

Overview

A refined interface that seamlessly integrates faders with touch-panel operation, pure natural sound, an extensive range of effects for creative sound shaping, and Dante audio networking for expandability define the CL series digital mixing consoles. The top-of-the-line CL5 Digital Mixing Console features three fader sections for outstanding channel operation efficiency and freedom.



Rear Panel

Features

- Fader configuration: 16-fader left section, 8-fader Centralogic section, 8-fader right section, 2-fader master section.
- Input channels: 72 mono, 8 stereo.
- Busses: 24 mix, 8 matrix (Input to Matrix supported).
- Stainless steel stay for iPad support.
- Built-in meter bridge.
- Local I/O: 8 in, 8 out.
- Built-in Dugan automixer provides optimum channel balance while allowing the operator to concentrate fully on optimizing the overall sound.
- Centralogic™ user interface with a large touch-panel display and selected channel controls make up an intuitive, efficient control interface.
- Built-in Dante networking allows for flexible system expansion with R series I/O racks or other external equipment.
- Up to 24 R series I/O rack units can be connected to each console.
- “Gain Compensation” allows multiple consoles to share and control the same I/O unit.
- Virtual “Premium Rack” with VCM models of the renowned RND 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 or 8-band PEQ 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 computing device.
- QL series compatibility: data exchange capability between CL and QL 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 performers aren’t available.
- Three Mini-YGDAL card slots provide easy I/O expansion as well as extra processing capabilities.
- Other features: comprehensive Fader Bank section with recallable custom banks, editable channel names and colors, user defined keys and 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.

Specifications

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Functional Specifications

Mixing Capacity	Input Mixing Channels	72 mono + 8 stereo	Output Channel Functions	GEQ	Virtual Rack
	Mix Buses	24		Dynamics 1	Compressor / Expander / Comander-H / Comander-S
	Matrices	8 (Input to Matrix supported)		Output Channel Delay	No
	Stereo Buses	1		MUTE Group	8
	Mono Buses	1		Number of Inserts	2 (V2.0 or later)
Local Connectors	Cue Bus	1 (Second Cue Bus supported in V4.0 or later)	Premium Rack	Number of Premium Racks	8
	Analog Input	8		Mountable Device	RND Portico5033 / RND Portico5043 / U76 / Opt-2A / EQ-1A / Dynamic EQ / Buss Comp 369 (V3.0 or later) / MBC4 (V4.0 or later)
	Analog Output	8	Effect Rack	Number of Effect Racks	8
	MY Slots	3		Number of Effect Programs	54
	Dante I/O	Primary / Secondary	Mountable Device	Effect / 31BandGEQ / Flex15GEQ / 8Band PEQ (V3.0 or later)	
	Digital Out	1 (AES/EBU)	GEQ Rack	Number of GEQ Racks	16
	GPI	5 in/ 5out (V1.11 or later)		Mountable Device	31BandGEQ / Flex15GEQ / Dugan Automixer (V3.0 or later) / 8Band PEQ (V3.0 or later) (RTA overlay support in V3.0 or later, GEQ gain control from the TOUCH AND TURN knob in V4.0 or later)
	Word Clock I/O	In / Out	Dante	Number of I/O Channels	64 in / 64 out
	MIDI I/O	In / Out		Dante Patch from Console	Yes
	USB	1 (File Save/Load, 2 Track Rec/Play)	Recording	USB Memory Recording	Yes
	External Redundant PSU	Optional PW800W		DVS Recording	Yes (DVS and Nuendo Live bundled)
	Meter Bridge	Output meter built-in	Broadcast Functions	5:1 Surround Panning	Yes (V3.0 or later)
	Ethernet	Yes		Surround Monitor	Yes (V3.0 or later)
	Lamp	3		Mix Minus	Yes (V2.0 or later)
	Talkback In	Yes		L-Mono / R-Mono / LR-Mono	Yes (V3.0 or later)
	Video Out	No	Monitor	Solo Mode	Yes (V4.0 or later)
	TC In	No		Oscillator	Sine Wave 1ch / Sine Wave 2ch (V3.0 or later) / Pink Noise / Burst Noise
	Fault Output	No	Other Functions	Port to Port	No
	Phones	1		Dual Console	No
	AC Inlet	1 (V-Lock Type)		Timecode Reader/Display	No
Scene Memory	Number of Scenes	300		Timecode Chase (Event List)	No
	Recall Safe	Yes		GPI/MIDI	Yes
	Focus Recall	Yes		Wireless Mic Monitoring	Yes
	Fade Time	Yes (0s ~ 60s)		RTA	Yes (V3.0 or later)
	Preview	Yes (V1.51 or later)		Output Port Delay	Yes (0ms ~ 1000ms, frame delay support in V3.0)
	Selective Load / Save	Yes (V1.7 or later)		Cascade	Yes (via MY slots)
	Global Paste	Yes		User Level	Yes
Event List	No	Help File	Yes (V1.51 or later)		
Overlay	No	Channel Link	Yes (Output Channel Link support in V3.0 or later)		
Isolate	No	User Interface	Display	10 inch Touch Panel	
Tactile Control Keys	Yes		Centralogic Section	Yes	
Input Channel Functions	Gain Compensation		Yes	Faders	16 + 8 + 8 + 2
	Silk		No	Selected Channel Encoders	Gain, HPF, PEQ (controls for 4 bands), Dynamics 1/2(Threshold only), Pan, Mix/Matrix Sends
	Digital Gain		Yes (-96dB ~ +24dB)	Channel Encoder	Yes (for Gain, Send Level, or an assigned parameter)
	ATT		-96dB ~ 0dB	Channel Name / Color Display	Yes
	HPF		20Hz ~ 600Hz, -6 or -12dB/oct Selectable (V1.51 or later)	Custom Fader Banks	Yes (customized for each fader section)
	PEQ		4 Band Full PEQ (RTA overlay support in V3.0 or later, New EQ Algorithms support in V4.0 or later)	User Defined Keys	16 (x 4 banks in V3.0 or later)
	Dynamics 1		Gate / Ducking / Compressor / Expander (Key-in Filter on the Compressor and Expander in V4.0 or later)	User Defined Knobs	4
	Dynamics 2		Compressor / Comander-H / Comander-S / De-esser	Touch and Turn Knob	Yes (using a User Defined Knob)
	Input Delay	Yes (0ms ~ 1000ms, frame delay support in V3.0 or later)	Monitor Level Knob	Yes	
	Pan	CENTER NOMINAL or LR NOMINAL for monaural input channels in V3.1 or later	Wooden Arm Rest	Yes	
	DCA Group	16 (Output DCA and DCA Roll-Out support in V2.0 or later)	iPad Stay	Yes	
	DCA Rollout	Yes (Scrollable in V4.0 or later)	Rack-mounting	No	
	MUTE Group	8			
Number of Inserts	2 (V2.0 or later)				
Direct Out	Yes				
Output Channel Functions	PEQ	4 Band Full PEQ (RTA overlay support in V3.0 or later, New EQ Algorithms support in V4.0 or later)			

