

## Overview

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EMX5016CF is a versatile powered mixer that combines a power amplifier with a mixing console in a single unit.



Rear Panel

## Features

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- Output power : 500W + 500W @4Ω[all versions]: 320 W + 320 W @8Ω[220-240v version]: 350 W + 350 W @8Ω[100v version]: 370 W + 370 W @8Ω[100v version]
- Input channels: 16 Line Inputs (8 mono, 4 stereo, 2 returns), 12 Mic Inputs with 48V phantom power, HPH per channel
- Output channels: 1 Speaker [A, B], 1 ST, 1 REC, 4 AUX sends (incl. 2 effect sends), 1 Phone, 1 Subwoofer, 8 Mono CH Insert
- Professional “1-knob compressors” on mono channels.
- 9-band Digital Graphic Equalizer with Presets & Memory.
- FRC (Frequency Response Correction) System to automatically set the graphic equalizer for optimized response.
- Onboard Feedback Suppressor to instantly eliminate annoying feedback.
- Multi-band “Maximizer” for a more punchy upfront overall sound.
- Dual digital effects processors: 2 x 16 “SPX” effects
- Yamaha Speaker Processing: Speaker Processor and Preset for Yamaha passive speakers for optimizing performance

## Specifications

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### General Specifications

OUTPUT POWER	1 kHz THD+N < 0.5%	500 W + 500 W (4 Ω) 320 W + 320 W (8 Ω/AC 220-240V model) 350 W + 350 W (8 Ω/AC 120V model) 370 W + 370 W (8 Ω/AC 100V model)
INPUT CHANNELS	LINE INPUT	16 (8 MONO + 4 STEREO)
	MIC INPUT	12
	MONO INPUT (MIC/LINE)	8 (CH1-8)
	MONO/STEREO INPUT (MIC/LINE)	4 (CH9-16)
	STEREO INPUT (LINE)	0
OUTPUT CHANNELS	SPEAKERS	1
	STEREO OUT	[L, R]
	AUX SEND	4 (incl. 2 Effect Send)
	PHONES OUT	1
	REC OUT	[L, R]
	SUBWOOFER OUT	1
	MONO CH INSERT OUT	8
USB AUDIO - USB IN/OUT		No
PHANTOM POWER		+48V
POWER REQUIREMENTS		Japan: AC100V, 50Hz/60Hz North America: AC120V, 60Hz Other Area: AC220-240V, 50/60Hz
POWER SUPPLY TYPE		Internal Universal Power Supply
POWER CONSUMPTION		500W
DIMENSIONS	W x D x H	444mm x 493mm x 155mm (17.5" x 19.4" x 6.1")
NET WEIGHT		11.0kg (24.3lb)
INCLUDED ACCESSORIES		AC Power Code, Owner's manual
SOFTWARE APPLICATION	Steinberg CUBASE AI	No
	Steinberg CUBASIS LE	No
OPTIONAL ACCESSORIES		RK-5014 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 (on Mono CH)
SPX DIGITAL EFFECTS		Yes (16 programs x 2)

### Electrical Specifications

TOTAL HARMONIC DISTORTION		Less than 0.3% (20Hz - 20kHz) @14dBu 600Ω
FREQUENCY RESPONSE	GAIN=Minimum, PAD=OFF	0, +0, -3dB, 20Hz-20kHz, 0dB @1kHz
HUM & NOISE LEVEL	Equivalent input noise	-128 dBu (20Hz-20 kHz, Rs: 150Ω, Gain: Max, Input Pad=0dB, Input Sensitivity=60dB)
	Residual output noise	-98 dBu (20Hz-20 kHz, Rs: 150Ω, Gain: Max, Input Pad=0dB, Input Sensitivity=60dB)
CROSSTALK	@ 1kHz	Less than -68dB
PROTECTION CIRCUIT	Load protection	Power switch on/off mute, DC-fault (power supply shutdown/manual reset), Clip limiter (≥THD 1%; compression)
	Amplifier protection	Thermal (heatsink temp ≥90°C; output mute/auto reset), VI limiter (RL ≤2Ω)
	Power supply protection	Thermal (heatsink temp ≥100°C; power supply shutdown/manual reset)
INPUT CHANNEL FUNCTION	COMP	On each channel; One control adjusts the Gain, threshold and Ratio simultaneously
INPUT CHANNEL EQ	High	±15dB (10kHz shelving)
	Mid	±15dB (Mono 250Hz-5kHz peaking, Stereo 2.5kHz peaking)
	Low	±15dB (100Hz shelving)
LED LEVEL METER	Pre Monitor Level	2 x 12 points LED meter (PEAK, +5, +3, +1, 0, -1, -3, -5, -7, -10, -15, -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	PAD	GAIN	ACTUAL LOAD IMPEDANCE	FOR USE WITH NOMINAL	INPUT LEVEL			CONNECTOR
					Sensitivity*1	Nominal	Max. before Clip	
CH A 1-8	0dB	-60dB	3kΩ	50-600Ω Mics	-80 dBu (0.078 mV)	-60 dBu (0.775 mV)	-40 dBu (7.75 mV)	XLR-3-31 type
		-16dB			-36 dBu (12.3 mV)	-16 dBu (123 mV)	+4 dBu (1.23 V)	
	26dB	-34dB			-54 dBu (1.55 mV)	-34 dBu (15.5 mV)	-14 dBu (155 mV)	
		+10dB			-10 dBu (245 mV)	+10 dBu (2.45 V)	+30 dBu (24.5 V)	
CH B 1-8	0dB	-60dB	10kΩ	600Ω Lines	-80 dBu (0.078 mV)	-60 dBu (0.775 mV)	-40 dBu (7.75 mV)	TRS phone jack
		-16dB			-36 dBu (12.3 mV)	-16 dBu (123 mV)	+4 dBu (1.23 V)	
	26dB	-34dB			-54 dBu (1.55 mV)	-34 dBu (15.5 mV)	-14 dBu (155 mV)	
		+10dB			-10 dBu (245 mV)	+10 dBu (2.45 V)	+30 dBu (24.5 V)	
ST CH MIC 9/10 - 15/16		-60dB	3kΩ	50-600Ω Mics	-80 dBu (0.078 mV)	-60 dBu (0.775 mV)	-40 dBu (7.75 mV)	XLR-3-31 type
		-16dB			-36 dBu (12.3 mV)	-16 dBu (123 mV)	-10 dBu (245 mV)	
ST CH LINE 9/10 - 15/16		-34dB	10kΩ	600Ω Lines	-54 dBu (1.55 mV)	-34 dBu (15.5 mV)	-14 dBu (155 mV)	Phone jack, RCA pin jack
		+10dB			-10 dBu (245 mV)	+10 dBu (2.45 V)	+30 dBu (24.5 V)	
CH INSERT IN (1-8)			10kΩ	600Ω Lines	-20 dBu (77.5 mV)	0 dBu (0.775 V)	+20 dBu (7.75 V)	Phone jack

