

## Overview

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EMX7 is a versatile powered mixer that combines a power amplifier with a mixer in a single unit.



Rear Panel

## Features

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- Output power @4Ω: 710 W + 710 W [1kHz THD+N less than 10% (CEA2006)], 600 W + 600 W [1kHz THD+N less than 1% (CEA2006)]
- Output power @8Ω: 500 W + 500 W [1kHz THD+N less than 10% (CEA2006)], 400 W + 400 W [1kHz THD+N less than 1% (CEA2006)]
- Input channels: 12 Line Inputs (4 mono, 4 stereo), 8 Mic Inputs with 48V phantom power [CH1-11/12], HPH per channel [CH1-3] and Hi-Z [CH4]
- Output channels: 1 Speaker [A, B], 1 ST, 1 REC, 2 AUX sends
- Bus: 1 ST, 2 AUX (incl.FX)
- Robust, impact-resistant, powder-coated metal chassis.
- Internal universal power supply for worry-free operation around the globe, even in unsteady voltage environment.
- Speaker Processor and Preset for Yamaha passive speakers for optimizing performance.
- Flex 9 Graphic Equalizer to select up to nine bands out of a total of 31 for fine tuning  $\pm 15$  dB.
- Professional “1-knob compressors” with LED indicators.
- Digital effects processors: 24 “SPX” effects
- Onboard Feedback Suppressor to instantly eliminate annoying feedback.

## Specifications

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### General Specifications

OUTPUT POWER	1 kHz THD+N < 10% (CEA2006)	710 W + 710 W (4 Ω) 500 W + 500 W (8 Ω)
	1 kHz THD+N < 1% (CEA2006)	600 W + 600 W (4 Ω) 400 W + 400 W (8 Ω)
INPUT CHANNELS	LINE INPUT	12 (8 MONO + 4 STEREO)
	MIC INPUT	8
	MONO INPUT (MIC/LINE)	4 (CH1-4)
	MONO/STEREO INPUT (MIC/LINE)	4 (CH5-12)
	STEREO INPUT (LINE)	4
OUTPUT CHANNELS	SPEAKERS	2 [A, B]
	STEREO OUT	[L, R]
	AUX SEND	2
	REC OUT	[L, R]
BUS	STEREO	1
	AUX	2 (incl.FX)
	EFFECT	0
USB AUDIO - USB IN/OUT		No (Used only for performing maintenance)
PHANTOM POWER		+48V
POWER REQUIREMENTS		100-240V 50Hz/60Hz
POWER SUPPLY TYPE		Internal Universal Power Supply
POWER CONSUMPTION		45 W (Idle) / 250 W (1/8 Power)
DIMENSIONS	W x D x H	465mm x 325mm x 308mm (18.3" x 12.8" x 12.1")
NET WEIGHT		9.5kg (20.9lbs)
INCLUDED ACCESSORIES		AC Power Code (2.5 m), Owner's manual, Technical Specifications
OPTIONAL ACCESSORIES		RK-EMX7 Rackmount kit, 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	Yes (24 programs. REV HALL1 / REV HALL 2 / REV ROOM 1 / REV ROOM 2 / REV STAGE 1 / REV STAGE 2 / REV PLATE / DRUM AMB / EARLY REF / GATE REV / SINGLE DLY / DELAY / VOCAL ECHO / KARAOKE / PHASER / FLANGER / CHORUS 1 / CHORUS 2 / SYMPHONIC / TREMOLO / AUTO WAH / RADIO VOICE / DISTORTION / PITCH CHANGE)