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Specifications

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Software	Editor	CL Editor (Win/Mac, CSV files import/export in CL Editor V4.0.0 or later)
	StageMix	CL StageMix (iPad app)
	MonitorMix	Yes (V4.00 or later)
	Nuendo Live: Control integration	Yes
	Console File Converter	Yes (Win/Mac)

General Specifications

Sampling Frequency	Internal	44.1kHz 48kHz	
	External	44.1kHz +4.1667%, +0.1%, -0.1%, -4.0% 48kHz +4.1667%, +0.1%, -0.1%, -4.0%	±200ppm ±200ppm
Signal Delay	Less than 2.5ms, OMNI IN to OMNI OUT, Fs= 48kHz		
Fader	100mm motorized, Resolution=1024steps, +10dB to -138dB, --∞dB all faders		
Frequency Response	+0.5, -1.5dB 20Hz-20kHz, refer to +4dBu output @1kHz, OMNI IN to OMNI OUT		
Total Harmonic Distortion*3	Less than 0.05% 20Hz-20kHz@+4dBu into 600Ω, OMNI IN to OMNI OUT, Input Gain= Min.		
Hum&Noise*4	-128dBu typ., Equivalent Input Noise, Input Gain= Max., -88dBu, Residual output noise, ST master off		
Dynamic Range	112dB typ., DA Converter, 108dB typ., OMNI IN to OMNI OUT, Input Gain= Min.		
Crosstalk@1kHz	-100dB ¹ , adjacent OMNI IN/OMNI OUT channels, Input Gain= Min.		
Dimensions (W x H x D)	1053mm x 299mm x 667mm (41.5" x 11.8" x 26.3")		
Net Weight	36kg (79.4lbs)		
Power Requirements (wattage)	170W, Internal Power Supply 200W, Simultaneous use of Internal PSU and External PW800W		
Power Requirements (voltage and hertz)	US/Canada: 120V 60Hz Japan: 100V 50/60Hz China: 110-240V 50/60Hz Korea: 220V 60Hz Other: 110-240V 50/60Hz		
Temperature Range	Operating temperature range: 0-40°C Storage temperature range: -20-60°C		
Included Accessories	Owner's Manual, Dust Cover, Power Cord		
Optional Accessories	Mini-YGDAI cards ² , Gooseneck Lamp LA1L Power Supply PW800W, Power Supply Link Cable PSL360		

