

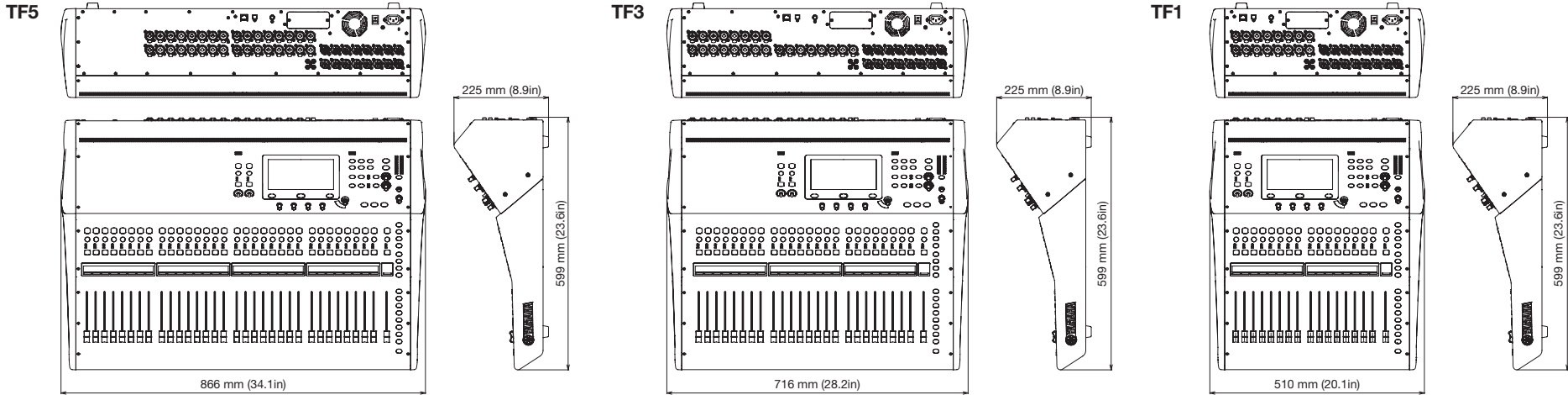
Specifications

TF Series General Specifications

	TF5	TF3	TF1
Fader Configuration	32 + 1 (Master)	24 + 1 (Master)	16 + 1 (Master)
Mixing Capacity	48 (40 mono + 2 stereo + 2 return)	Stereo + Sub 20 (8 mono + 6 stereo) 8 DCA Groups	40 (32 mono + 2 stereo + 2 return)
I/O Connectors	Inputs 32 mic/line (XLR/TRS combo) + 2 stereo line (RCA pin)	24 mic/line (XLR/TRS combo) + 2 stereo line (RCA pin)	16 mic/line (XLR/TRS combo) + 2 stereo line (RCA pin)
Signal Processors		16 (XLR)	
Recording	via Windows/Mac via USB Storage Device	8 Effects + 10 GEQ 34x34 USB Audio Interface 2-track	
Sampling Frequency	Internal Clock	48 kHz	
Signal Delays		Less than 2.6 ms, INPUT to OMNI OUT, Fs=48 kHz	
Fader		100 mm motorized, Resolution = 10-bit, +10 dB to -138 dB, -∞ dB all faders	
Frequency Response		+0.5, -1.5 dB 20 Hz-20 kHz, refer to +4 dBu output @1kHz, INPUT to OMNI OUT	
Total Harmonic Distortion*2		Less than 0.05% 20 Hz-20 kHz @+4 dBu into 600 Ω, INPUT to OMNI OUT, Input Gain=Min.	
Hum & Noise*3		-128 dBu typ., Equivalent Input Noise, Input Gain=Max., -85 dBu, Residual output noise, ST master off	
Dynamic Range		110 dB typ., DA Converter, 107 dB typ., INPUT to OMNI OUT, Input Gain=Min.	
Crosstalk@1 kHz		-100 dB*, adjacent INPUT/OMNI OUT channels, Input Gain=Min.	
Dimensions (W x H x D)	866 mm × 225 mm × 599 mm (34.1in x 8.9in x 23.6in)	716 mm × 225 mm × 599 mm (28.2in x 8.9in x 23.6in)	510 mm × 225 mm × 599 mm (20.1in x 8.9in x 23.6in)
Net Weight	20.0 kg (44.1lb)	17.0 kg (37.5lb)	13.5 kg (29.8lb)
Power Requirements (wattage)	120 W	110 W	100 W
Power Requirements (voltage and hertz)		100-240 V 50/60 Hz	
Temperature Range		Operating temperature range: 0-40 °C Storage temperature range: -20-60 °C	
Included Accessories		Quick Guide, Power Cord, CUBASE AI download information	
Options		Rack-mount Kit RK5014 (for TF1), Expansion Card, Foot Switch (FC5)	