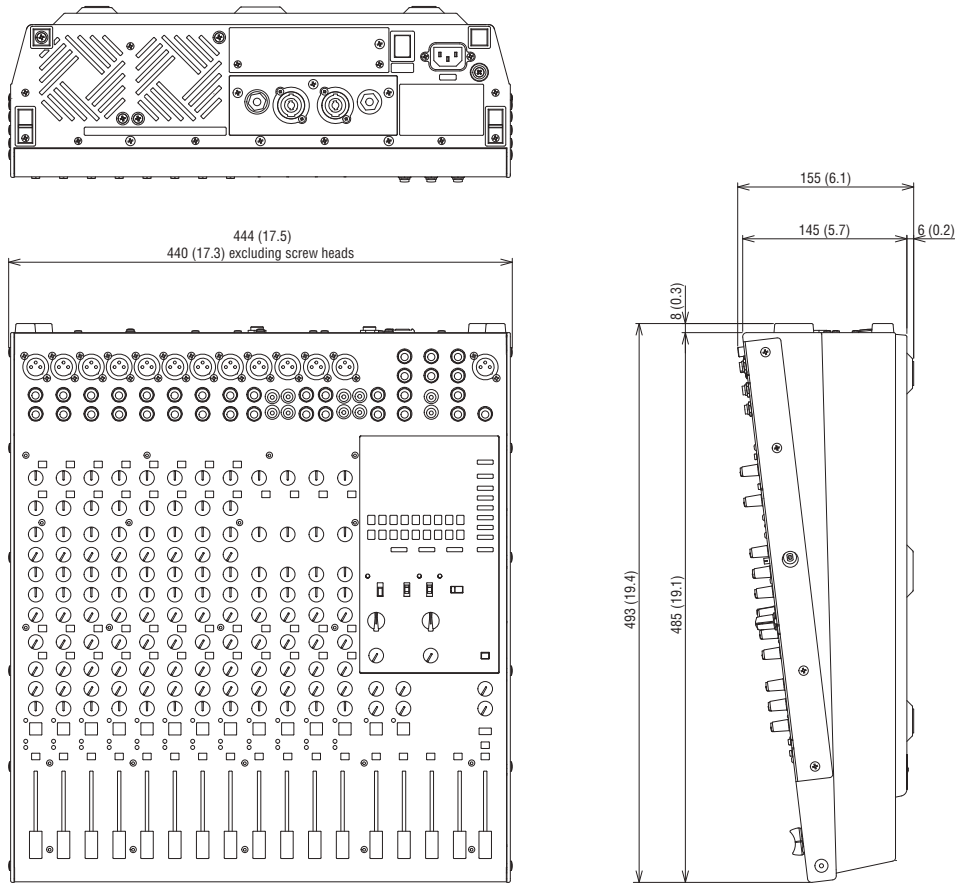
### Analog Output Characteristics

OUTPUT JACK	ACTUAL SOURCE IMPEDANCE	FOR USE WITH NOMINAL	OUTPUT LEVEL		CONNECTOR
			Nominal	Max. before Clip	
STEREO OUT [L, R]	150Ω	600Ω Lines	+4 dBu (1.228 V)	+20 dBu (7.75 V)	TRS phone jack
STEREO SUB OUT [L, R]	150Ω	600Ω Lines	+4 dBu (1.228 V)	+20 dBu (7.75 V)	TRS phone jack
AUX SEND [1 - 2]	150Ω	600Ω Lines	+4 dBu (1.228 V)	+20 dBu (7.75 V)	TRS phone jack
EFFECT SEND [1 - 2]	150Ω	10kΩ Lines	+4 dBu (1.228 V)	+20 dBu (7.75 V)	TRS phone jack
CH INSERT OUT [1 - 8]	600Ω	10kΩ Lines	0 dBu (0.775 V)	+20 dBu (7.75 V)	TRS phone jack
