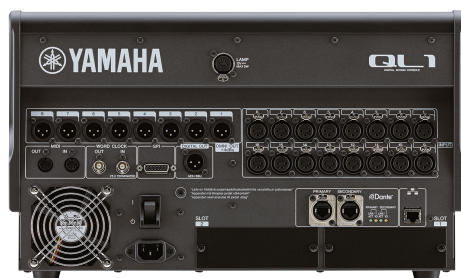## Digital Mixing Console

QL5

QL5 Rear Panel

QL1

QL1 Rear Panel

12U

Expandable all-in-one digital mixing console that inherits core features and performance directly from the CL series

- Naturally superior sound plus powerful built-in processing for broad creative control.
- Built-in Dugan automixer provides optimum channel balance while allowing the operator to concentrate fully on optimizing the overall sound.
- A large touch-panel display, selected channel controls, and a "Touch and Turn" knob make up an intuitive, efficient control interface.
- Extensive built-in input and output capacity that can handle a variety of applications without the need for stage boxes or other external equipment.
- Bulit-in Dante networking allows for flexible system expansion.
- Up to 24 R series I/O rack units can be connected to each console.
- An innovative "Port to Port" feature allows the console to function as a remote I/O device for any other QL or CL console.
- "Gain Compensation" allows multiple consoles to share and control the same I/O unit.
- Virtual "Premium Rack" with VCM models of the renowned Neve Portico 5033 equalizer and Portico 5043 compressor/limiter, plus other VCM equalizers, compressors, and studio-quality effects.
- Virtual "Effect Rack" allows simultaneous use of up to 8 effects from a selection of 46 ambience effects and 8 insertion effects.
- Virtual "GEQ Rack" allows graphic EQ to be inserted into the output buses as required for room equalization and other functions.
- Seamlessly integrated remote control and offline editing via an Apple iPad® or other computer.
- CL series compatibility: data exchangeable between QL and CL consoles.
- Direct 2-track recording to standard USB flash drives, or serious multitrack recording to a DAW via Dante.
- Multitrack recordings can be used for "virtual sound checks" when the performers aren't available.
- Dual Mini-YGDAI card slots provide easy I/O expansion as well as extra processing capabilities.
- Other features: comprehensive Fader Bank section with recallable four custom banks, editable channel names and colors, user defined keys and on-screen user defined knobs, 300 scene memories, input and output delays, ample EQ and dynamics processing, 16 DCA groups, 8 mute groups, 5-in/5-out GPI interface, multiple user key sets, on-screen help, and more.

[QL5]
32 + 2 fader configuration adapts to a wide range of channel layouts. The QL5 is a compact console with large-scale capabilities.
- Mix channels: 64 mono, 8 stereo.
- Busses: 16 mix, 8 matrix (Input to Matrix supported).
- Local I/O: 32 in, 16 out.
- Fader configuration: 32 + 2 (Master).
- Stainless steel iPad support stays.

[QL1]
16 + 2 fader configuration in a compact, rack mountable unit.
- Mix channels: 32 mono, 8 stereo.
- Busses: 16 mix, 8 matrix (Input to Matrix supported).
- Local I/O: 16 in, 8 out.
- Fader configuration: 16 + 2 (Master).
- Rack mountable with optional RK1 Rack Mount Kit.

OPTIONS

Rio3224-D | 5U
Rio1608-D | 3U
Ri8-D | 1U
Ro8-D | 1U
I/O RACK

Rio3224-D   Rio1608-D   Ri8-D   Ro8-D

Four I/O rack models with Dante networking capability provide flexible input and output setup for a wide range of applications. The 5U size Rio3224-D has 32 inputs and 16 outputs as well as four AES/EBU outputs. The 3U size Rio1608-D offers 16 inputs and 8 outputs. And for situations where you just need inputs or outputs, the compact 1U size Ri8-D and Ro8-D offer 8 inputs or outputs, respectively. All of the above connect to the console via Dante for low-jitter, low-latency audio transfer performance.