*1 Crosstalk is measured with a -30 dB/octave filter@22 kHz. *2 Total Harmonic Distortion is measured with a -18 dB/octave filter@80 kHz.
*3 Hum & Noise are measured with an A-Weight filter.

Dimensions



TF Series Input / Output Specifications

Analog input characteristics

Input Terminals	GAIN	Load Impedance	For Use With Nominal	Sensitivity*1	Input Level Nominal	Max. before clip	Connector	balanced / Unbalanced
INPUT1-32 (TF5)	+66dB	7.5kΩ	50-600Ω Mics or 600Ω Lines	-82dBu (61.6μV)	-62dBu (0.616mV)	-42dBu (6.16mV)	Combo Jack (XLR-3-31 type *2 or TRS phone *3)	Balanced
INPUT1-24 (TF3)	-6dB			-10dBu (245mV)	+10dBu (2.45V)	+30dBu (24.5V)		
INPUT1-16 (TF1)	—	10kΩ	600Ω Lines	-30dBV (31.6μV)	-10dBV (316mV)	+10dBV (3.16V)	RCA Pin Jack	Unbalanced
ST IN 1,2	—							

*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 at maximum position).
*2 1: GND, 2: HOT, 3: COLD *3 Tip: HOT, Ring: COLD, Sleeve: GND *4 In these specifications, 0dBu = 0.775Vrms.
*5 +48V DC (phantom power) can be supplied to INPUT XLR type connectors via each individual software controlled switch.

Analog output characteristics

Output Terminals	Source Impedance	For Use With Nominal	GAIN SW	Output Level Nominal	Max. before clip	Connector	balanced / Unbalanced
OMNI OUT 1-16	75Ω	600Ω Lines	" +24dBu" position (default)	+4dBu (1.23 V)	+24dBu (12.3 V)	XLR-3-32 type *1	Balanced
PHONES *3	100Ω	40Ω Phones	—	3mW	75mW	Stereo Phone Jack (TRS) *2	Unbalanced

*1 1: GND, 2: HOT, 3: COLD *2 Tip: LEFT, Ring: RIGHT, Sleeve: GND *3 In these specifications, 0dBu = 0.775Vrms. *4 All output DA converters are 24bit, 128times oversampling.
*5 The position of the level control is lowered by 16dB from the maximum.

Digital input / output specifications

Terminals	Format	Data length	Audio	Connector
USB (TO HOST)	USB	24bit	34ch input / 34ch output, PCM	USB (B type)
iPad	USB	—	Playback: MP3 or WAV file data / Record: WAV file data	USB (A type)

Control I/O specifications

Terminals	Format	Level	Connector
NETWORK	IEEE802.3	10BASE-T/100Base-TX	RJ-45
FOOT SW	—	—	TS Phone

