

Overview

EMX5 is a compact powered mixer that combines a power amplifier with a mixer in a single unit.



Rear Panel

Features

- Output power @ 4 Ω : 630 W + 630 W [1 kHz THD+N less than 10% (CEA2006)], 500 W + 500 W [1 kHz THD+N less than 1% (CEA2006)]
- Output power @ 8 Ω : 460 W + 460 W [1 kHz THD+N less than 10% (CEA2006)], 370 W + 370 W [1 kHz THD+N less than 1% (CEA2006)]
- Input channels: 12 Line Inputs (4 mono, 4 stereo), 8 Mic Inputs with 48 V 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.
- Professional “1-knob compressors” with LED indicators.
- “1-Knob Master EQ™” to optimize EQ settings with the simple turn of a knob.
- 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)	630 W + 630 W (4 Ω) 460 W + 460 W (8 Ω)
	1 kHz THD+N < 1% (CEA2006)	500 W + 500 W (4 Ω) 370 W + 370 W (8 Ω)
	LINE INPUT	12 (8 MONO + 4 STEREO)
	MIC INPUT	8
INPUT CHANNELS	MONO INPUT (MIC/LINE)	4 (CH1-4)
	MONO/STEREO INPUT (MIC/LINE)	4 (CH5-12)
	STEREO INPUT (LINE)	4
	OUTPUT CHANNELS	
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		+48 V
POWER REQUIREMENTS		100 - 240 V, 50 Hz/60 Hz
POWER SUPPLY TYPE		Internal Universal Power Supply
POWER CONSUMPTION		45 W (Idle) / 250 W (1/8 Power)
DIMENSIONS	W x D x H	465 mm x 325 mm x 308 mm (18.3" x 12.8" x 12.1")
NET WEIGHT		9.5 kg (20.9 lbs)
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) 0.05% @ 50 W (1 kHz)
	Input to STEREO OUT, AUX1 SEND, AUX2 SEND	0.03% @ +14 dBu (20 Hz - 20 kHz) 0.007% @ +20 dBu (1 kHz)
	FREQUENCY RESPONSE	
FREQUENCY RESPONSE	Input to SPEAKERS	+1 dB/-3 dB (40 Hz - 20 kHz), refer to the nominal output level @ 1 kHz
	Input to STEREO OUT, AUX1 SEND, AUX2 SEND	+0.5 dB/-1 dB (20 Hz - 20 kHz), refer to the nominal output level @ 1 kHz
HUM & NOISE LEVEL	Equivalent input noise	-117 dBu (20 Hz to 20 kHz)
	Residual output noise / Input to SPEAKERS	-66 dBu (40 Hz to 20 kHz, STEREO MASTER LEVEL: min)
	Residual output noise / Input to STEREO OUT, AUX1 SEND, AUX2 SEND	-80 dBu (20 Hz to 20 kHz, STEREO MASTER LEVEL: min)
CROSSTALK	@ 1 kHz	-85 dB
INPUT CHANNEL FUNCTION	PAD	30 dB (CH1-4)
	HI-Z	Supported (CH4)
	HPH	80 Hz, -12 dB/oct (CH1-3)
	COMP	1 knob COMP (CH1-4)
INPUT CHANNEL EQ	High	±15 dB (10 kHz shelving)
	Mid	±15 dB (2.5 kHz peaking)
	Low	±15 dB (100 Hz shelving)
LED LEVEL METER	Pre Monitor Level	2 x 7 points LED meter (PEAK, +10, +6, 0, -6, -10, -20 dB)
PEAK LED		LED turns on when post EQ signal reaches 3 dB 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* ¹	Nominal	Max. before Clip	
CH1-4	XLR	MIC	-	3 k Ω	50 - 600 Ω Mics	-60 dBu (0.775 mV)	-43 dBu (5.48 mV)	-15 dBu (138 mV)	Combo jack* ³ (Balanced)
		LINE	-			-30 dBu (24.5 mV)	-13 dBu (173 mV)	+15 dBu (4.36 V)	
	Phone	MIC	-	8 k Ω	600 Ω 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)	
CH4 (Hi-Z)	Phone	MIC	ON	1 M Ω	10 k Ω Lines	-50 dBu (2.45 mV)	-33 dBu (17.3 mV)	-5 dBu (436 mV)	Phone jack* ⁴ (Unbalanced)
		LINE				-	-20 dBu (77.5 mV)	-3 dBu (548 mV)	
CH5/6, 7/8	XLR	-	-	3 k Ω	50 - 600 Ω Mics	-60 dBu (0.775 mV)	-43 dBu (5.48 mV)	-15 dBu (138 mV)	XLR-3-31* ⁵ (Balanced)
	Phone	-	-	10 k Ω	600 Ω Lines	-20 dBu (77.5 mV)	-3 dBu (548 mV)	+25 dBu (13.8 V)	Phone jack* ⁴ (Unbalanced)
CH9/10, 11/12	XLR	-	-	3 k Ω	50 - 600 Ω Mics	-60 dBu (0.775 mV)	-43 dBu (5.48 mV)	-14 dBu (154.6 mV)	XLR-3-31* ⁵ (Balanced)
	Pin	-	-	10 k Ω	600 Ω Lines	-8 dBu (316 mV)	+10 dBu (2.451 V)	+25 dBu (13.8 V)	RCA Pin (Unbalanced)
CH11/12	Mini jack	-	-	10 k Ω	600 Ω Lines	-8 dBu (316 mV)	+10 dBu (2.451 V)	+25 dBu (13.8 V)	Stereo mini jack* ⁶ (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 Ω	10 k Ω Lines	+4 dBu (1.228 V)	+20 dBu (7.75 V)	Phone jack* ⁷ (Impedance Balanced)
AUX SEND [1-2]	600 Ω	10 k Ω Lines	+4 dBu (1.228 V)	+20 dBu (7.75 V)	Phone jack* ⁷ (Impedance Balanced)
REC OUT [L, R]	600 Ω	10 k Ω 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 Ω Speakers	4 Ω Speakers	500 W	630 W	speakON NL* ⁸
	8 Ω Speakers	8 Ω Speakers	370 W	460 W	Phone jack* ⁹

