Overview

Distilling core features and performance from the CL series into a compact, all-in-one digital mixing console that is ideal for a wide range of applications such as live sound reinforcement, corporate events, and fixed installations, the QL1 Digital Mixing Console features a 16 + 2 fader configuration in a space-saving rack-mountable unit.

Rear Panel

Features

- 16 + 2 fader configuration in a compact, rack mountable unit.
- Input channels: 32 mono, 8 stereo.
- Busses: 16 mix, 8 matrix (Input to Matrix supported).
- Local I/O: 16 in, 8 out.
- Rack mountable with optional RK1 Rack Mount Kit.
- 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 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.
- CL series compatibility: data exchange capability 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 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.

Specifications 1/2

Functional Specifications

Mixing Capacity	Input Mixing Channels	32 mono+ 8 stereo
	Mix Buses	16
	Matrices	8 (Input to Matrix supported)
	Stereo Buses	1
	Mono Buses	1
	Cue Bus	1 (Second Cue Bus supported in V4.0 or later)
Local Connectors	Analog Input	16
	Analog Output	8
	MY Slots	2
	Dante I/O	Primary / Secondary
	Digital Out	1 (AES/EBU)
	GPI	5 in/ 5out
	Word Clock I/O	In / Out
	MIDI I/O	In / Out
	USB	1 (File Save/Load, 2 Track Rec/Play)
	External Redundant PSU	No
	Meter Bridge	No
	Ethernet	Yes
	Lamp	1
	Talkback In	No
	Foot Switch	No
	Video Out	No
	TC In	No
	Fault Output	No
	Phones	1
	AC Inlet	1 (V-Lock Type)
Scene Memory	Number of Scenes	300
	Recall Safe	Yes
	Focus Recall	Yes
	Fade Time	Yes (0s ~ 60s)
	Preview	Yes
	Selective Load / Save	Yes
	Global Paste	Yes
	Event List	No
	Overlay	No
	Isolate	No
	Tactile Control Keys	No (on-screen)
Input Channel Functions	Gain Compensation	Yes
	Silk	No
	Digital Gain	Yes (-96dB ~ +24dB)
	ATT	-96dB ~ 0dB
	HPF	20Hz ~ 600Hz, -6 or -12dB/oct Selectable
	PEQ	4 Band Full PEQ (RTA overlay support in V3.0 or later, New EQ Algorithms support in V4.0 or later)
	Dynamics 1	Gate / Ducking / Compressor / Expander (Key-in Filter on the Compressor and Expander in V4.0 or later)
	Dynamics 2	Compressor / Compander-H / Compander-S / De-esser
	Input Delay	Yes (0ms ~ 1000ms, frame delay support in V3.0 or later)
	Pan	CENTER NOMINAL or LR NOMINAL for monaural input channels in V3.1 or later
	DCA Group	16 (Output DCA support in V3.0 or later)
Input Channel Functions	DCA Rollout	No
	MUTE Group	8
	Number of Inserts	2
	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)
	GEQ	Virtual Rack
	Dynamics 1	Compressor / Expander / Compander-H / Compander-S
	Output Channel Delay	No
	MUTE Group	8
	Number of Inserts	2
Premium Rack	Number of Premium Racks	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)
Effect Rack	Number of Effect Racks	8
	Number of Effect Programs	54
	Mountable Device	Effect / 31BandGEQ / Flex15GEQ / 8Band PEQ (V3.0 or later)
GEQ Rack	Number of GEQ Racks	8
	Mountable Device	31BandGEQ / Flex15GEQ / Dugan Automixer / 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)
Dante	Number of I/O Channels	32 in / 32 out
	Dante Patch from Console	Yes
Recording	USB Memory Recording	Yes
	DVS Recording	Yes (DVS and Nuendo Live bundled)
Broadcast Functions	5.1 Surround Panning	Yes (V3.0 or later)
	Surround Monitor	Yes (V3.0 or later)
	Mix Minus	Yes (V3.0 or later)
	L-Mono / R-Mono / LR-Mono	Yes (V3.0 or later)
Monitor	Solo Mode	Yes (V4.0 or later)
	Oscillator	Sine Wave 1ch / Sine Wave 2ch (V3.0 or later) / Pink Noise / Burst Noise
Other Functions	Port to Port	Yes
	Dual Console	No
	Timecode Reader/Display	No
	Timecode Chase (Event List)	No
	GPI/MIDI	Yes
	Wireless Mic Monitoring	Yes
	RTA	Yes (V3.0 or later)
	Output Port Delay	Yes (0ms ~ 1000ms, frame delay support in V3.0)
	Cascade	Yes
	User Level	Yes
	Help File	Yes
	Channel Link	Yes (Output Channel Link support in V3.0 or later)
User Interface	Display	10 inch Touch Panel
	Centralogic Section	No
	Faders	16 + 2
	Selected Channel Encoders	Gain, HPF, PEQ (controls for a selected band), Dynamics 1/2(Threshold only), Pan
	Channel Encoder	No