Specifications

TF-Rack General Specifications

	TF-RACK
Fader Configuration	—
Mixing Capacity	40 (32 mono + 2 stereo + 2 return)
I/O Connectors	Inputs 16 mic/line (XLR/TRS combo)+ 1 stereo line (RCA pin)
Signal Processors	8 Effects + 10 GEQ
Recording/Playback	Recording: 34-track / Playback: 34-track
Sampling Frequency	48 kHz
Signal Delays	Less than 2.6 ms, INPUT to OMNI OUT, Fs=48 kHz
Fader	Resolution = 10-bit, +10 dB to -138 dB, -∞ dB all faders
Frequency Response	+0.5, -1.5 dB 20 Hz-20 kHz, refer to +4 dBu output @1kHz, INPUT to OMNI OUT
Total Harmonic Distortion*2	Less than 0.05% 20 Hz-20 kHz @+4 dBu into 600 Ω, INPUT to OMNI OUT, Input Gain=Min.
Hum & Noise*3	-128 dBu typ., Equivalent Input Noise, Input Gain=Max., -85 dBu, Residual output noise, ST master off
Dynamic Range	110 dB typ., DA Converter, 108 dB typ., INPUT to OMNI OUT, Input Gain=Min.
Crosstalk@1 kHz	-100 dB*, adjacent INPUT/OMNI OUT channels, Input Gain=Min.
Dimensions (W x H x D)	480 mm x 132 mm x 409 mm (18-7/8 in x 5 1/4 in x 16 1/8 in)
Net Weight	9.2kg (20.3 lb)
Power Requirements (wattage)	85 W
Power Requirements (voltage and hertz)	100-240 V 50/60 Hz
Temperature Range	Operating temperature range: 0-40 °C / Storage temperature range: -20-60 °C
Included Accessories	Quick Guide, Power Cord, NUENDO LIVE (DAW Software), Rubber stoppers(4)
Options	Audio Interface Card (NY-64D), Foot Switch (FC5)

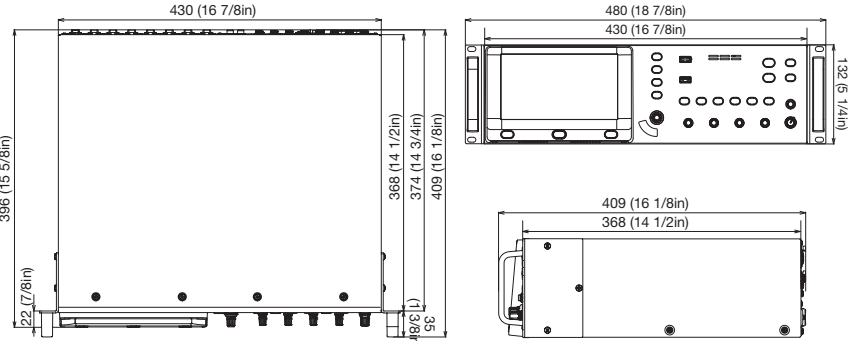
*1 Crosstalk is measured with a -30 dB/octave filter@22 kHz. *2 Total Harmonic Distortion is measured with a -18 dB/octave filter@80 kHz.
*3 Hum & Noise are measured with an A-Weight filter.

Tio1608-D General Specifications

	Tio1608-D
Sampling frequency rate (External)	44.1kHz or 48kHz
Total harmonic distortion	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
Frequency response	+0.5, -1.5dB 20Hz-20kHz, refer to the nominal output level @1kHz, INPUT to OUTPUT, Fs=44.1kHz or 48kHz
Dynamic range	108 dB, INPUT to OUTPUT, Gain=-6dB / 112 dB, DA Converter
Hum & noise level	Equivalent input noise Residual output noise
Crosstalk	-100dB, adjacent INPUT/OUTPUT channels, Input Gain = -6dB *Measured with a -30dB/octave filter @22kHz
Heat dissipation	100-240V, 50/60Hz, 43.5kcal/h
Power requirements	100-240V, 50/60Hz
Power consumption	50W
Dimensions (W x H x D)	480mm x 88mm x 364mm (18-7/8" x 3-4/8" x 14-3/8")
Net weight	5.7kg (12.6lbs)
Accessories	Owner's Manual, Power Cord (2.5m), Rubber stoppers (4)
Others	Temperature Range: Operating temperature range: 0 - 40°C, Storage temperature range: -20 - 60°C

