CL5

Rear Panel

CL3

Rear Panel

CL1

Rear Panel

Versatile, creative consoles for expressive engineering.

- Naturally superior sound plus a comprehensive range of "coloring" options.
- Acclaimed Yamaha Centralogic concept at the core of a refined user interface.
- Separate console and I/O rack components communicate via Dante™ network audio protocol.
- Up to eight I/O rack units can be connected to each console. 5U size Rio3224-D I/O unit provides 32 ins, 16 outs, and four AES/EBU outputs. 3U size Rio1608-D I/O unit has 16 ins and 8 outs.
- I/O rack unit sharing allows multiple consoles to be control the same I/O unit, with gain compensation.
- 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.
- Network redundancy supported for maximum reliability.
- Every detail – faders, knobs, switches, indicators, displays, etc. – designed for optimum operating feel.
- 2-track mp3 recording to USB memory.
- Tight integration with Nuendo Live (included) for serious live multitrack recording.
- Multitrack recordings can be used for "virtual sound checks" when the performers aren't available.
- Three Mini-YGDAI card slots provide easy I/O expansion as well as extra processing capabilities.
- Lake® processing can be added via expansion slots.
- Other features: editable channel names and colors, user defined keys and 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.

[CL5]
Three-section fader layout for efficient hands-on control. The CL5 is the ideal choice for a diverse spectrum of live sound systems.
- Input channels: 72 mono, 8 stereo.
- Fader configuration: 16-fader left section, 8-fader Centralogic section, 8-fader right section, 2-fader master section.
- Aluminum stay for iPad support.
- Built-in meter bridge.

[CL3]
An ideal blend of compact size and channel capacity for a variety of live and installed applications.
- Input channels: 64 mono, 8 stereo.
- Fader configuration: 16-fader left section, 8-fader Centralogic section, 2-fader master section.
- Aluminum stay for iPad support.
- Meter bridge optional.

[CL1]
Dual 8-fader sections in a space-saving console that can be used alone or cascaded to another CL console for input expansion.
- Input channels: 48 mono, 8 stereo.
- Fader configuration: 8-fader left section, 8-fader Centralogic section, 2-fader master section .
- Meter bridge optional.

OPTIONS

Rio3224-D [5U]
Rio1608-D [3U]
I/O RACK

Two rack-mountable I/O units with different input and output capacities are available for use with the CL series consoles. The 5U size Rio3224-D provides 32 ins, 16 outs, and four AES/EBU outputs, while the 3U size Rio1608-D has 16 ins and 8 outs. Both types connect to the console via Dante network protocol for low-jitter, low-latency digital audio communication.

MBCL
Meter Bridge
The optional CL3 and CL1 Meter Bridge fits right above the console's display and provides high-visibility level monitoring while allowing the display to be used for other operations.

PW800W
Power Supply Unit
[3U]
When a CL unit is added the internal power supply and the PW800W provide redundant failsafe operation.

Rear Panel

GENERAL SPECIFICATIONS (PW800W)	
Power requirements	AC100-240V 50/60Hz
Power consumption	1000W
	When using with CL5: 200W (Max)
	When using with CL3: 200W (Max)
	When using with CL1: 200W (Max)
Dimensions (W x H x D)	480 x 142 x 384mm (18.7" x 5.5" x 14.98")
Weight	10kg (22lbs)

LA1L
Gooseneck Lamp

PSL360
Power Supply Link Cable

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)
Total harmonic distortion[1] OMNI IN 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, OMNI IN to OMNI OUT
Dynamic range (maximum level to noise level)	112dB typ., DA Converter, 108dB typ., OMNI IN to OMNI OUT, Input Gain = Min.
Hum & noise level[2] (20Hz to 20kHz), Rs=150Ω	-128dBu Equivalent input noise, Input Gain=Max., -84dBu Residual output noise, ST master off
Crosstalk (@1kHz) Input Gain=Min.	-100dB[3], Adjacent OMNI IN/OMNI OUT channels
Phantom Power	+48V
Power requirements	AC110V-240V, 50/60Hz
Power consumption	CL5/CL3/CL1: 170W, Internal Power Supply CL5/CL3/CL1: 200W, Simultaneous use of Internal PSU and External PW800W
Dimensions (W x H x D)	CL5: 1053 x 299 x 667mm (41.5" x 11.8" x 26.3") CL3: 839 x 299** x 667mm (33.1" x 11.8" x 26.3") CL1: 648 x 299** x 667mm (25.5" x 11.8" x 26.3")
Weight	CL5: 36kg (79.4lbs) CL3: 29kg (63.9lbs) CL1: 24kg (52.9lbs)

*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.
** Excluded MBCL optional meter bridge.