LA1L
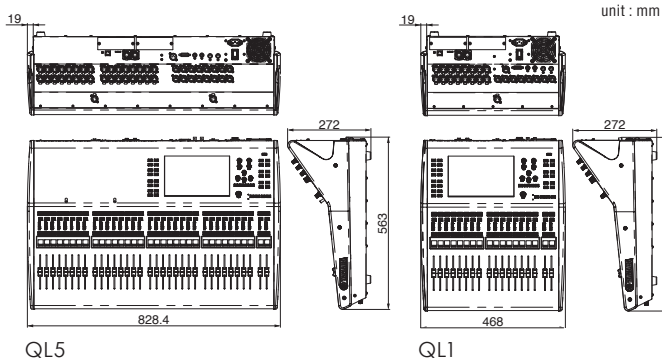Gooseneck Lamp

GENERAL SPECIFICATIONS

Sampling frequency rate	Internal: 44.1kHz, 48kHz
	External: 44.1kHz (+4.1667%, +0.1%, -0.1%, -4.0%) ±200ppm
	48kHz (+4.1667%, +0.1%, -0.1%, -4.0%) ±200ppm
Signal Delay	Less than 2.5 ms OMNI IN to OMNI OUT (@fs=48kHz)
Fader	100mm motorized, Resolution=1024steps
	+10dB to −138dB, −∞dB all faders
Total harmonic distortion[1] INPUT to OMNI OUT Input Gain=Min.	Less than 0.05% 20Hz to 20kHz @+4dBu into 600Ω
Frequency response CH INPUT to OMNI OUT	+0.5, -1.5dB 20Hz to 20kHz, refer to +4dBu output @1kHz, INPUT to OMNI OUT
Dynamic range (maximum level to noise level)	112dB typ., DA Converter, 108dB typ., INPUT to OMNI OUT, Input Gain = Min.
Hum & noise level[2] (20Hz to 20kHz), Rs=150Ω	−128dBu Equivalent input noise, Input Gain=Max., −88dBu Residual output noise, ST master off
Crosstalk (@1kHz) Input Gain=Min.	−100dB[3], Adjacent INPUT/OMNI OUT channels
Phantom Power	+48V
Power requirements	AC100V-240V, 50/60Hz
Power consumption	QL5: 200W QL1: 135W
Dimensions (W x H x D)	QL5: 828 x 272 x 563mm (32.6" x 10.7" x 22.2") QL3: 468 x 272 x 562mm (18.4" x 10.7" x 22.1")
Weight	QL5: 21.8kg (48.1lbs) QL1: 14.7kg (32.4lbs)

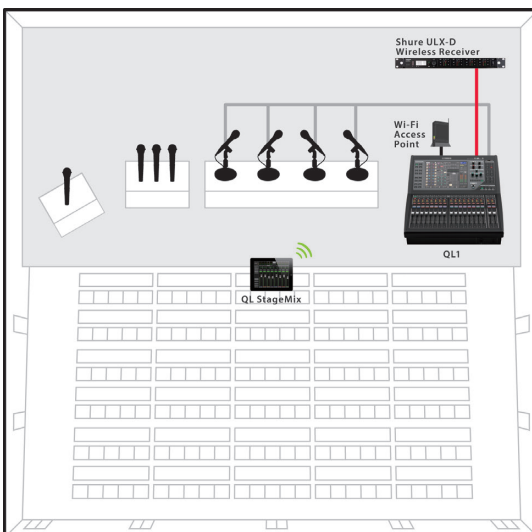[1] Total harmonic distortion is measured with a 18dB/Oct filter @80kHz.
[2] Hum & noise level is measured with a 6dB/oct filter @12.7kHz; equivalent to 20kHz filter with infinite dB/Oct attenuation.
[3] Crosstalk is measured with a 30 dB/octave filter @22kHz.