### Electrical Specifications

TOTAL HARMONIC DISTORTION	Input to SPEAKERS	0.1% @ 10 W (40 Hz - 20 kHz) 0.04% @ 65 W (1 kHz)
	Input to STEREO OUT, AUX1 SEND, AUX2 SEND	0.02% @ +14 dBu (20 Hz - 20 kHz) 0.007% @ +20 dBu (1 kHz)
FREQUENCY RESPONSE	Input to SPEAKERS	+1 dB/-3 dB (40Hz - 20kHz), refer to the nominal output level @1kHz
	Input to STEREO OUT, AUX1 SEND, AUX2 SEND	+0.5 dB/-1 dB (20Hz - 20kHz), refer to the nominal output level @1kHz
HUM & NOISE LEVEL	Equivalent input noise	-117 dBu (20Hz to 20 kHz)
	Residual output noise / Input to SPEAKERS	-70 dBu (40 Hz to 20 kHz, STEREO MASTER LEVEL: min)
	Residual output noise / Input to STEREO OUT, AUX1 SEND, AUX2 SEND	-82 dBu (20 Hz to 20 kHz, STEREO MASTER LEVEL: min)
CROSSTALK	@ 1kHz	-85dB
INPUT CHANNEL FUNCTION	PAD	30dB (CH1-4)
	HI-Z	Supported (CH4)
	HPH	80Hz, -12dB/oct (CH1-3)
	COMP	1 knob COMP (CH1-4)
INPUT CHANNEL EQ	High	±15dB (10kHz shelving)
	Mid	±15dB (2.5kHz peaking)
	Low	±15dB (100Hz shelving)
LED LEVEL METER	Pre Monitor Level	2 x 12 points LED meter (PEAK, +10, +6, +3, 0, -3, -6, -10, -15, -20, -25, -30dB)
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	ACTUAL LOAD IMPEDANCE	FOR USE WITH NOMINAL	INPUT LEVEL			CONNECTOR
						Sensitivity* <sup>1</sup>	Nominal	Max. before Clip	
CH 1 - 4	XLR	MIC	-	3k $\Omega$	50-600 $\Omega$ Mics	-60 dBu (0.775 mV)	-43 dBu (5.48 mV)	-15 dBu (138 mV)	Combo jack* <sup>3</sup> (Balanced)
		LINE	-			-30 dBu (24.5 mV)	-13 dBu (173 mV)	+15 dBu (4.36 V)	
	Phone	MIC	-	8k $\Omega$	600 $\Omega$ Lines	-50 dBu (2.45 mV)	-33 dBu (17.3 mV)	-5 dBu (436 mV)	
		LINE	-			-20 dBu (77.5 mV)	-3 dBu (548 mV)	+25 dBu (13.8 V)	
CH 4 (Hi-Z)	Phone	MIC	ON	1M $\Omega$	10k $\Omega$ Lines	-50 dBu (2.45 mV)	-33 dBu (17.3 mV)	-5 dBu (436 mV)	Phone jack* <sup>4</sup> (Unbalanced)
		LINE				-	-20 dBu (77.5 mV)	-3 dBu (548 mV)	
CH 5/6, 7/8	XLR	-	-	3k $\Omega$	50-600 $\Omega$ Mics	-60 dBu (0.775 mV)	-43 dBu (5.48 mV)	-15 dBu (138 mV)	XLR-3-31* <sup>5</sup> (Balanced)
	Phone	-	-	10k $\Omega$	600 $\Omega$ Lines	-20 dBu (77.5 mV)	-3 dBu (548 mV)	+25 dBu (13.8 V)	Phone jack* <sup>4</sup> (Unbalanced)
CH 9/10, 11/12	XLR	-	-	3k $\Omega$	50-600 $\Omega$ Mics	-60 dBu (0.775 mV)	-43 dBu (5.48 mV)	-14 dBu (154.6 mV)	XLR-3-31* <sup>5</sup> (Balanced)
	Pin	-	-	10k $\Omega$	600 $\Omega$ Lines	-8 dBu (316 mV)	+10 dBu (2.451 V)	+25 dBu (13.8 V)	RCA Pin (Unbalanced)
CH 11/12	Mini jack	-	-	10k $\Omega$	600 $\Omega$ Lines	-8 dBu (316 mV)	+10 dBu (2.451 V)	+25 dBu (13.8 V)	Stereo mini jack* <sup>6</sup> (Unbalanced)

### Analog Output Characteristics

OUTPUT JACK	ACTUAL SOURCE IMPEDANCE	FOR USE WITH NOMINAL	OUTPUT LEVEL		CONNECTOR
			Nominal	Max. before Clip	
STEREO OUT [L, R]	600 $\Omega$	10k $\Omega$ Lines	+4 dBu (1.228 V)	+20 dBu (7.75 V)	Phone jack* <sup>7</sup> (Impedance Balanced)
AUX SEND [1 - 2]	600 $\Omega$	10k $\Omega$ Lines	+4 dBu (1.228 V)	+20 dBu (7.75 V)	Phone jack* <sup>7</sup> (Impedance Balanced)
REC OUT [L, R]	600 $\Omega$	10k $\Omega$ Lines	-10 dBV (0.308 V)	+18 dBV (7.75 V)	RCA pin (Unbalanced)

### Speaker Output Characteristics

OUTPUT TERMINALS	ACTUAL SOURCE IMPEDANCE	FOR USE WITH NOMINAL	OUTPUT LEVEL		CONNECTOR
			1 kHz THD+N < 1% (CEA2006)	1 kHz THD+N < 10% (CEA2006)	
SPEAKERS A, B	4 $\Omega$ Speakers	4 $\Omega$ Speakers	600 W	710 W	speakON NL4* <sup>8</sup> Phone jack* <sup>9</sup>
	8 $\Omega$ Speakers	8 $\Omega$ Speakers	400 W	500 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 Level controls setting : Channel level controls are at their t position. Master level controls are at their maximum position.

