~ +24dB)
	ATT	-96dB ~ 0dB	-96dB ~ 0dB
	HPF	20Hz ~ 600Hz, -6 or -12dB/oct Selectable	20Hz ~ 600Hz, -6 or -12dB/oct Selectable (CL V1.51 or later)
	PEQ	4 Band Full PEQ (RTA overlay support in QL V3.0 or later, New EQ Algorithms support in QL V4.0 or later)	4 Band Full PEQ (RTA overlay support in CL V3.0 or later, New EQ Algorithms support in CL V4.0 or later)
	Dynamics 1	Gate / Ducking / Compressor / Expander (Key-in Filter on the Compressor and Expander in QL V4.0 or later)	Gate / Ducking / Compressor / Expander (Key-in Filter on the Compressor and Expander in CL V4.0 or later)
	Dynamics 2	Compressor / Compander-H / Compander-S / De-esser	Compressor / Compander-H / Compander-S / De-esser
	Input Delay	Yes (0ms ~ 1000ms, frame delay support in QL V3.0 or later)	Yes (0ms ~ 1000ms, frame delay support in CL V3.0 or later)
	Pan	CENTER NOMINAL or LR NOMINAL for monaural input channels in QL V3.1 or later L-MONO, R-MONO or LR-MONO for stereo input channels in QL V3.1 or later	CENTER NOMINAL or LR NOMINAL for monaural input channels in CL V3.1 or later L-MONO, R-MONO or LR-MONO for stereo input channels in CL V3.1 or later
	DCA Group	16 (Output DCA support in QL V3.0 or later)	16 (Output DCA and DCA Roll-Out support in CL V2.0 or later, Scrollable DCA Roll-Out support in CL V4.0 or later)
	MUTE Group	8	8
	Number of Inserts	2	2 (CL V2.0 or later)
	Direct Out	Yes	Yes
Output Channel Functions	**PEQ**	4 Band Full PEQ (RTA overlay support in QL V3.0 or later, New EQ Algorithms support in QL V4.0 or later)	4 Band Full PEQ (RTA overlay support in CL V3.0 or later, New EQ Algorithms support in CL V4.0 or later)
	Dynamics 1	Compressor / Expander / Compander-H / Compander-S	Compressor / Expander / Compander-H / Compander-S
	MUTE Group	8	8
	Number of Inserts	2	2 (CL V2.0 or later)
Premium Rack	**Number of Premium Racks**	8	8
	Mountable Device	RND Portico5033 / RND Portico5043 / U76 / Opt-2A / EQ-1A / Dynamic EQ / Buss Comp 369 (QL V3.0 or later) / MBC4 (QL V4.0 or later)	RND Portico5033 / RND Portico5043 / U76 / Opt-2A / EQ-1A / Dynamic EQ / Buss Comp 369 (CL V3.0 or later) / MBC4 (CL V4.0 or later)
Effect Rack	**Number of Effect Racks**	8	8
	Number of Effect Programs	54	54
	Mountable Device	Effect / 31BandGEQ / Flex15GEQ / 8Band PEQ (QL V3.0 or later)	Effect / 31BandGEQ / Flex15GEQ / 8Band PEQ (CL V3.0 or later)
GEQ Rack	**Number of GEQ Racks**	8	16
	Mountable	31BandGEQ / Flex15GEQ / Dugan Automixer /	31BandGEQ / Flex15GEQ / Dugan Automixer (CL V3.0 or later) / 8Band