DIMENSIONS

unit : mm

QL5   QL1

ANALOG INPUT SPECIFICATIONS

Input terminal	GAIN	Actual source impedance	For use with nominal	Input level			Connector
				Sensitivity	Nominal	Max. before clip	
INPUT 1-32 (QL5)	+66dB	7.5kΩ	50-600Ω Mics & 600Ω Lines	-82dBu	-62dBu	-42dBu	XLR3-31 type*
INPUT 1-16 (QL1)	-6dB			-10dBu	+10dBu	+30dBu	

ANALOG OUTPUT SPECIFICATIONS

Output terminal	Actual source impedance	For use with nominal	GAIN SW	Output terminals		Connector
				Nominal	Max. before clip	
OMNI OUT 1-16 (QL5)	75Ω	600Ω Lines	+24dB	+4dBu	vt+24dBu	XLR3-32 type*
OMNI OUT 1-8 (QL1)			+18dB	-2dBu	+18dBu	
PHONES	15Ω	8Ω Phones	—	75mW	150mW	ST Phone Jack**
		40Ω Phones	—	65mW	150mW	

DIGITAL I/O SPECIFICATIONS

Terminal	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

Terminal		Format	Data length	Level	Connector
DIGITAL OUT	AES/EBU	AES/EBU Professional Use	24bit	RS422	XLR3-32 type*

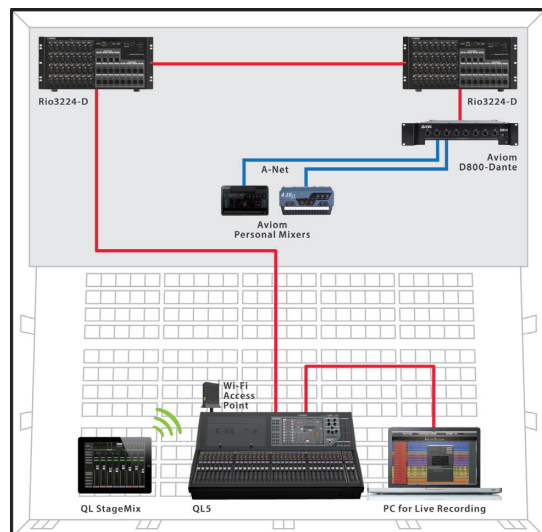## I/O Slot (1-2) SPECIFICATIONS

A Mini-YGDAI card can be inserted into slots 1-2. Only slot 1 supports serial interfaces.

CONTROL I/O SPECIFICATIONS

Terminal		Format	Level	Connector
MIDI	IN	MIDI	—	DIN Connector 5P
	OUT	MIDI	—	DIN Connector 5P
WORD CLOCK	IN	—	TTL/75Ω terminated	BNC Connector
	OUT	—	TTL/75Ω	BNC Connector
GPI (5IN/5OUT)		—	—	D Sub Connector 15P (Female)[1]
NETWORK		IEEE802.3	10BASE-T/100Base-TX	RJ-45
LAMP (QL5=2, QL1=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.

SYSTEM EXAMPLE

A Compact System that Automatically Mixes up to 16 Speech Mics

At conferences or speech events where space for equipment is limited, a compact all-in-one QL console can be a huge advantage. The built-in Dan Dugan Automixer can automatically provide an optimum mix of up to 16 speech microphones. Events can be recorded directly to, and pre-recorded BGM can be played back from a USB flash drive. The StageMix application can provide remote control capability for even greater efficiency and convenience.

A Simple Live System with Daisy-chained I/O Racks

This is an example of a simple live system that makes use of Dante networking. Stage side R-series I/O rack units are connected to the front-of-house QL console via network cables. An Aviom personal monitor system can also be connected to the Dante network via an Aviom D800-Dante distributor. This setup even allows multi-track recording to a computer via the Dante network.

BLOCK DIAGRAM