

## Overview

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EMX2 is a compact powered mixer that combines a power amplifier with a mixer in a single unit.



## Features

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- Output power @4Ω: 250 W + 250 W [1kHz THD+N less than 10% (CEA2006)], 110 W + 110 W [1kHz THD+N less than 1% (CEA2006)]
- Output power @8Ω: 170 W + 170 W [1kHz THD+N less than 10% (CEA2006)], 110 W + 110 W [1kHz THD+N less than 1% (CEA2006)]
- Input channels: 10 Line Inputs (4 mono, 3 stereo), 4 Mic Inputs with 30V phantom power [CH1-2] and Hi-Z [CH4]
- Output channels: 1 Speakers [L, R], 1 Monitor, 1 Subwoofer
- Bus: 1 ST, 1 Effect
- SPX Algorithm Reverb 4 programs.
- "1-Knob Master EQ™" to optimize EQ settings with the simple turn of a knob.
- Onboard Feedback Suppressor to instantly eliminate annoying feedback.

## Specifications

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### General Specifications

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% (CEA2006)	110 W + 110 W (4 Ω) 110 W + 110 W (8 Ω)
INPUT CHANNELS	LINE INPUT	10 (4 MONO + 3 STEREO)
	MIC INPUT	4
	MONO INPUT (MIC/LINE)	4 (CH1-4)
	MONO/STEREO INPUT (MIC/LINE)	3 (CH5-10)
	STEREO INPUT (LINE)	3
OUTPUT CHANNELS	SPEAKERS	[L, R]
	MONITOR OUT	[L, R]
	SUBWOOFER OUT	1
BUS	STEREO	1
	EFFECT	1
USB AUDIO - USB IN/OUT		No
PHANTOM POWER		+30V [CH1-2]
POWER REQUIREMENTS		100-240V 50Hz/60Hz
POWER SUPPLY TYPE		Internal Universal Power Supply
POWER CONSUMPTION		35 W (Idle) / 90 W (1/8 Power)
DIMENSIONS	W x D x H	375mm x 220mm x 147mm (14.8" x 8.7" x 5.8")
NET WEIGHT		4.2kg (9.3lb)
INCLUDED ACCESSORIES		AC Power Code (2.0 m), Owner's manual, Technical Specifications
OPTIONAL ACCESSORIES		RK-EMX2 Rackmount kit, BMS-10A Mic Stand Adaptor, FC5 Foot Switch
OPERATING TEMPERATURE		0 to 40°C

### Featured Functions

D-PRE MIC PREAMP	No
FEEDBACK SURPPRESSOR	Yes
1-KNOB COMP	Yes
SPX DIGITAL EFFECTS	Reverb 4 programs [Hall / Plate / Room / Echo]

### Electrical Specifications

TOTAL HARMONIC DISTORTION	Input to SPEAKERS	0.2% @ 13.8 W (40 Hz - 20 kHz) 0.4% @ 23.2 W (1 kHz)
	Input to MONITOR OUT	0.05% @ +10 dBu (20 Hz - 20 kHz) 0.009% @ +20 dBu (1 kHz)
FREQUENCY RESPONSE	Input to SPEAKERS	+1 dB/-4 dB (40Hz - 20kHz), refer to the nominal output level @1kHz
	Input to MONITOR OUT	+0.5 dB/-1 dB (20Hz - 20kHz), refer to the nominal output level @1kHz
HUM & NOISE LEVEL	Equivalent input noise	-115 dBu (20Hz to 20 kHz)
	Residual output noise / Input to SPEAKERS	-68 dBu (40 Hz to 20 kHz, STEREO LEVEL: min)
	Residual output noise / Input to MONITOR OUT	-99 dBu (20 Hz to 20 kHz, MONITOR LEVEL: min)
CROSSTALK	@ 1kHz	-80dB
INPUT CHANNEL FUNCTION	PAD	26dB (CH1-4)
	HI-Z	Supported (CH4)
	HPH	No
	COMP	No
INPUT CHANNEL EQ	High	±15dB (8kHz shelving)
	Mid	±15dB (2.5kHz peaking)
	Low	±15dB (100Hz shelving)
LED LEVEL METER	Pre Monitor Level	6 points LED meter (LIMITER, +6, +3, 0, -6, -20dB)
PEAK LED		LED turns on when post EQ signal reaches 3dB below clipping level

## Specifications

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### Analog Input Characteristics