*1 Crosstalk is measured with a 30dB/octave filter @22kHz

*2 Refer to the Yamaha pro audio website for information on supported cards.
<http://www.yamahaproaudio.com/>

*3 Total Harmonic Distortion is measured with 18dB/octave filter @80kHz

*4 Hum & Noise are measured with A-Weight filter.

Analog Input Characteristics

Input Terminals	GAIN	Actual Load Impedance	For Use With Nominal	Input Level			Connector
				Sensitivity*1	Nominal	Max. before clip	
OMNI IN 1-8	+66dB	7.5kΩ	50-600Ω Mics & 600Ω Lines	-82dBu (61.6μV)	-62dBu (0.616mV)	-42dBu (6.16mV)	XLR-3-31 type (Balanced) ²
	-6dB			-10dBu (245mV)	+10dBu (2.45V)	+30dBu (24.5V)	
TALKBACK	+64dB	10kΩ	50-600Ω Mics & 600Ω Lines	-70dBu (0.245mV)	-60dBu (0.775mV)	-40dBu (7.75mV)	XLR-3-31 type (Balanced) ²
	+20dB			-26dBu (38.8mV)	-16dBu (0.123V)	+4dBu (1.23V)	

*1 Sensitivity is the lowest level that will produce an output of +4dBu (1.23V) or the nominal output level when the unit is set to maximum gain. (all faders and level controls are maximum position.)

*2 XLR-3-31 type connectors are balanced. (1= GND, 2= HOT, 3= COLD)

*3 In these specifications, 0dBu= 0.775 Vrms.

*4 All input AD converters are 24bit linear, 128times oversampling.

*5 +48V DC (phantom power) is supplied to OMNI IN (1-8) and TALKBACK XLR type connectors via each individual software controlled switches.

Analog Output Characteristics

Output Terminals	Actual Source Impedance	For Use With Nominal	GAIN SW ⁵	Output Level		Connector
				Nominal	Max. before clip	
OMNI OUT 1-8	75Ω	600Ω Lines	+24dB (default) +18dB	+4dBu (1.23V)	+24dBu (12.3V)	XLR-3-32 type (Balanced) ¹
				-2dBu (616mV)	+18dBu (6.16V)	
PHONES	15Ω	8Ω Phones	-	75mW ⁶	150mW	Stereo Phone Jack (TRS) (Unbalanced) ²
		40Ω Phones	-	65mW ⁶	150mW	

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

*2 PHONES stereo phone jack is unbalanced. (Tip= LEFT, Ring= RIGHT, Sleeve= GND)

*3 In these specifications, 0dBu= 0.775 Vrms.

*4 All output DA converters are 24bit, 128times oversampling.

*5 There are switches inside the body to preset the maximum output level.

*6 The position of the level control is 10dB lowered from Max.

Digital Input & Output Characteristics

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

Digital Output Characteristics

Terminal	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 type connectors are balanced. (1= GND, 2= HOT, 3= COLD)

I/O Slot (1-3) Characteristics

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

Control I/O Characteristics

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 (x3)	-	0V-12V ⁴	XLR-4-31 type ²
USB HOST	USB 2.0	-	USB A Connector (Female)
DC POWER INPUT	-	-	JL05 Connector