	Device	8Band PEQ (CL V3.0 or later) (RTA overlay support in QL V3.0 or later, GEQ gain control from the TOUCH AND TURN knob in QL V4.0 or later)		PEQ (CL V3.0 or later) (RTA overlay support in CL V3.0 or later, GEQ gain control from the TOUCH AND TURN knob in CL V4.0 or later)
Dante	**Number of I/O Channels**	64 in / 64 out	32 in / 32 out	64 in / 64 out
	Number of I/O devices that can be discovered from the console *1	127		63
	Number of I/O devices that can be mounted	24		24
	Number of I/O devices with HA remote control *2	8		8
	Dante Patch from Console	Yes		Yes
Recording	**USB Memory Recording**	Yes		Yes
	DVS Recording	Yes (DVS and Nuendo Live bundled)		Yes (DVS and Nuendo Live bundled)
Broadcast Functions	**5.1 Surround Panning**	Yes (QL V3.0 or later)		Yes (CL V3.0 or later)
	Surround Monitor	Yes (QL V3.0 or later)		Yes (CL V3.0 or later)
	Mix Minus	Yes (QL V3.0 or later)		Yes (CL V2.0 or later)
	L-Mono / R-Mono / LR-Mono	Yes (QL V3.0 or later)		Yes (CL V3.0 or later)
Monitor	**Solo Mode**	Yes (QL V4.0 or later)		Yes (CL V4.0 or later)
	Second Cue Bus (allows the MATRIX 7/8 to be used as a CUE B bus)	Yes (QL V4.0 or later)		Yes (CL V4.0 or later)
	Oscillator	Sine Wave 1ch / Sine Wave 2ch (QL V3.0 or later) / Pink Noise / Burst Noise		Sine Wave 1ch / Sine Wave 2ch (CL V3.0 or later) / Pink Noise / Burst Noise
Other Functions	**Port to Port**	Yes		No
	RTA	Yes (QL V3.0 or later)		Yes (CL V3.0 or later)
	Output Port Delay	Yes (0ms ~ 1000ms, frame delay support in QL V3.0)		Yes (0ms ~ 1000ms, frame delay support in CL V3.0)
	Cascade	Yes		Yes (via MY slots)
	User Level	Yes		Yes
	Help File	Yes		Yes (CL V1.51 or later)
	Channel Link	Yes (Output Channel Link support in QL V3.0 or later)		Yes (Output Channel Link support in CL V3.0 or later)
	Channel Copy/Move	Yes		Yes
	Control & Monitoring for Digital Wireless Receivers	Shure ULXD4D/ULXD4Q (QL V4.0 or later)		Shure ULXD4D/ULXD4Q (CL V4.0 or later)

User Interface	**Display**	10 inch Touch Panel		10 inch Touch Panel		
	Centralogic Section	No		Yes		
	Faders	32 + 2	16 + 2	16 + 8 + 8 + 2	16 + 8 + 2	8 + 8+ 2
	Selected Channel Encoders	Gain, HPF, PEQ (controls for a selected band), Dynamics 1/2(Threshold only), Pan		Gain, HPF, PEQ (controls for 4 bands), Dynamics 1/2(Threshold only), Pan, Mix/Matrix Sends		
	Channel Encoder	No		Yes (for Gain, Send Level, or an assigned parameter)		
	Channel Name / Color Display	Yes		Yes		
	Custom Fader Banks	Yes (customized for all faders in a lump, MASTER fader of FADER BANK A in QL V4.0 or later)		Yes (customized for each fader section)		
	User Defined Keys	12 (x 4 banks in QL V3.0 or later)		16 (x 4 banks in CL V3.0 or later)		
	User Defined Knobs	4 (on-screen)		4		
	Touch and Turn Knob	Yes		Yes (using a User Defined Knob)		
	Monitor Level Knob	Yes (on-screen)		Yes		
	Wooden Arm Rest	No		Yes		
	iPad Stay	Yes	No	Yes		No
	Rack-mounting	No	Yes	No		
Software	**Editor**	QL Editor (Win/Mac, CSV files import/export in QL Editor V4.0.0 or later)		CL Editor (Win/Mac, CSV files import/export in CL Editor V4.0.0 or later)		
	StageMix	QL StageMix (iPad app)		CL StageMix (iPad app)		
	MonitorMix	Yes (QL V4.00 or later)		Yes (CL V4.00 or later)		
	Console File Converter	Yes (Win/Mac)		Yes (Win/Mac)		

*1) This is the maximum number of devices shown in the ONLINE DEVICE LIST of Dante SETUP. Only devices shown in the list can be mounted from the console.
*2) Each rack in the REMOTE HA ASSIGN window can have up to 32 channels.