INPUT TERMINAL	MIC/LINE	HI-Z [CH 4]	ACTUAL LOAD IMPEDANCE	FOR USE WITH NOMINAL	INPUT LEVEL			CONNECTOR
					Sensitivity*1	Nominal	Max. before Clip	
CH 1 - 4 [XLR]	MIC	-	3kΩ	150Ω Mics	-56 dBu (1.228 mV)	-35 dBu (13.78 mV)	-10 dBu (245.1 mV)	CH1, 2 XLR-3-31*2 (Balanced) CH3, 4 Combo jack*3 (Balanced)
	LINE				-30 dBu (24.5 mV)	-9 dBu (275 mV)	+16 dBu (4.89 V)	
CH 3 - 4 [Phone]	MIC	OFF	3kΩ	150Ω Mics	-50 dBu (2.45 mV)	-29 dBu (27.5 mV)	-4 dBu (489 mV)	
		ON	1MΩ	10kΩ Lines				
	LINE	OFF	3kΩ	150Ω Lines	-24 dBu (48.9 mV)	-3 dBu (548 mV)	+22 dBu (9.76 V)	
		ON	1MΩ	10kΩ				
CH 5/6-9/10			10kΩ	150Ω Lines	-24 dBu (48.9 mV)	-3 dBu (548 mV)	+22 dBu (9.76 V)	CH5/6 Phone jack*4 (Unbalanced) CH7/8 Phone jack*4 & RCA pin (Unbalanced) CH9/10 Phone jack*4 & Stereo mini jack (Unbalanced)

### Analog Output Characteristics

OUTPUT JACK	ACTUAL SOURCE IMPEDANCE	FOR USE WITH NOMINAL	OUTPUT LEVEL		CONNECTOR
			Nominal	Max. before Clip	
MONITOR OUT [L, R]	150Ω	10kΩ Lines	+4 dBu (1.23 V)	+20 dBu (7.75 V)	Phone jack*5
SUBWOOFER OUT	150Ω	10kΩ Lines	-3 dBu (0.55 V)	+17 dBV (5.49 V)	Phone jack*5

### Speaker Output Characteristics

OUTPUT TERMINALS	ACTUAL SOURCE IMPEDANCE	FOR USE WITH NOMINAL	OUTPUT LEVEL		CONNECTOR
			1 kHz THD+N < 1%	1 kHz THD+N < 10% (CEA2006)	
SPEAKERS [L, R]	<0.1Ω	4Ω Speakers	110 W	250 W	Phone jack*6
		8Ω Speakers	110 W	170 W	

(0 dBu = 0.775 Vrms / 0 dBV = 1.00 Vrms)

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

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

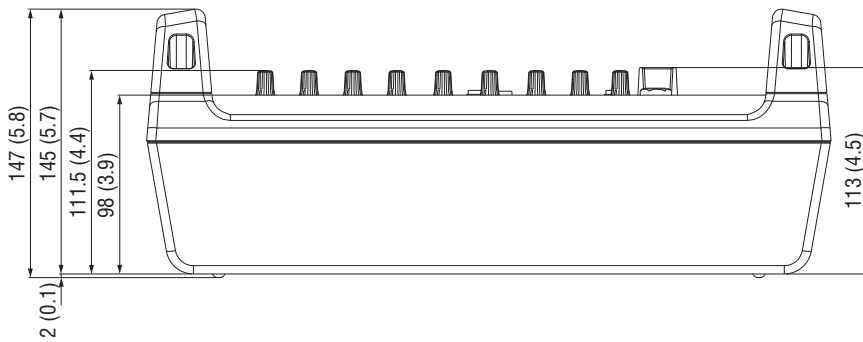
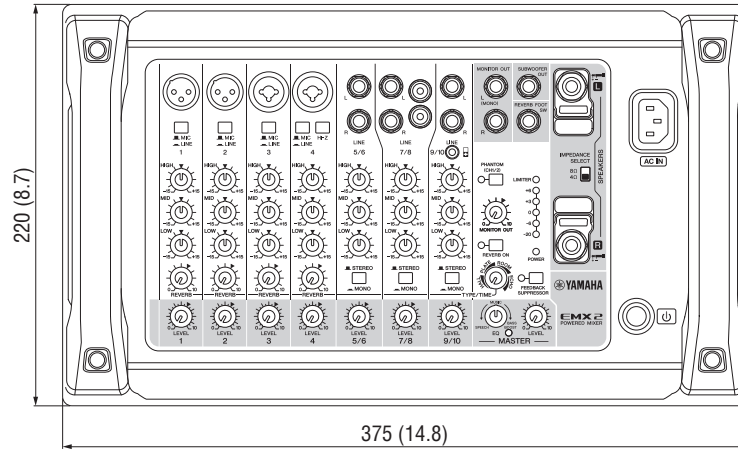
\*4 Tip = Signal, Sleeve = GND

\*5 Tip = HOT, Ring = COLD, Sleeve = GND

\*6 Tip = Positive, Sleeve = Negative

## Dimensions

Unit: mm (inch)