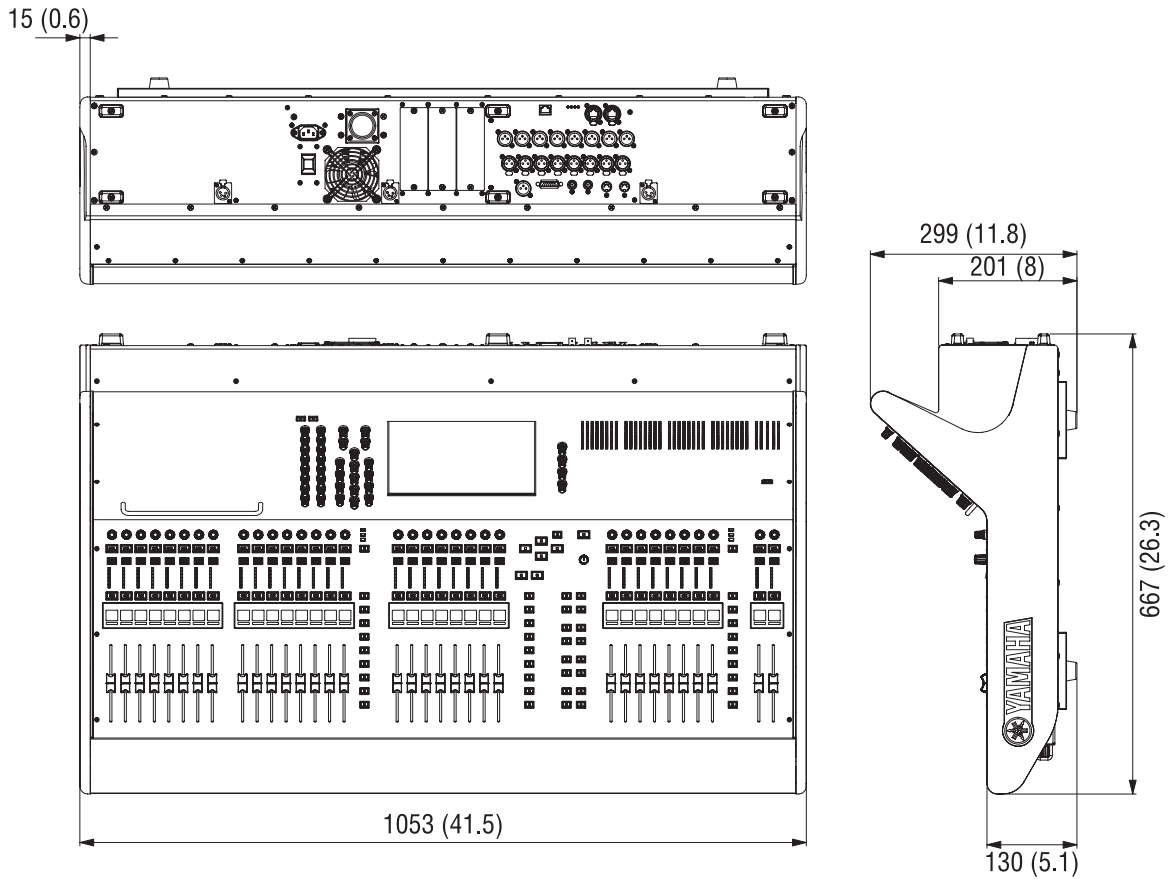
*1 Input pin: TTL level, w/ internal pull-up (47kΩ)

Output pin: Open drain output (Vmax=12V, maximum sink current/pin=75mA) Power supply pin: Output voltage Vp=5V, Max. output current Imax=300mA

*2 4pin= +12V, 3pin= GND, Lamp rating 5W. Voltage control by software.

Dimensions

Unit: mm (inch)



Options

- Power Supply PW800W
- Power Supply Link Cable PSL360
- Gooseneck Lamp LA1L
- I/O Rack Rio3224-D
- I/O Rack Rio1608-D
- Input Rack Ri8-D
- Output Rack Ro8-D
- I/O Rack RMio64-D
- I/O Rack RSio64-D
- L2 Switch SWP1-8
- L2 Switch SWP1-8MMF
- L2 Switch SWP1-16MMF