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Specifications

User Interface	Channel Name / Color Display	Yes
	Custom Fader Banks	Yes (customized for each fader section)
	User Defined Keys	12 (x 4 banks in V3.0 or later)
	User Defined Knobs	4 (on-screen)
	Touch and Turn Knob	Yes
	Monitor Level Knob	Yes (on-screen)
	iPad Stay	No
	Rack-mounting	Yes
Software	Editor	QL Editor (Win/Mac, CSV files import/export in QL Editor V4.0.0 or later)
	StageMix	QL StageMix (iPad app)
	MonitorMix	Yes (V4.00 or later)
	Nuendo Live: Control integration	Yes
	Console File Converter	Yes (Win/Mac)

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	135W
Dimensions (W x H x D)	468mm x 272mm x 562mm (18.4" x 10.7" x 22.1")
Weight	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.

Analog Input Specifications

Input terminal	GAIN	Actual source impedance	For use with nominal	Input level			Connector
				Sensitivity	Nominal	Max. before clip	
INPUT 1-16	+66dB	7.5kΩ	50-600Ω Mics & 600Ω Lines	-82dBu	-62dBu	-42dBu	XLR3-31 type*
	-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 1-8	75Ω	600Ω Lines	+24dB	+4dBu	vt+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	32ch Input /32ch 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 (1-2) Specifications

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

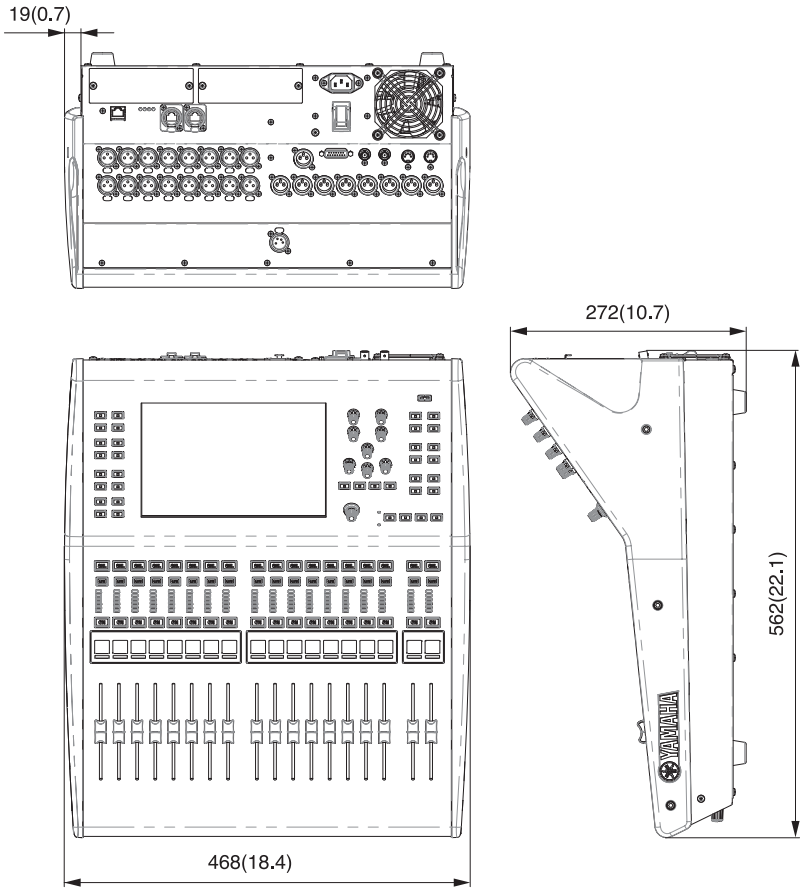
Control I/O Specifications

Terminal		Format	Level	Connector
MIDI	IN	MIDI	—	DIN Connector 5P
	OUT	MIDI	—	DIN Connector 5P
WORD CLOCK	IN	—	T TL / 75Ω terminated	BNC Connector
	OUT	—	T TL / 75Ω	BNC Connector
GPI (5IN/5OUT)		—	—	D Sub Connector 15P (Female)*1
NET WORK		IEEE802.3	10BASE-T/100Base-T X	RJ-45
LAMP		—	0V - 12V	XLR-4-31 type*2
USB HOST		USB 2.0	—	USB A Connector (Female)

*1 Input pin: T TL 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.