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

\*4 Tip = Signal, Sleeve = GND

\*5 1 = GND, 2 = HOT, 3 = COLD

\*6 Tip = LEFT, Ring = RIGHT, Sleeve = GND

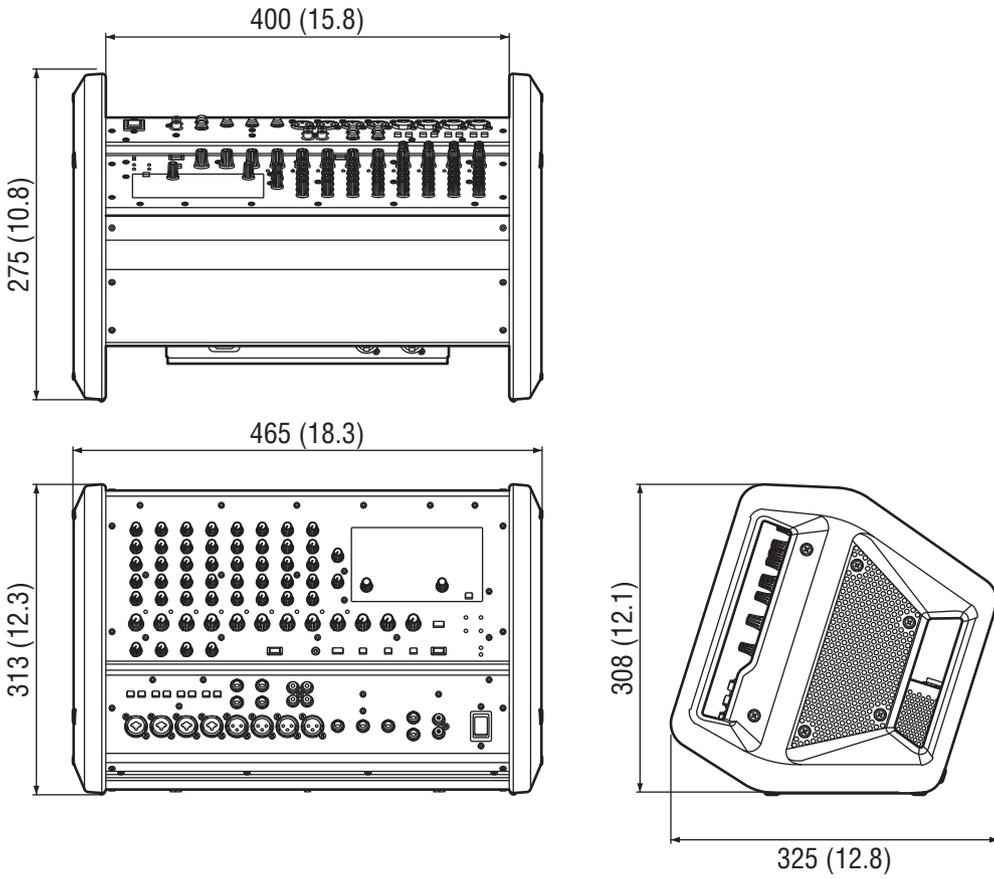
\*7 Tip = HOT, Ring = COLD, Sleeve = GND

\*8 1+ = Positive, 1- = Negative

\*9 Tip = Positive, Sleeve = Negative

**Dimensions**

Unit: mm (inch)