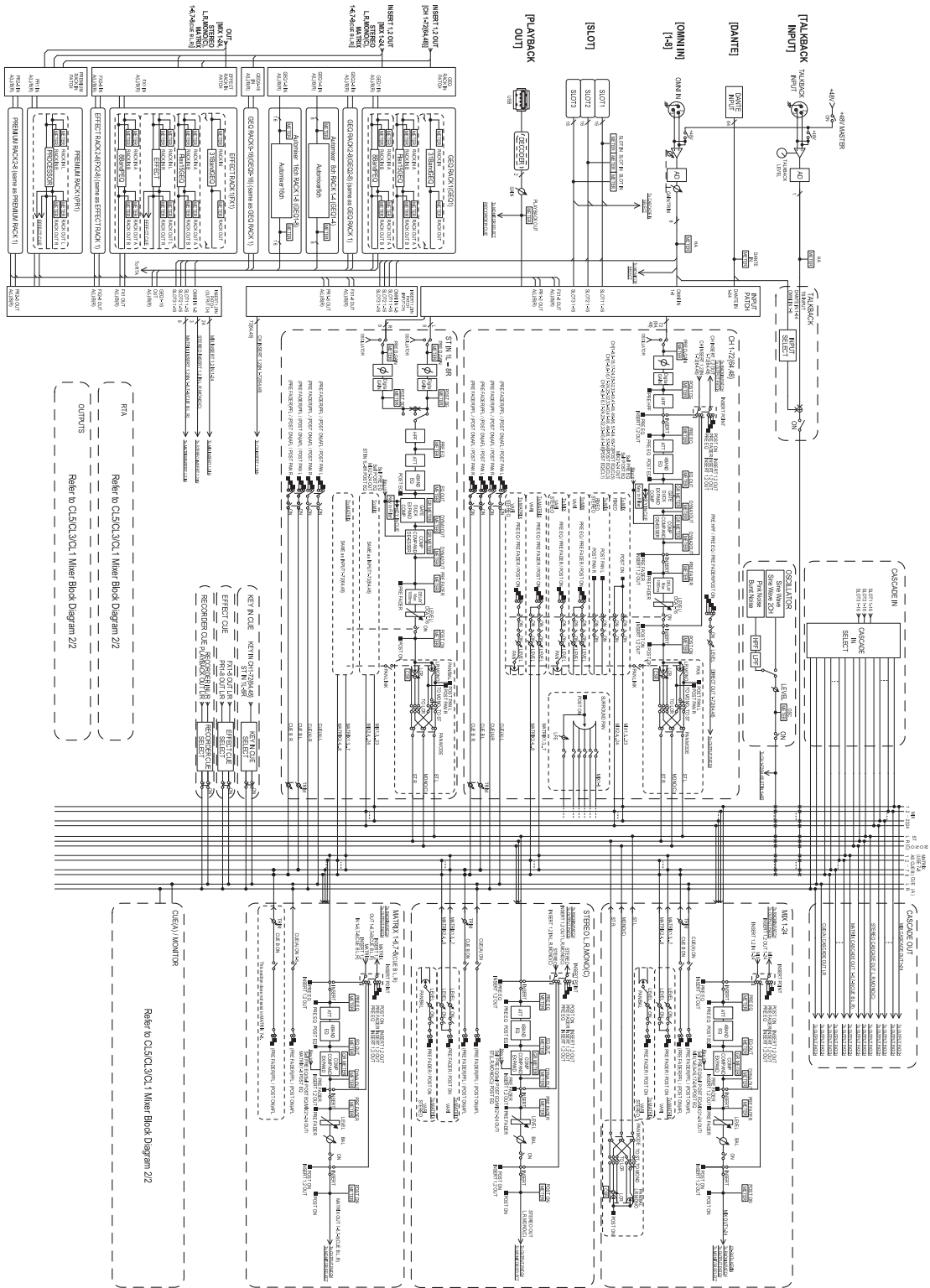
Software

- CL Editor
- CL StageMix
- MonitorMix
- Yamaha Console File Converter
- Steinberg Nuendo Live