ANALOG INPUT SPECIFICATIONS

Input terminal	GAIN	Actual source impedance	For use with nominal	Input level			Connector
				Sensitivity	Nominal	Max. before clip	
OMNI IN 1-8	+66dB	10kΩ	50-600Ω Mics & 600Ω Lines	-82dBu	-62dBu	-42dBu	XLR3-31 type*
	+18dB			-34dBu	-14dBu	+6dBu	
	+17dB	3kΩ		-33dBu	-13dBu	+7dBu	
	-6dB			-10dBu	+10dBu	+30dBu	
TALKBACK	+64dB	10kΩ	50-600Ω Mics & 600Ω Lines	-70dBu	-60dBu	-40dBu	XLR3-31 type*
	+20dB			-26dBu	-16dBu	+4dBu	

ANALOG OUTPUT SPECIFICATIONS

Output terminal	Actual source impedance	For use with nominal	GAIN SW	Output terminals		Connector
				Nominal	Max. before clip	
OMNI OUT 1-8	75Ω	600Ω Lines	+24dB	+4dBu	+24dBu	XLR3-32 type*
			+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	etherCON Cat5e

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 (1-3) SPECIFICATIONS

Each I/O Slot accepts a Mini-YGDAI card. Only Slot1 has a serial interface.

CONTROL I/O SPECIFICATIONS

Terminal		Format	Level
MIDI	IN	MIDI	—
	OUT	MIDI	—
WORD CLOCK	IN	—	TTL/75Ω terminated
	OUT	—	TTL/75Ω
GPI (5IN/5OUT)		—	—
NETWORK		IEEE802.3	10BASE-T/100Base-TX/
LAMP (CL5=3, CL3=2, CL1=1)		—	0V - 12V
USB HOST		USB 2.0	—
EXT DC IN		—	—
Meter Bridge (CL3/CL1 only)		—	—

*1. Input pins: Internal TTL-level pull-up resistors provided (47kΩ). Output pins: Open-drain output (Vmax = 12V, max. sink current/pin = 75mA)
Power pins: Output voltage Vp = 5V, max. output current Imax = 300mA
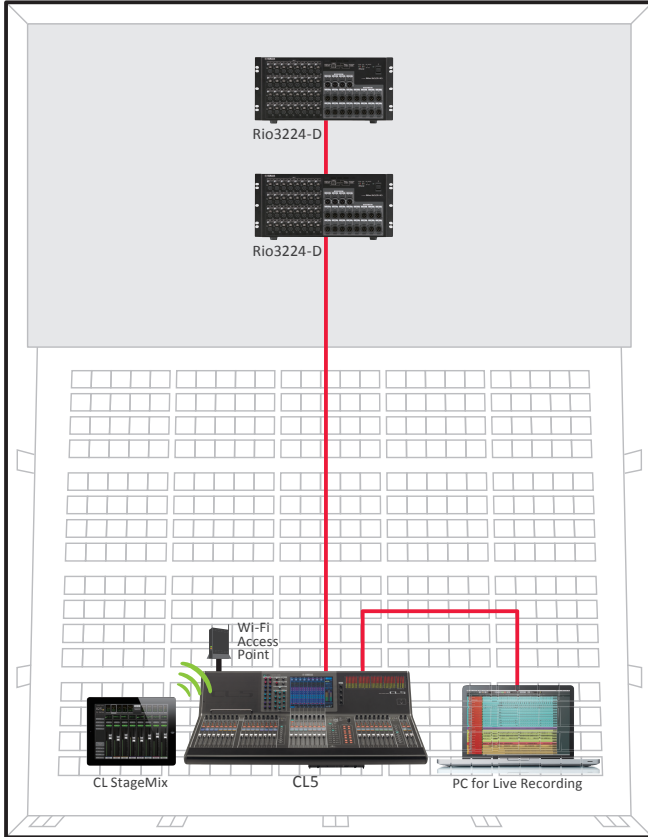*2. Pin 4 = +12V, Pin 3 = GND, lamp rating 5W. Software voltage control.