## Options

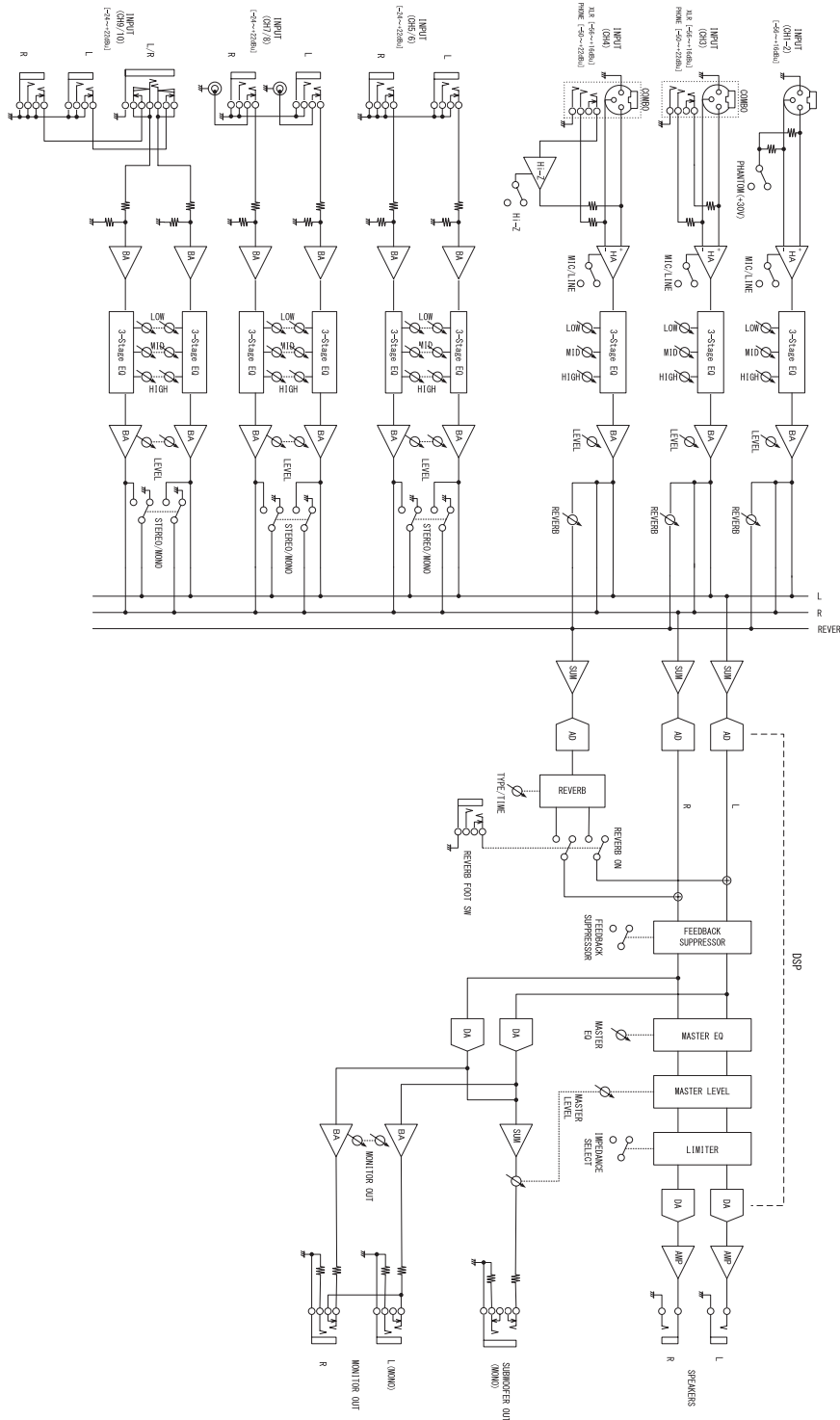
- Rack-mount Bracket      RK-EMX2
- Mic Stand Adaptor      BMS-10A
- Foot Switch              FC5

## Architectural and Engineering Specifications

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The Yamaha EMX2 Powered Mixer shall be a compact 10-channel mixer with built-in power amplification that is suitable for a wide range of users and applications. When driving 4-ohm loads the integral power amplifier shall have an output power rating of 250 watts + 250 watts with less than 10% THD+N at 1kHz, or 110 watts + 110 watts with less than 1% THD+N at 1kHz. When driving 8-ohm loads the integral power amplifier shall have an output power rating of 170 watts + 170 watts with less than 10% THD+N at 1kHz, or 110 watts + 110 watts with less than 1% THD+N at 1kHz. All power ratings shall be CEA-2006 compliant. The EMX2 shall have 10 line inputs (4 mono, 3 stereo). The four mono inputs shall also function as microphone inputs with 30-volt phantom power available on channels 1 and 2. A Hi-Z input shall be provided on channel 4. Speaker outputs L and R, monitor outputs L and R, and one subwoofer output shall be provided. One stereo bus and one effect bus shall be provided. Yamaha "SPX" algorithm reverb with 4 programs shall be included. "1-Knob Master EQ™" shall be included to allow easy optimization of EQ settings via a single knob. A Feedback Suppressor shall also be included for instant one-button feedback elimination. Dimensions shall be 375 (W) x 220 (D) x 147 (H) mm (14.8" x 8.7" x 5.8"). Weight shall be 4.2 kg (9.3 lb).

# Block Diagrams



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