Dimensions

Unit: mm (inch)



Options

• Rack Mount Kit	RK1
• 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

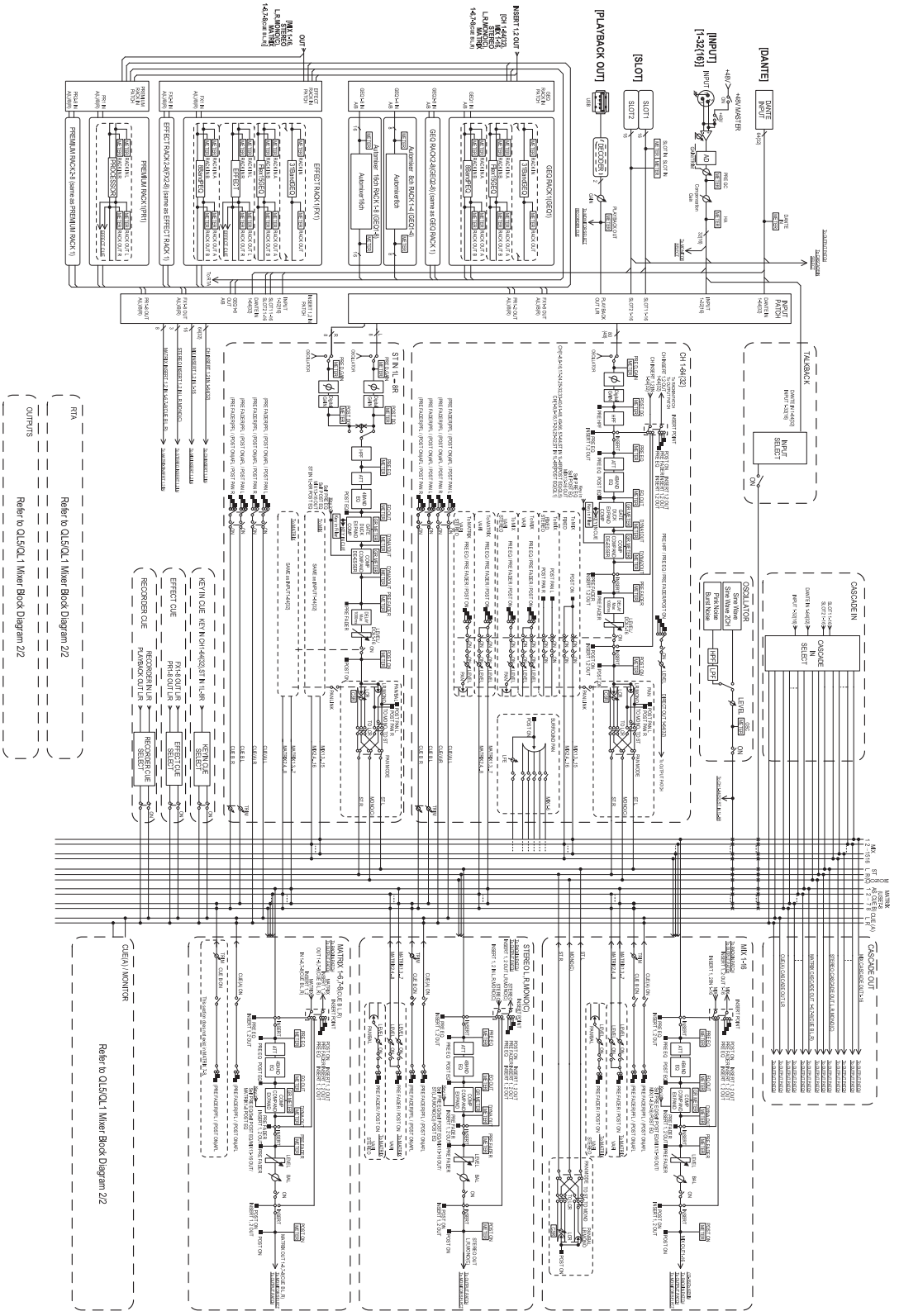
Software

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

Architectural and Engineering Specifications

The Yamaha QL1 shall be a compact all-in-one Digital Mixing Console that is suitable for a wide range of application including live sound reinforcement, corporate events, and fixed installations. It shall include Dante connectivity as standard to allow flexible system configuration in combination with R series I/O rack units. With 16 + 2 (master) faders it shall provide a mixing capacity of up to 32 mono and 8 stereo inputs, 16 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 QL Editor, QL StageMix, MonitorMix, and other Yamaha