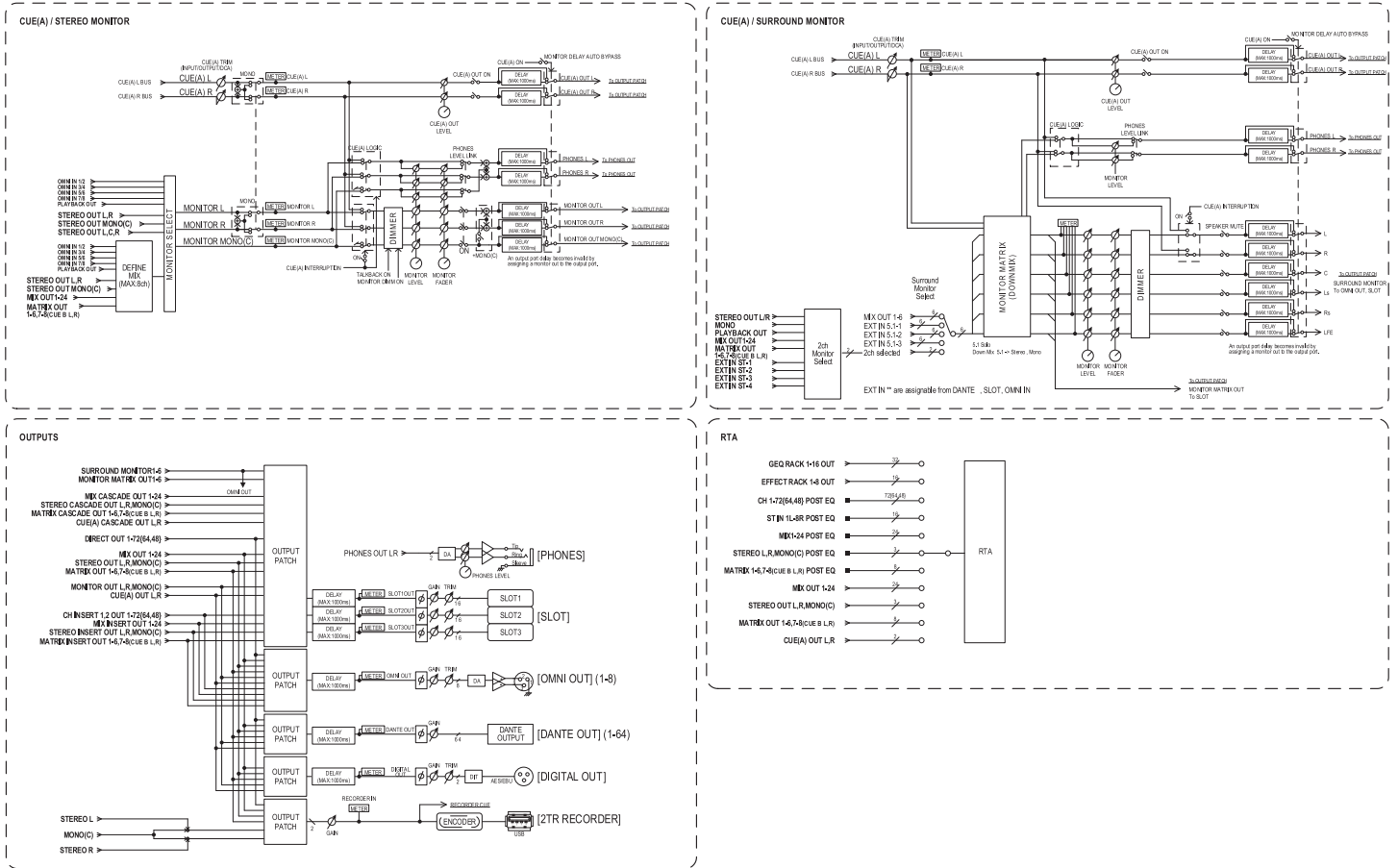
Architectural and Engineering Specifications

The Yamaha CL5 Digital Mixing Console shall have a three-block fader configuration that will provide a high degree of fader layout flexibility. It shall include Dante connectivity as standard to allow flexible system configuration in combination with R series I/O rack units. With 16 faders in the left section, 8 faders in the center section, and 8 faders in the right section, plus 2 master faders, it shall provide a mixing capacity of up to 72 mono and 8 stereo inputs, 24 mix buses, and 8 matrix buses (supporting input to matrix). All channel EQ shall allow selection of four different EQ algorithms. 8 Premium Racks shall allow use of a range of software sound processors and effects, including the Rupert Neve Designs Portico 5033 EQ. 8 additional effect racks shall allow use of 54 effect programs. A GEQ rack shall provide graphic EQ facilities as well as use of Automatic Mixer functionality developed in cooperation with Dan Dugan Sound Design. The mixing console shall be compatible with CL Editor, CL StageMix, MonitorMix, and other Yamaha support software running on external computing devices. Physical controllers other than faders shall include the Selected Channel controllers, 16 User Defined Keys, and 4 User Defined Knobs. Local I/O shall include 8 microphone/line inputs, 8 outputs, AES/EBU output, 3 Mini YGDAI slots, GPI ports (5 in/5 out), word clock I/O, MIDI I/O, network port, and USB port. Dimensions shall be 1053 (W) x 299 (H) x 667 (D) mm. Weight shall be 36 kg.

Block Diagrams



Block Diagrams



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