



POWERED MIXER

EMX2 Technical Specifications

ZR97880

General Specifications

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

Output Power	1 kHz THD+N < 10% (CEA2006)	250 W + 250 W (4 Ω) 170 W + 170 W (8 Ω)	
	1 kHz THD+N < 1%	110 W + 110 W (4 Ω) 110 W + 110 W (8 Ω)	
		Input to SPEAKERS	Input to MONITOR OUT
Frequency Response	Refer to the nominal output level @ 1 kHz	+1 dB/-4 dB (40 Hz to 20 kHz)	
Total Harmonic Distortion *1 (THD+N)		0.2% @ 13.8 W (40 Hz to 20 kHz) 0.4% @ 23.2 W (1 kHz)	0.05% @ +10 dBu (20 Hz to 20 kHz) 0.009% @ +20 dBu (1 kHz)
Hum & Noise *2 (20 Hz to 20 kHz)	Equivalent Input Noise	-115 dBu	
	Residual Output Noise	-68 dBu (40 Hz to 20 kHz, MASTER: min)	-99 dBu (20 Hz to 20 kHz, MONITOR: min)
Crosstalk (1 kHz) *3		-80 dB	
Input Channels	TOTAL: 10 channels	Mono (MIC/LINE): 4, Stereo (LINE): 3	
Output Channels		SPEAKERS [L, R], MONITOR OUT [L,R], SUBWOOFER OUT	
Bus		Stereo: 1, Effect: 1	
Input Channel Function	PAD (CH1-4)	26 dB	
	Hi-Z (CH4)	Supported	
	EQ	HIGH: 8 kHz +15 dB / -15 dB MID: 2.5 kHz +15 dB / -15 dB LOW: 100 Hz +15 dB / -15 dB	
Level Meter		6 points (-20, -6, 0, +3, +6, LIMITER)	
Built-in Effect	SPX Algorithm	Reverb 4 programs	
Output Channel Function		MASTER EQ (SPEECH to MUSIC) FEEDBACK SUPPRESSOR	
Phantom Power Voltage	CH1, 2	+30 V	
REVERB FOOT SW		Effect Mute on/off	
Protection		Load Protection: DC-fault Amplifier Protection: Over heat protection, Over current protection Power Supply Protection: Over heat protection, Over current protection	
Power Requirements		AC 100-240 V, 50 Hz/60 Hz	
Power Consumption		35 W (Idle) / 90 W (1/8 Power)	
Dimensions (WxHxD)		375 mm × 147 mm × 220 mm (14.8" × 5.8" × 8.7")	
Net Weight		4.2 kg (9.3 lbs)	
Included Accessory		AC Power Cord (2 m), Owner's Manual, Technical Specifications	
Optional Accessory		Foot Switch: FC5, Mic Stand Adaptor: BMS-10A, Rack-Mount Kit: RK-EMX2	
Operating Temperature		0 to +40°C	

*1 THD+N is measured with 22 kHz LPF.

*2 Noise is measured with A-weighting filter.

*3 Crosstalk is measured with 1 kHz band pass filter.

The contents of this manual apply to the latest specifications as of the publishing date. To obtain the latest manual, access the Yamaha website then download the manual file.

Analog Input Characteristics

0 dBu = 0.775 Vrms

Input Jack	MIC/LINE	Hi-Z [CH4]	Actual Load Impedance	For Use with Nominal	Input Level			Connector
					Sensitivity *1	Nominal	Max. Before Clip	
CH1 - 4 [XLR]	MIC	-	3 kΩ	150 Ω Mics	-56 dBu (1.228 mV)	-35 dBu (13.78 mV)	-10 dBu (245.1 mV)	CH1, 2 XLR-3-31 *2 (Balanced)
	LINE				-30 dBu (24.51 mV)	-9 dBu (275.0 mV)	+16 dBu (4.890 V)	
CH3, 4 [Phone]	MIC	OFF	3 kΩ	150 Ω Lines	-50 dBu (2.451 mV)	-29 dBu (27.50 mV)	-4 dBu (489.0 mV)	CH3, 4 Combo jack *3 (Balanced)
		ON	1 MΩ	10 kΩ Lines				
	LINE	OFF	3 kΩ	150 Ω Lines	-24 dBu (48.90 mV)	-3 dBu (548.7 mV)	+22 dBu (9.757 V)	
		ON	1 MΩ	10 kΩ Lines				
CH5/6 - 9/10	-	-	10 kΩ	150 Ω Lines	-24 dBu (48.90 mV)	-3 dBu (548.7 mV)	+22 dBu (9.757 V)	CH5/6 Phone jack *4 (Unbalanced) CH7/8 Phone jack *4 & RCA pin (Unbalanced) CH9/10 Phone jack *4 & Stereo mini jack (Unbalanced)

*1 Sensitivity is the lowest level that will produce an output of +0 dBu (0.775 V) or the nominal output level when the unit is set to maximum gain. (All level controls are at their maximum position.)