Caractéristiques générales QL5/QL1

				QL1
Gener	**General specifications**			
Sampl freque rate	**Sampling frequency rate**	**Internal**		44.1kHz / 48kHz
		External	7%, +0.1%, -0.1%, -4.0% (±200ppm), 48kHz: %, -0.1%, -4.0% (±200ppm)	44.1kHz: +4.1667%, +0.1%, -0.1%, -4.0% (±200ppm), 48kHz: +4.1667%, +0.1%, -0.1%, -4.0% (±200ppm)
Signal	**Signal delay**		, INPUT to OMNI OUT, Fs= 48kHz	Less than 2.5ms, INPUT to OMNI OUT, Fs= 48kHz
Fader	**Fader**		d, Resolution=1024steps, +10dB to –138dB,	100mm motorized, Resolution=1024steps, +10dB to –138dB, –∞dB all faders
Total H	**Total harmonic distortion**		20Hz-20kHz@+4dBu into 600Ω, INPUT to t Gain= Min.	Less than 0.05% 20Hz-20kHz@+4dBu into 600Ω, INPUT to OMNI OUT, Input Gain= Min.
Frequ	**Frequency response**		Hz-20kHz, refer to +4dBu output @1kHz, OUT	+0.5, -1.5dB 20Hz-20kHz, refer to +4dBu output @1kHz, INPUT to OMNI OUT
Dynan	**Dynamic range**		Converter / 108dB typ.: INPUT to OMNI OUT, .	112dB typ.: DA Converter / 108dB typ.: INPUT to OMNI OUT, Input Gain = Min.

	Hum & noise level	Equivalent input noise		QL1
Hum & level		Residual output noise	uivalent Input Noise, Input Gain=Max	-128dBu typ., Equivalent Input Noise, Input Gain=Max
	Crosstalk		l output noise, ST master off	-88dBu, Residual output noise, ST master off
	Power requirements			
Cross	Power consumption		ent INPUT/OMNI OUT channels, Input Gain =	-100dB*1, adjacent INPUT/OMNI OUT channels, Input Gain = Min.
Power	Dimensions	W	Hz	100-240V 50/60Hz
Power		H		135W
Dimen		D		468mm(18.4in)
	Net weight			272mm(10.7in)
	Accessories			562mm(22.1in)
Net we				14.7kg(32.4lb)
Acces	Options		, dust cover, power cord, DVS license sheet,	Owner's Manual, power cord, DVS license sheet, Nuendo Live
Optio	Others		ls *2 , Gooseneck Lamp LA1L	Rackmount kit RK1, Mini-YGDAI cards *2 , Gooseneck Lamp LA1L
Others			Operating temperature range: 0 - 40℃, Storage temperature range: -20 - 60℃	Operating temperature range: 0 - 40℃, Storage temperature range: -20 - 60℃

Diaphonie à 1 kHz : un filtre passe-bas à 22 kHz, de pente 30 dB/octave, est utilisé lors de la mesure de la diaphonie.
Distorsion harmonique totale : un filtre passe-bas à 80 kHz, de pente 18 dB/octave, est utilisé lors de la mesure de la diaphonie.
Ronflette et bruit de fond : un filtre de pondération A est utilisé lors de la mesure de la ronflette et du bruit de fond.