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

*1 Sensitivity is the lowest level that will produce an output of +4 dBu (1.228 V) 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 & Sleeve = GND, 2 & Tip = HOT, 3 & Ring = COLD

*4 Tip = Signal, Sleeve = GND

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

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

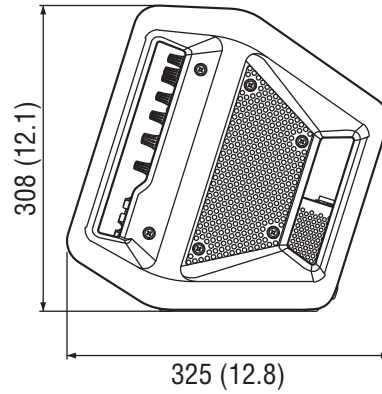
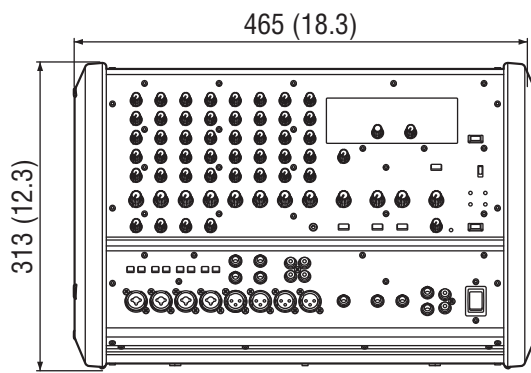
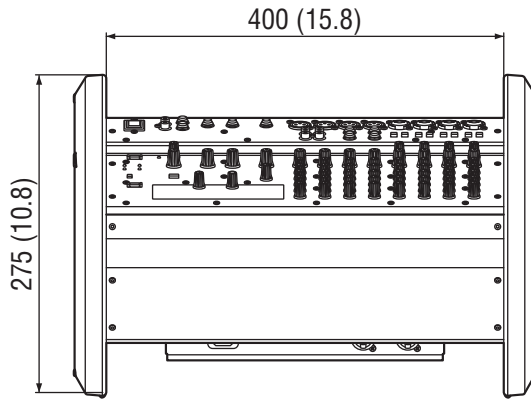
*7 Tip = HOT, Ring = COLD, Sleeve = GND

*8 1+ = Positive, 1- = Negative

*9 Tip = Positive, Sleeve = Negative

Dimensions

Unit: mm (inch)