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

*3 1&Sleeve = GND, 2&Tip = HOT, 3&Ring = COLD

*4 Tip = Signal, Sleeve = GND

Analog Output Characteristics

0 dBu = 0.775 Vrms

Output Jack	Actual Source Impedance	For Use with Nominal	Output Level		Connector
			Nominal	Max. Before Clip	
MONITOR OUT [L, R]	150 Ω	10 kΩ Lines	+4 dBu (1.23 V)	+20 dBu (7.75 V)	Phone jack *1 (Impedance balanced)
SUBWOOFER OUT	150 Ω	10 kΩ Lines	-3 dBu (0.55 V)	+17 dBu (5.49 V)	Phone jack *1 (Impedance balanced)

*1 Tip = HOT, Ring = COLD, Sleeve = GND

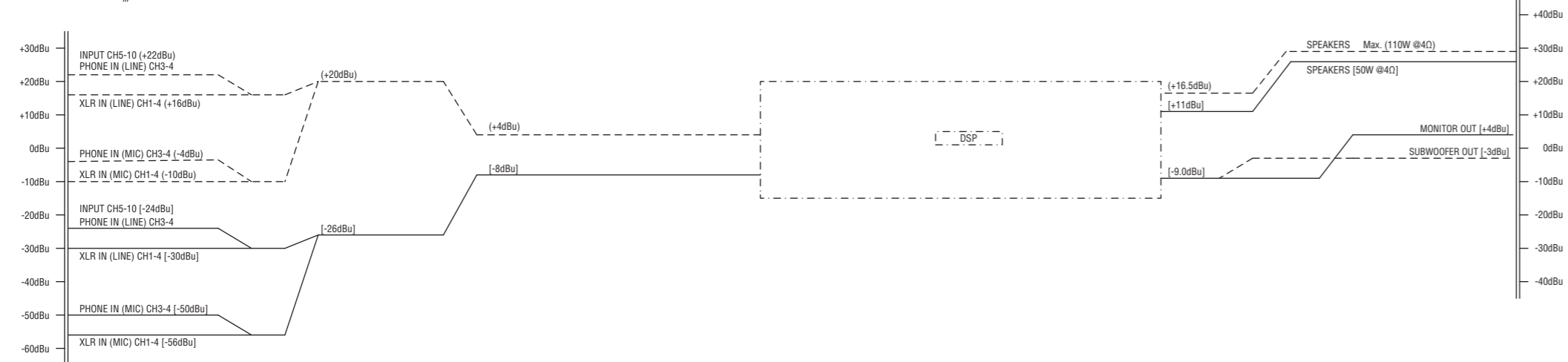
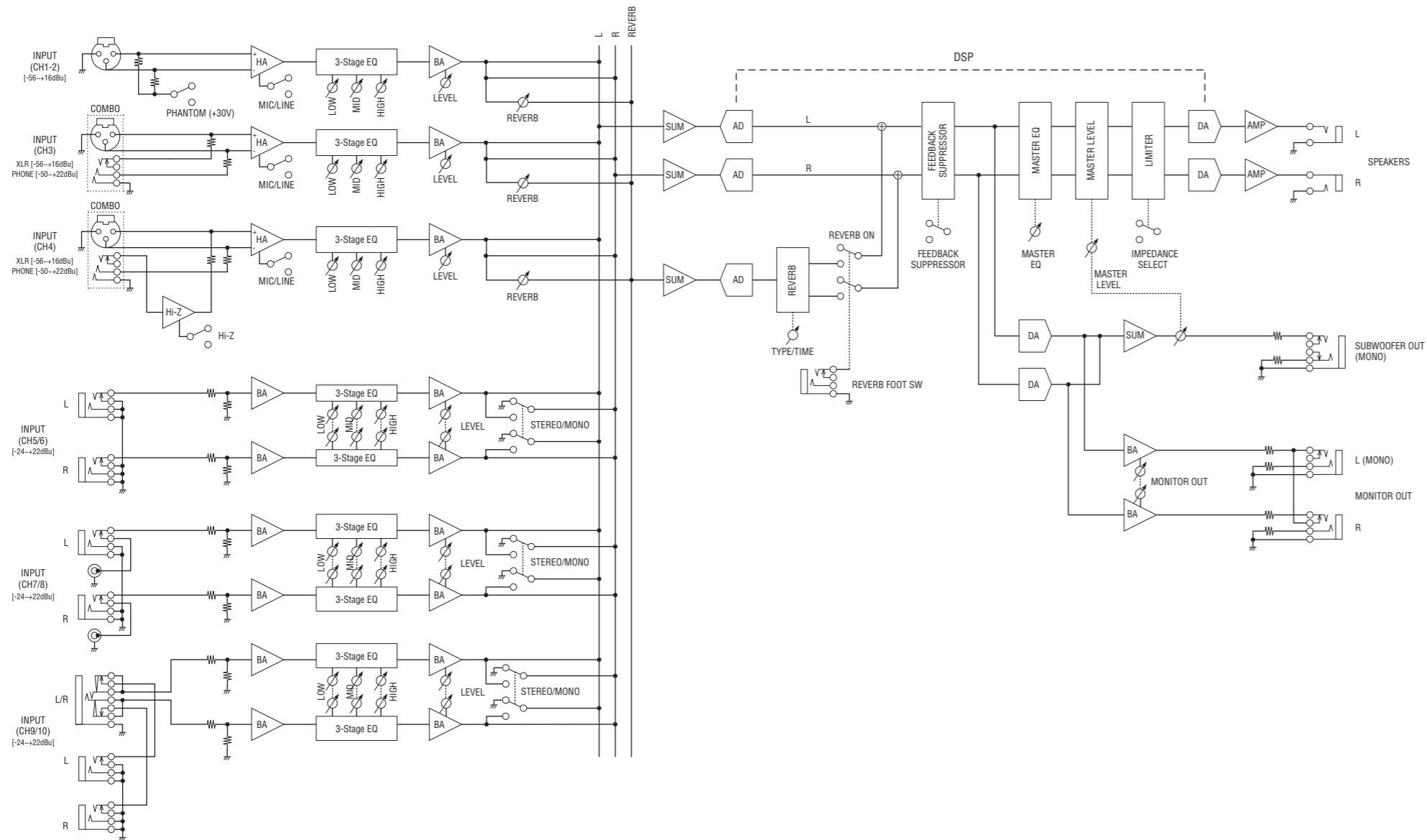
Speaker Output Characteristics