Analog Input Characteristics

Input Connectors	GAIN	Input Impedance	Source Impedance	Input level			Connector
				Sensitivity*1	Nominal	Max. before clip	
INPUT 1-32 *6	+66dB	7.5 kΩ	50-600 Ω Mics & 600 ΩLines	–82dBu (61.6μV)	–62dBu (0.616mV)	–42dBu (6.16mV)	XLR-3-31 type (Balanced) *2
	–6dB			–10dBu (245mV)	+10dBu (2.45V)	+30dBu (24.5V)	

*1. The sensitivity is the input level required for output at +4dBu (1.23V) or at the defined level when all the faders and level controllers are set to the maximum value.
*2. XLR-3-31 connectors are balanced jacks (1=GND, 2=HOT, 3=COLD).
*3. 0dBu=0.775 Vrms for all specifications.
*4. All the AD converters use 24-bit linear/128-times oversampling.
*5. The INPUT connectors have +48V DC (phantom power) jacks, each of which can be turned on/off individually from the console software.
*6. QL1: INPUT1-16

Analog Output Characteristics

Output Connectors	Output Impedance	Load Impedance	Maximum Output Level *5	Output Level		Connector
				Defined Level	Maximum Non-Clip Level	
OMNI OUT 1-16 *7	75 Ω	600 Ω Lines	+24dB (default)	+4dBu (1.23V)	vt+24dBu (12.3V)	XLR-3-32 type (Balanced) *1
			+18dB	–2dBu (616mV)	+18dBu (6.16V)	
PHONES	15 Ω	8 Ω Phones	-	75mW *6	150mW	Stereo Phone Jack(TRS) (Unbalanced) *2
		40 Ω Phones	-	65mW *6	150mW	

*1. XLR-3-32 connectors are balanced jacks (1=GND, 2=HOT, 3=COLD).
*2. The PHONES connectors for stereo headphones are balanced jacks (Tip=LEFT, Ring=RIGHT, Sleeve= GND).
*3. 0 dBu=0.775 Vrms for all specifications.

*4. All the DA converters use 24-bit linear/128-times oversampling.
*5. The console has an internal switch for toggling the maximum output level.
*6. This is a value measured with the PHONES LEVEL knob set to 10 dB below the maximum position.
*7. QL1: OMNI OUT 1-8

Digital Input/Output Specifications

Connectors	Format	Data length	Level	Audio	Connector
Primary/Secondary	Dante	24bit or 32bit	1000Base-T	64ch Input/64ch Output@48kHz *1	EtherCON Cat5e

*1. QL1: 32ch Input/32ch Output@48kHz

Digital Output Specifications

Connectors		Format	Data length	Level	Connector
DIGITAL OUT	AES/EBU	AES/EBU Professional Use	24bit	RS422	XLR-3-32 type (Balanced) *1

*1. XLR-3-32 connectors are balanced jacks (1=GND, 2=HOT, 3=COLD).

I/O SLOT (1-2) Specifications

Each I/O Slot accepts a Mini-YGDAI card.
Only Slot 1 has a serial interfac

Control I/O Characteristics

Connectors		Format	Level	Connector
MIDI	IN	MIDI	-	DIN Connector 5P
	OUT	MIDI	-	DIN Connector 5P
WORDCLOCK	IN	-	TTL/75 Ω terminated	BNC Connector
	OUT	-	TTL/75 Ω	BNC Connector
GPI (5IN/5OUT)		-	-	D Sub Connector 15P(Female) *1
NETWORK		IEEE802.3	10BASE-T/100Base-TX	RJ-45
LAMP (QL5: x 2, QL1: x 1)		-	0V-12V	XLR-4-31 type *2
USB HOST		USB 2.0	-	USB A Connector (Female)

*1. Input pin: TTL level, w/ internal pull-up (47kΩ) Output pin: Open drain output (Vmax=12V, maximum sink current/pin=-75mA) Power supply pin: Output voltage Vp=5V, Max. output current=300mA
*2. 4 pin=+12V, 3 pin=GND, Lamp nominal power: 5W, Brightness (voltage) can be adjusted from the software.