support software running on external computing devices. Physical controllers other than faders shall include the Selected Channel controllers and 12 User Defined Keys. Local I/O shall include 16 microphone/line inputs, 8 outputs, AES/EBU output, 2 Mini YGDAI slots, GPI ports (5 in/5 out), word clock I/O, MIDI I/O, network port, and USB port. An optional RK1 rack mounting kit shall be made available to allow convenient rack mounting. Dimensions shall be 468 (W) x 272 (H) x 562 (D) mm. Weight shall be 14.7 kg.

Block Diagrams



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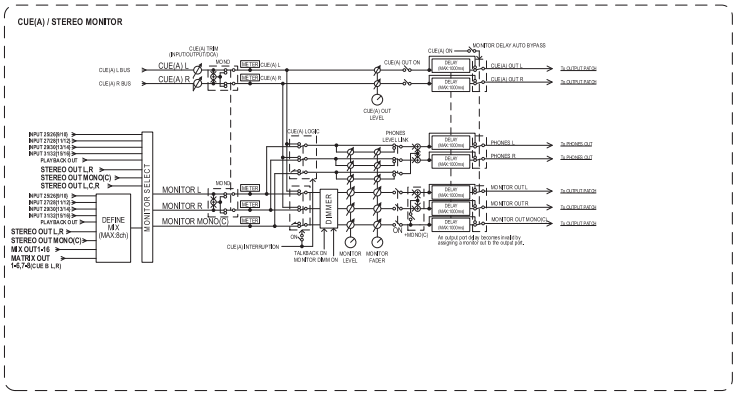

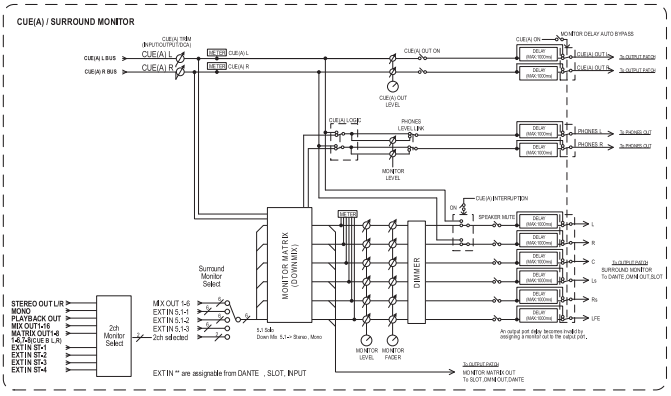

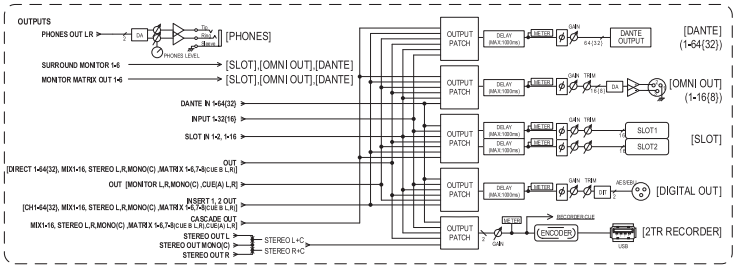

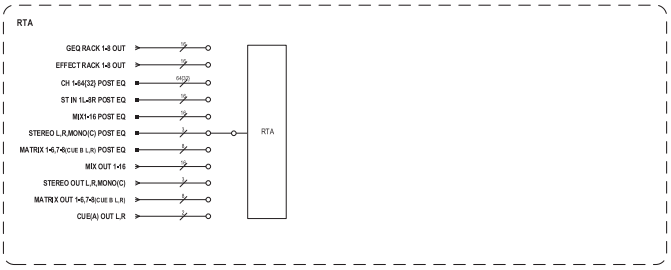

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