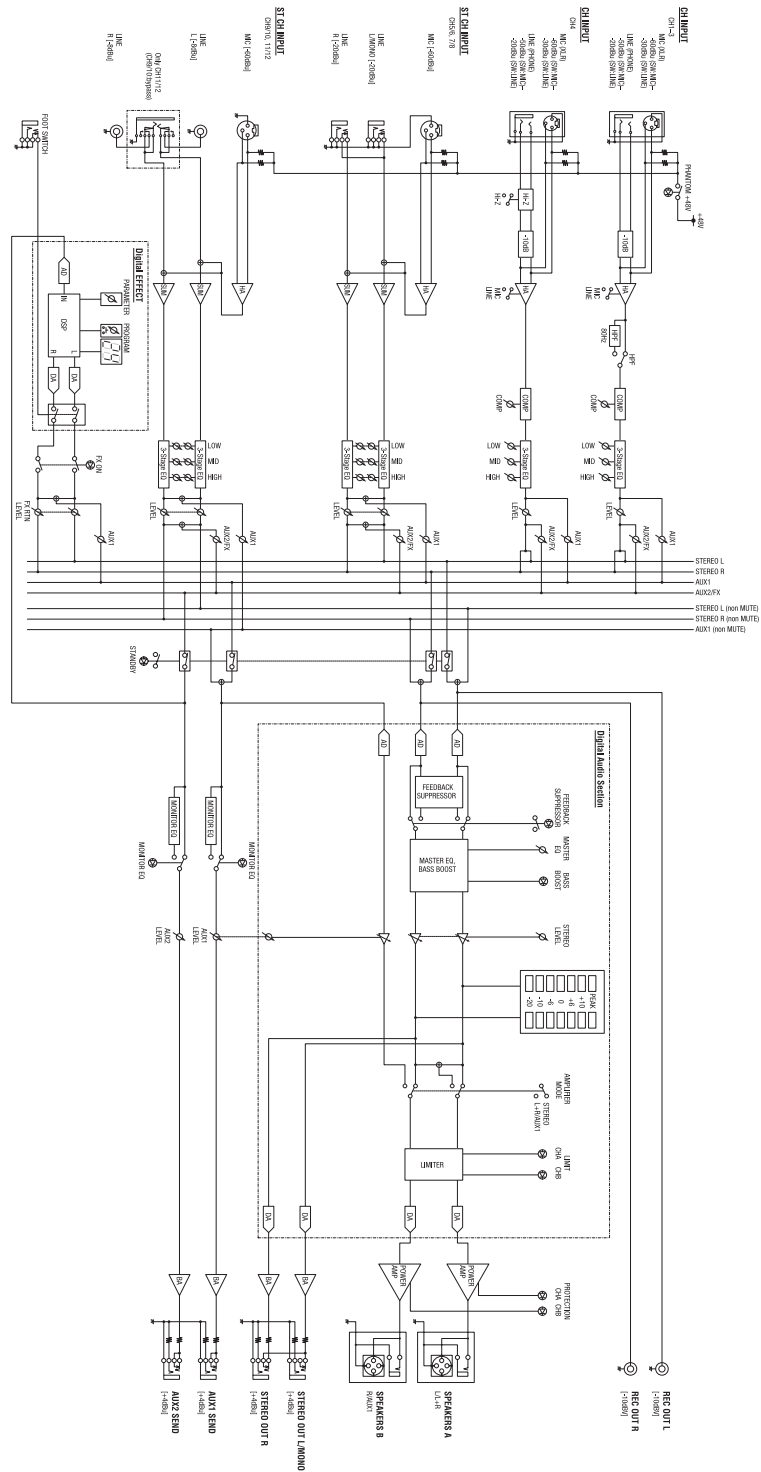
Options

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

Architectural and Engineering Specifications

The Yamaha EMX5 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 630 watts + 630 watts with less than 10% THD+N at 1kHz, or 500 watts + 500 watts with less than 1% THD+N at 1 kHz. When driving 8-ohm loads the integral power amplifier shall have an output power rating of 460 watts + 460 watts with less than 10% THD+N at 1 kHz, or 370 watts + 370 watts with less than 1% THD+N at 1 kHz. All power ratings shall be CEA-2006 compliant. The EMX5 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. Yamaha's "1-Knob Compressor" with LED indicators shall be included for easy compression control. "1-Knob Master EQ™" shall be included to allow easy optimization of EQ settings via a single knob. 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 lbs).

Block Diagrams



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