**Options**

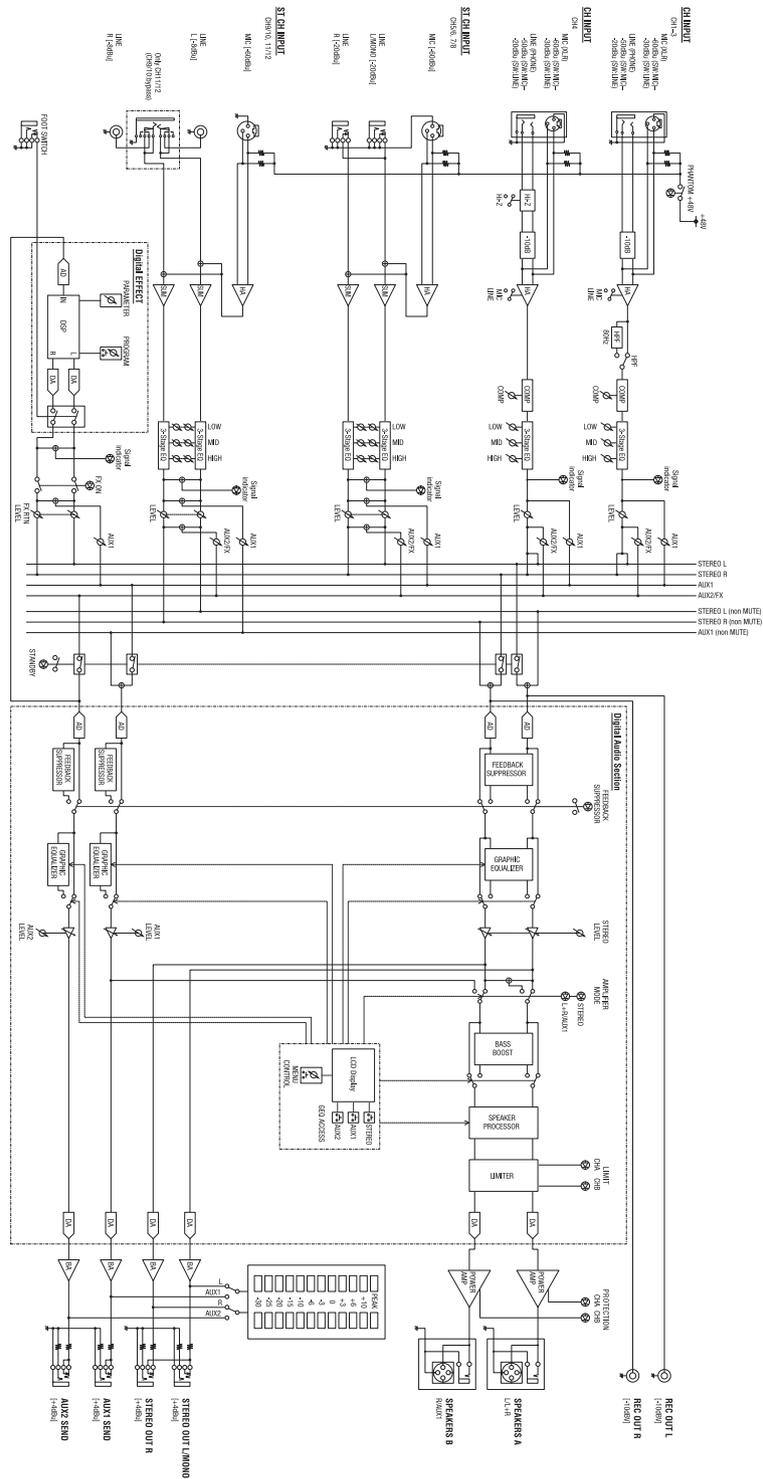
- Rack-mount Bracket      RK-EMX7
- Foot Switch              FC5

## Architectural and Engineering Specifications

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The Yamaha EMX7 Powered Mixer shall be a versatile 12-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 710 watts + 710 watts with less than 10% THD+N at 1kHz, or 600 watts + 600 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 500 watts + 500 watts with less than 10% THD+N at 1kHz, or 400 watts + 400 watts with less than 1% THD+N at 1kHz. All power ratings shall be CEA-2006 compliant. The EMX7 shall have 12 line inputs (4 mono, 4 stereo). Up to eight microphone inputs shall be available, with 48-volt phantom power on channels 1 through 11/12. High-pass filters shall be provided on channels 1 through 3, and a Hi-Z input shall be provided on channel 4. Speaker outputs A and B, auxiliary (effect) sends 1 and 2, a stereo output (L, R), and a REC output (L, R) shall be provided. One stereo bus and two auxiliary (effects) buses shall be provided. Speaker processing with presets for Yamaha passive speakers shall be included to ensure optimum performance with a wide range of Yamaha speakers. A "Flex9 Graphic Equalizer" shall be included, allowing up to nine bands out of a total of 31 to be selected for fine adjustment over a  $\pm 15$  dB range. Yamaha's "1-Knob Compressor" with LED indicators shall be included for easy compression control. A digital effects processor with 24 high-quality "SPX" effects shall be included to allow creative sound processing. A Feedback Suppressor shall also be included for instant one-button feedback elimination. The powered mixer shall be robust and built into an impact-resistant powder-coated metal chassis with an internal universal power supply that is capable of powering the unit stably from AC mains voltages around the world. A rack mount kit shall be included. Dimensions shall be 465 (W) x 325 (D) x 308 (H) mm (18.3" x 12.8" x 12.1"). Weight shall be 9.5 kg (20.9 lb).

# Block Diagrams



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