Dimensions

TF-RACK



TF-Rack Input / Output Specifications

Analog input characteristics

Input Terminals	GAIN	Load Impedance	For Use With Nominal	Sensitivity*1	Input Level Nominal	Max. before clip	Connector	balanced / Unbalanced
INPUT1-16	+66dB	7.5kΩ	50-600Ω Mics or 600Ω Lines	-82dBu (61.6μV)	-62dBu (0.616mV)	-42dBu (6.16mV)	Combo Jack (XLR-3-31 type *3 or TRS phone *4)	Balanced
ST IN 1,2	—	10kΩ	600Ω Lines	-10dBu (245mV)	+10dBu (2.45V)	+30dBu (24.5V)	RCA Pin Jack	Unbalanced

*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 at maximum position).
*2 1: GND, 2: HOT, 3: COLD *3 Tip: HOT, Ring: COLD, Sleeve: GND *4 In these specifications, 0dBu = 0.775Vrms.
*5 +48V DC (phantom power) can be supplied to INPUT XLR type connectors via each individual software controlled switch.

Analog output characteristics

Output Terminals	Source Impedance	For Use With Nominal	Output Level Nominal	Max. before clip	Connector	balanced / Unbalanced
OMNI OUT 1-8					XLR-3-32 type *1	
OMNI OUT 9-16	75Ω	600Ω Lines	+4dBu (1.23 V)	+24dBu (12.3 V)	Stereo Phone Jack (TRS) *6	Balanced
PHONES *5	100Ω	40Ω Phones	3mW	75mW	Stereo Phone Jack (TRS) *2	Unbalanced

*1 1: GND, 2: HOT, 3: COLD *2 Tip: LEFT, Ring: RIGHT, Sleeve: GND *3 In these specifications, 0dBu = 0.775Vrms. *4 All output DA converters are 24bit, 128times oversampling.
*5 The position of the level control is lowered by 16dB from the maximum. *6 Tip: HOT, Ring: COLD, Sleeve: GND

Digital input / output specifications

Terminals	Format	Data length	Audio	Connector
USB (TO HOST)	USB	24bit	34ch input / 34ch output, PCM	USB (B type)
iPad	USB	—	Playback: MP3 or WAV file data / Record: WAV file data	USB (A type)

Control I/O specifications

Terminals	Format	Level	Connector
NETWORK	IEEE802.3	10BASE-T/100Base-TX	RJ-45
FOOT SW	—	—	TS Phone

Tio1608-D Input / Output Specifications

Analog input characteristics

Input Terminals	GAIN	Load Impedance	For Use With Nominal	Sensitivity*1	Input Level Nominal	Max. before clip	Connector	balanced / Unbalanced
INPUT1-16	+66dB	7.5kΩ	50-600Ω Mics or 600Ω Lines	-82dBu (61.6μV)	-62dBu (0.616mV)	-42dBu (6.16mV)	Combo Jack (XLR-3-31 type *3 or TRS phone *4)	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

Analog output characteristics

Output Terminals	Source Impedance	For Use With Nominal	Output Level Nominal	Max. before clip	Connector	balanced / Unbalanced
OMNI OUT 1-8	75Ω	600Ω Lines	+4dBu (1.23 V)	+24dBu (12.3 V)	XLR-3-32 type *1	Balanced

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

Digital input / output specifications

Terminals	Format	Data length	Level	Audio	Connector
Primary/Secondary	Dante	24bit or 32bit	1000Base-T	16ch (Tio1608-D to other devices) 8ch (Other devices to Tio1608-D)	etherCON Cat5e

Tio1608-D