DIMENSIONS

unit : mm

CL5

CL3

CL1
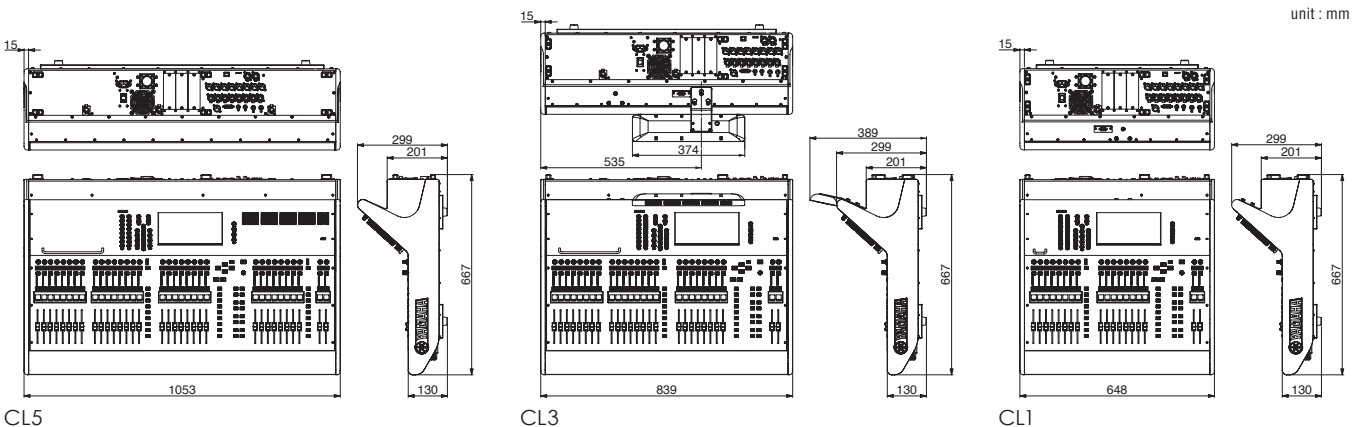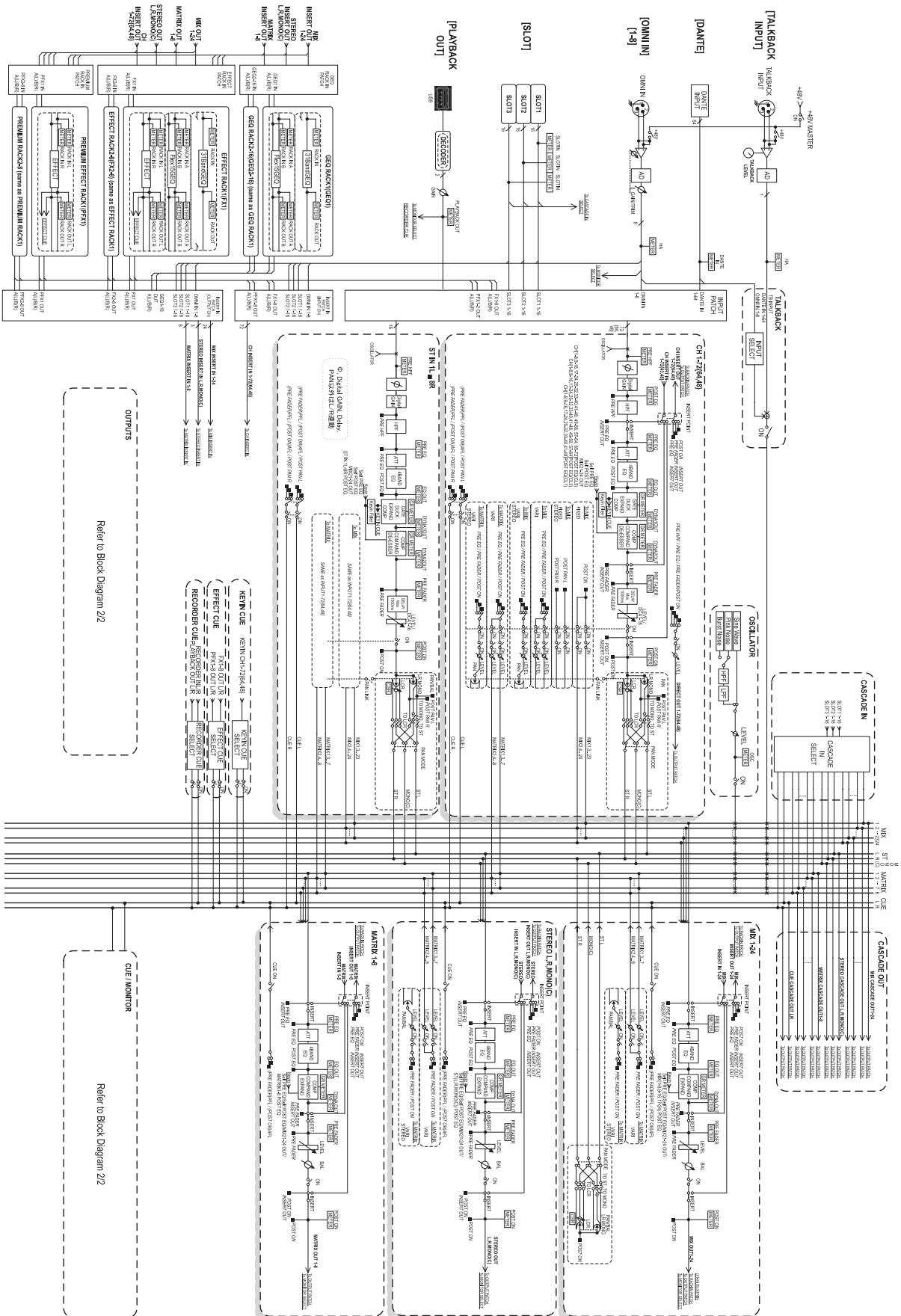
System Examples: Live Sound

