

Overview

The Tio1608-D is a Dante-equipped I/O rack with 16 microphone/line inputs and 8 line outputs.



Rear Panel

Features

- 3U size, 16 inputs and 8 outputs.
- Dante network protocol contributes to greater system scalability and flexibility
- Supports QUICK CONFIG Mode for TF series
- Automatic digital-stage compensation for analog gain changes (CL/QL series only)
- Features recallable D-PRE preamplifiers

Specifications

General Specifications

Sampling Frequency	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 3ms INPUT to OUTPUT, connect with TF5 and NY64-D using Dante, Dante Receive Latency set to 0.25ms (one way), Fs=48kHz		
Frequency Response	+0.5, -1.5dB 20Hz-20kHz, refer to the nominal output level @1kHz, INPUT to OUTPUT, Fs=44.1kHz or 48kHz		
Total Harmonic Distortion^{*1}	Less than 0.1% +4dBu@20Hz-20kHz into 600Ω, Gain=+66dB / Less than 0.05% +4dBu@20Hz-20kHz into 600Ω, Gain=-6dB, INPUT to OUTPUT, Fs=44.1kHz, 48kHz *Measured with a -18dB/octave filter @80kHz		
Hum&Noise^{*2}	-128dBu typ., Equivalent Input Noise, Input Gain= +66dB -88dBu Residual output noise, ST master off.		
Dynamic Range	112dB typ., DA Converter, 108dB typ., INPUT to OUTPUT, Input Gain= Min.		
Crosstalk@1kHz	-100dB ^{*3} , adjacent INPUT/OUTPUT channels, Input Gain= -6dB		
Dimensions (WxHxD)	480mm x 88mm ^{*4} x 364mm (18.9" x 3.5" x 14.3")		
Net Weight	5.7kg (12.6lbs)		
Power Requirements (wattage)	50W		
Power Requirements (voltage and hertz)	100-240V, 50/60Hz		
Temperature Range	Operating temperature range: 0 - 40°C Storage temperature range: -20 - 60°C		
Included Accessories	Owner's Manual, Power Cord(2.5m), Rubber stoppers(4)		

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

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

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

*4 Including rubber feet.

Analog Input Characteristics

Input Terminals	GAIN	Actual Load Impedance	For Use With Nominal	Input Level			Connector
				Sensitivity ^{*1}	Nominal	Max. before clip	
INPUT 1-16	+66dB	7.5kΩ	50-600Ω Mics & 600Ω Lines	-82dBu (6.16μV)	-62dBu (0.616mV)	-42dBu (6.16mV)	Combo Jack (XLR-3-31 type ^{*2} or TRS phone ^{*3}) (Balanced)
	-6dB			-10dBu (245mV)	+10dBu (2.45V)	+30dBu (24.5V)	

*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.

*2 1: GND, 2: HOT, 3: COLD

*3 Tip: HOT, Ring: COLD, Sleeve: GND

* In these specifications, OdBu = 0.775 Vrms.

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

* +48V DC (phantom power) is supplied to INPUT XLR type connectors via each individual software controlled switch.

Analog Output Characteristics

Output Terminals	Actual Source Impedance	For Use With Nominal	Output Level		Connector
			Nominal	Max. before clip	
OUTPUT 1-8	75Ω	600Ω Lines	+4dBu (1.23 V)	+24dBu (12.3V)	XLR-3-32 type (Balanced) ^{*1}

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

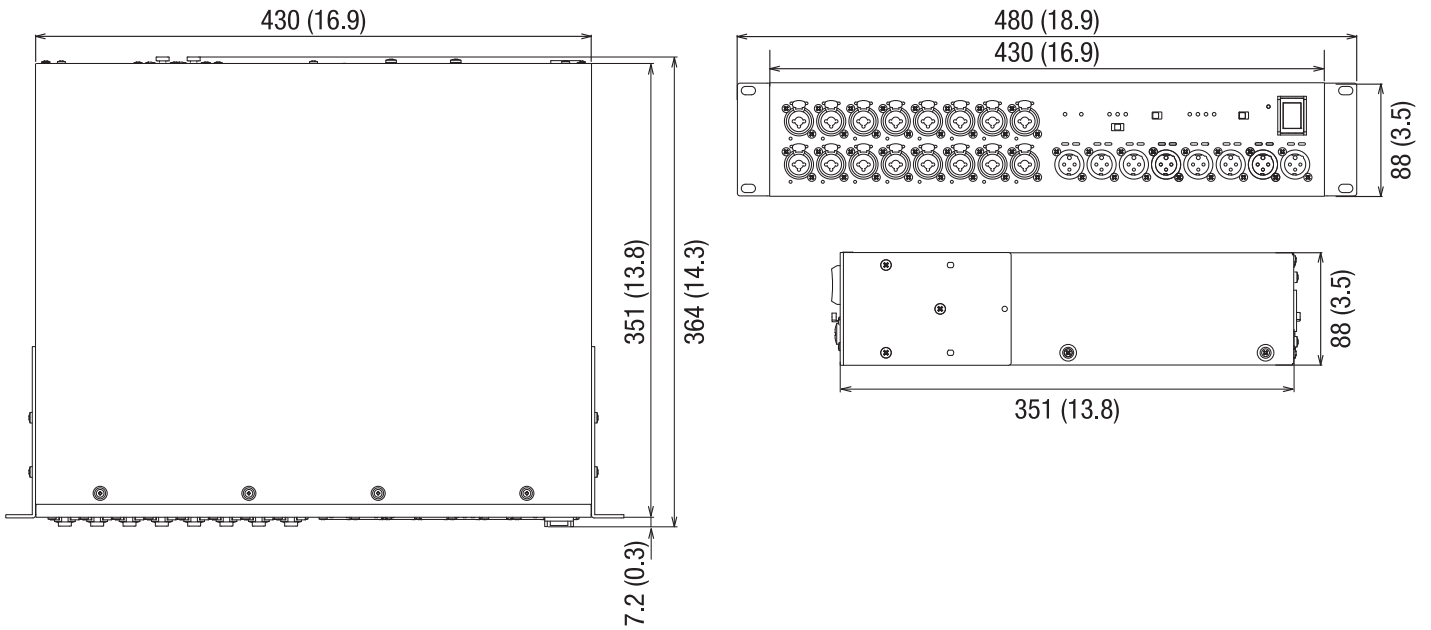
* In these specifications, OdBu = 0.775 Vrms.

Digital I/O Characteristics

Terminals	Format	Data length	Level	Audio	Connector
Primary/Secondary	Dante	24bit or 32bit	1000Base-T	16ch Input/8ch Output	EtherCON Cat5e

Dimensions

Unit: mm (inch)



Software

- R Remote

Architectural and Engineering Specifications

The Yamaha Tio1608-D shall be an I/O rack optimized for use with Yamaha TF series digital mixing consoles. It shall have built-in Dante digital audio networking capability and allow flexible, easy system setup. Connection to TF series or other digital mixer via a Dante network shall provide low-jitter, low-latency audio transmission. Setup shall be fast and easy using the QUICK CONFIG functionality of TF series digital mixing consoles. Maximum I/O capacity shall be 40 inputs and 24 outputs, with 16 Mic/Line Input connectors and 8 Line Output connectors onboard. Dimensions shall be 480 (W) x 88 (H) x 364 (D) mm. Weight shall be 5.7 kg.

*All information subject to change without notice.

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