Technical Specifications

General Specifications

0 dBu = 0.775 Vrms, Output impedance of signal generator (Rs) = 150Ω
All level controls are nominal if not specified.

Frequency Response	Input to STEREO OUT	+0.5 dB/-1.0 dB (20 Hz to 48 kHz) , refer to the nominal output level @ 1 kHz, GAIN knob: Min	
Total harmonic distortion (THD+N)	Input to STEREO OUT	0.02 % @ +14dBu (20 Hz to 20kHz), GAIN knob: Min 0.003 % @ +24dBu (1kHz), GAIN knob: Min	
Hum & Noise *1 (20 Hz to 20 kHz)	Equivalent Input Noise	-128 dBu (Mono Input Channel, Rs: 150Ω, GAIN knob: Max)	
	Residual Output Noise	-102 dBu (STEREO OUT, STEREO LEVEL knob: Min)	
Crosstalk (1 kHz) *2		-83 dB	
Input channels		12 channels: Mono [MIC/LINE]: 6, Stereo[LINE]: 3	
Output channels		STEREO OUT: 2, PHONES: 1, MONITOR OUT: 1, FX SEND: 1	
Bus		Stereo: 1, FX: 1	
Input Channel Function	PAD	CH 1 – CH 6	26 dB
	HPF	CH 1 – CH 6	80 Hz, 12 dB/oct
	COMP	CH 1 – CH 4	1-knob compressor (Gain/Threshold/Ratio) Threshold: +22 dBu to -8 dBu Ratio:1:1 to 4:1, Output level: 0 dB to 7 dB Attack time: approx. 25 msec Release time: approx. 300 msec
	EQ	CH 1 – CH 6	HIGH: Gain: +15 dB/-15 dB, Frequency: 10 kHz shelving MID: Gain: +15 dB/-15 dB, Frequency: 2.5 kHz peaking LOW: Gain: +15 dB/-15 dB, Frequency: 100 Hz shelving
		CH 7/8 – CH 11/12	HIGH: Gain: +15 dB/-15 dB, Frequency: 10 kHz shelving LOW: Gain: +15 dB/-15 dB, Frequency: 100 Hz shelving
	PEAK LED	CH 1 – CH 6	LED turns on when post EQ signal reaches 3 dB below clipping
Level Meter	Post STEREO LEVEL knob	2x7 -segment LED meter [PEAK, +10, +6, 0, -6, -10, -20 dB]	
Internal Digital Effect	SPX Algorithm	24 programs, PARAMETER control:1, FOOT SW:1 (FX RTN CH on/off)	
USB Audio	2 IN / 2 OUT	USB Audio Class 2.0 compliant Sampling Frequency: Max 192 kHz, Bit Depth: 24-bit	
Phantom Power Voltage		+48 V	
Power Supply adaptor		PA-10 (AC 38 VCT, 0.62A, Cable length = 3.6 m) or equivalent recommended by Yamaha	
Power Consumption		22.9 W	
Dimensions (W×H×D)		315 mm × 91 mm × 297 mm (12.4” × 3.6” × 11.7”)	
Net Weight		3.0 kg (6.62 lbs)	
Included Accessory		Owner’s Manual, AC Adaptor, Cubase AI Download Information	
Optional Accessory		Foot Switch: FC5	
Operating Temperature		0 to +40°C	

*1 Noise is measured with A-weighting filter.
*2 Crosstalk is measured with 1 kHz band pass filter.

Analog Input Characteristics

0 dBu = 0.775 Vrms

Input Terminals	PAD 26 dB	GAIN Trim Position	Actual Load Impedance	For Use with Nominal	Input Level			Connector
					Sensitivity *1	Nominal	Max. before clip	
MIC/LINE 1 - 6	OFF	+64 dB	3kΩ	50–600Ω Mics/Lines	-72 dBu (0.195 mV)	-60 dBu (0.775 mV)	-40 dBu (7.75 mV)	Combo jack *2 (Balanced)
		+20 dB			-28 dBu (30.9 mV)	-16 dBu (122.8 mV)	+4 dBu (1.228 V)	
	ON	+38 dB			-46 dBu (3.884 mV)	-34 dBu (15.46 mV)	-14 dBu (154.6 mV)	
		-6 dB			-2 dBu (615.6 mV)	+10 dBu (2.451 V)	+30 dBu (24.51 V)	
LINE 7/8, 9/10	—	—	10kΩ	600Ω Lines	-22 dBu (61.56 mV)	-10 dBu (245.1 mV)	+10 dBu (2.451 V)	Phone jack *3 RCA pin (Unbalanced)
LINE 11/12								Phone jack *3 (Unbalanced)