A Simple Daisy-chain System

Internal port switches allow the CL series to be easily set up for daisy-chain or star network congurations. In this example the Console at FOH position is directly connected to the I/O rack at the side of the stage. The network is self-congured. Of course the CL StageMix iPad app can be used even in simple systems like this one, and Dante Virtual Soundcard can be used to enable multitrack recording to a DAW such as Steinberg's Nuendo Live.
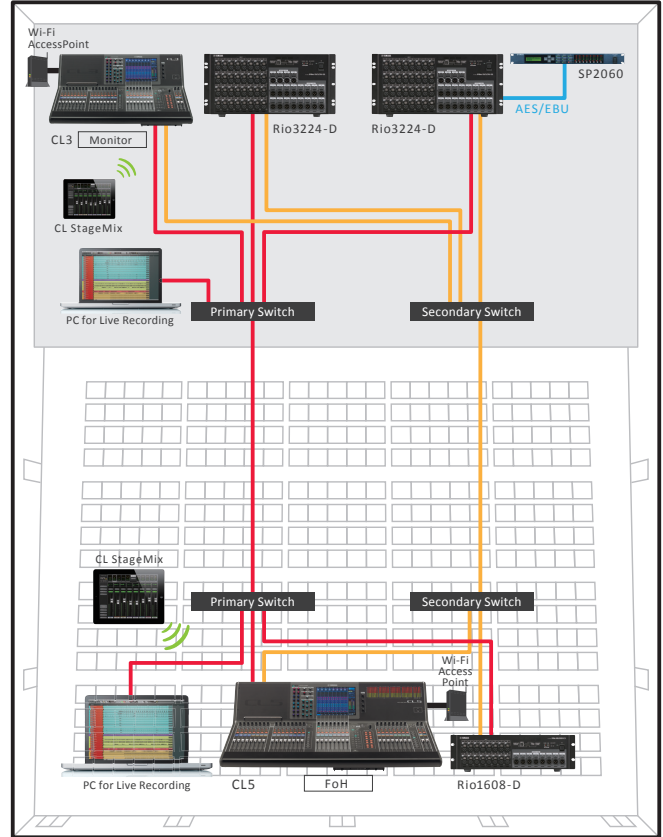
A Flexible, Redundant Star Network

Star topologies can be congured with network switches. In this conguration, redundant connections to each device on the network ensure that a malfunction in one cable or network device will not disrupt the entire system. The Gain Compensation feature allows multiple consoles to control analog gain for a single I/O rack, for seamless integration of FOH and monitor operation. Multiple computers can be used for live recording, too.

CL Series

BLOCK DIAGRAM 2/2