0 dBu = 0.775 Vrms

Output Jack	Actual Source Impedance	For Use with Nominal	Output Level		Connector
			1 kHz THD+N < 1%	1 kHz THD+N < 10% [CEA2006]	
SPEAKERS [L, R]	< 0.1 Ω	4 Ω Speakers	110 W	250 W	Phone jack *1
		8 Ω Speakers	110 W	170 W	

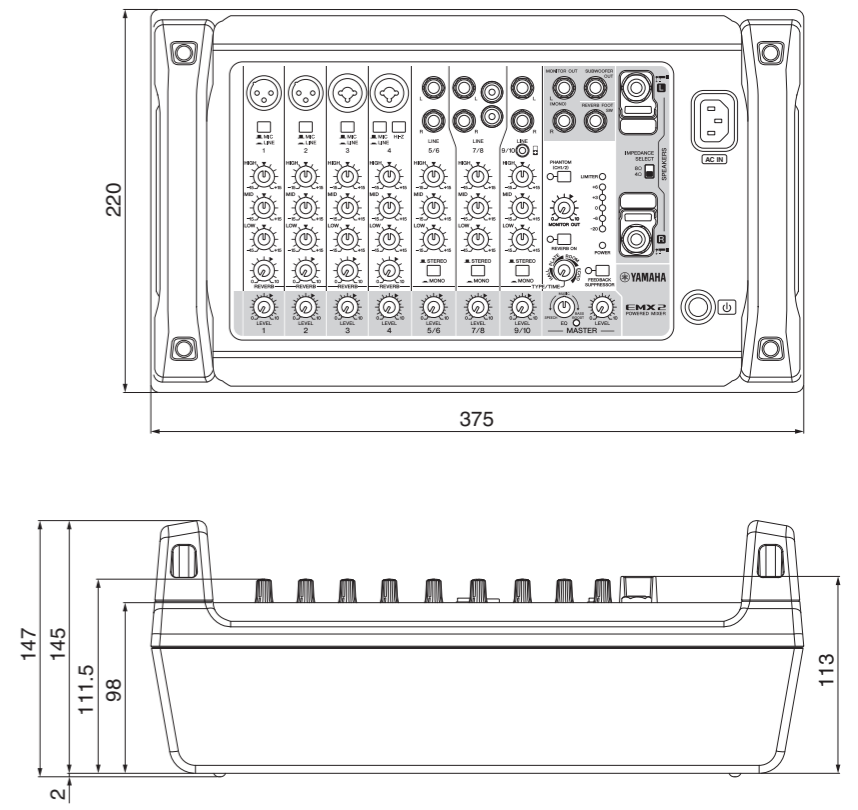
*1 Tip = Positive, Sleeve = Negative

Block and Level Diagrams



Dimensions

Unit: mm



Jack and Plug List

Jack	Polarity	Balanced/Unbalanced	Configuration
MIC/LINE	Pin 1: Ground Pin 2: Hot (+) Pin 3: Cold (-)	Balanced	XLR jack INPUT
MIC/LINE 3* MIC/LINE 4 (Hi-Z: off)*	Tip: Hot (+) Ring: Cold (-) Sleeve: Ground	Balanced	TRS phone plug Ring Sleeve
MONITOR OUT* SUBWOOFER OUT*	Tip: Hot (+) Ring: Cold (-) Sleeve: Ground	Impedance balanced	Tip Sleeve
LINE 5/6 - 9/10 MIC/LINE 4 (Hi-Z: on)	Tip: Signal Sleeve: Ground	Unbalanced	TS phone plug Sleeve Tip
SPEAKERS L/R	Tip: Positive Sleeve: Negative		

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