*1 Sensitivity is the lowest level that will produce an output of +4dBu (1.228V) or the nominal output level when the unit is set to maximum gain. (All level controls are maximum position.)
*2 1&Sleeve = GND, 2&Tip = HOT, 3&Ring = COLD
*3 Tip = Signal, Sleeve = GND

Analog Output Characteristics

0 dBu = 0.775 Vrms

Output Terminals	Actual Source Impedance	For Use with Nominal	Output Level		Connector
			Nominal	Max. before Clip	
STEREO OUT [L, R]	75Ω	600Ω Lines	+4 dBu (1.228 V)	+24 dBu (12.28 V)	XLR-3-32 *1 Phone jack *2 (Balanced)
MONITOR OUT [L, R] FX SEND	150Ω	10kΩ Lines	+4 dBu (1.228 V)	+20 dBu (7.750 V)	Phone jack *2 (Impedance Balanced)
PHONES	110Ω	40Ω Phones	3 mW + 3 mW	100 mW + 100 mW	Stereo phone jack

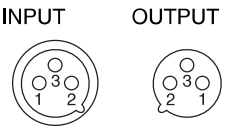
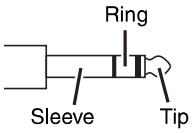
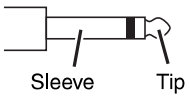
*1 1 = Ground, 2 = Hot, 3 = Cold
*2 Tip = Hot, Ring = Cold, Sleeve = Ground

Digital Input / Output Characteristics

Terminals	Format	Data Length *1	Fs	Connector
USB	USB Audio Class 2.0	16 /24 bit	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz	USB Standard-B

*1 Data length is depend on the using audio format. USB Audio Class2.0: 16 / 24-bit, Yamaha Steinberg USB Driver: 24-bit

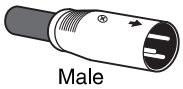
Jack and Connector List

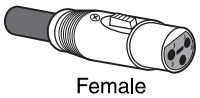
Jacks and Connectors	Polarities	Configurations
MIC/LINE, STEREO OUT	Pin 1: Ground Pin 2: Hot (+) Pin 3: Cold (–)	 XLR Jack
MIC/LINE*, AUX SEND, MONITOR OUT, STEREO OUT	Tip: Hot (+) Ring: Cold (–) Sleeve: Ground	 TRS Phone Connector
PHONES	Tip: L Ring: R Sleeve: Ground	
LINE (stereo input channels)	Tip: Hot Sleeve: Ground	 TS Phone Connector

These jacks also can be connected with TS phone connectors. If you use TS phone connectors, the connection will be unbalanced.

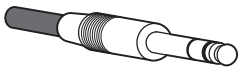
Connector Types

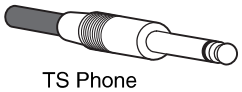
XLR
This 3-pin connector is resistant to externally induced noise, and is used primarily for balanced connections. With properly designed receiving circuitry, cables with this type of connector can also be used for unbalanced signals. XLR type connectors are the standard for microphone connections as well as most professional audio gear.


Male


Female

Phone
Phone connectors are available in TRS and TS types. TRS types are used for stereo headphone jacks, insert jacks, and also for carrying balanced signals in many cases. TS types are used to carry unbalanced signals -for example, electric guitar cables.


TRS Phone


TS Phone

RCA Pin
This type of unbalanced connector is most commonly found on home audio and video equipment. RCA type pin jacks are often color coded: white for left audio channel and red for right audio channel, for example.