REC OUT [L, R]	600Ω	10kΩ Lines	-10 dBu (245 mV)	+10 dBu (2.45 V)	RCA pin jack
PHONES [L, R]	100Ω	10kΩ Lines	3mW	75mW	ST phone jack
SPEAKERS	0.1Ω	10kΩ Lines	125W	500W	speakON Phone jack

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

## Dimensions

Unit: mm (inch)



## Options

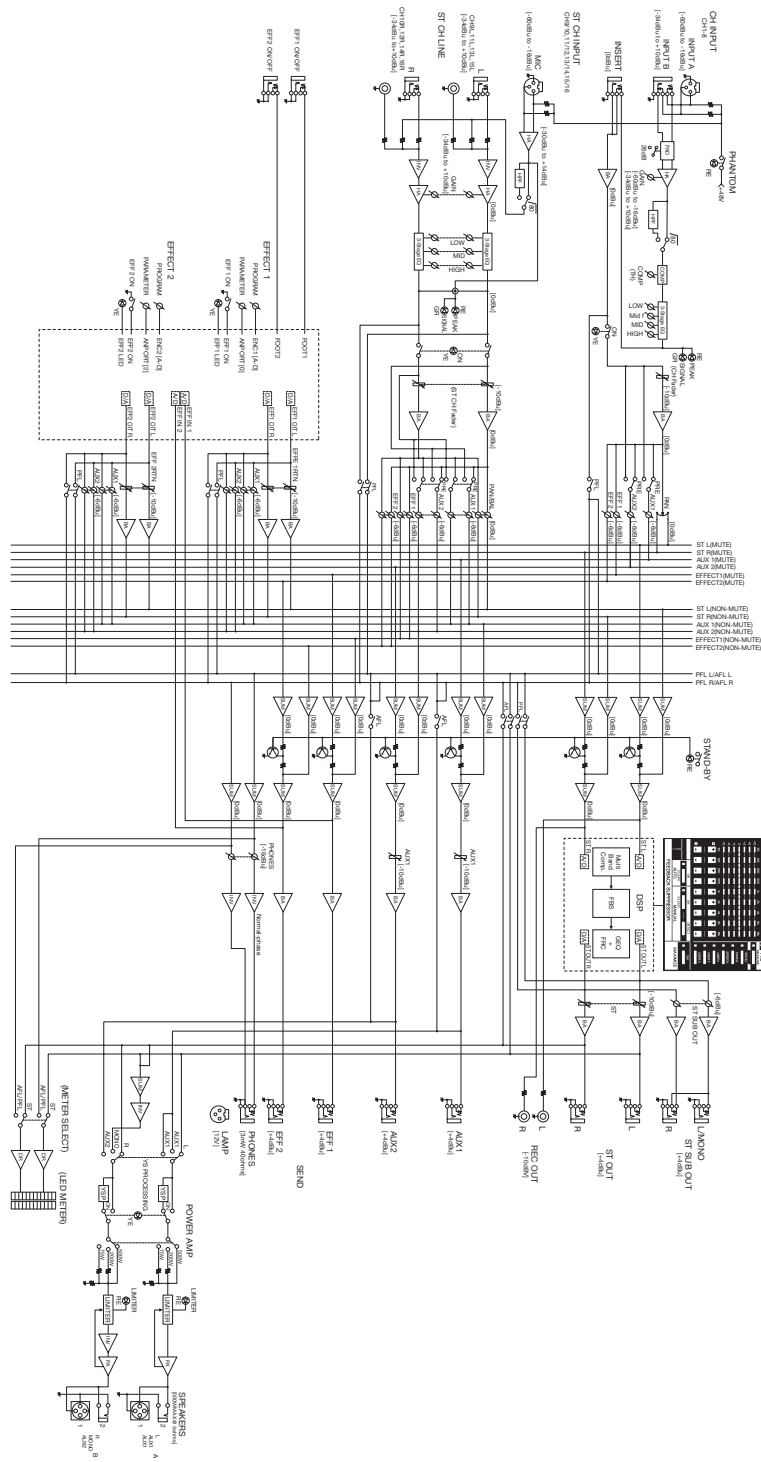
- Rack-mount Bracket      RK5014
- Foot Switch              FC5

## Architectural and Engineering Specifications

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The Yamaha EMX5016CF Powered Mixer shall be a 16-channel console-style powered mixer integrating a high-performance mixer and power amplifier in one versatile unit that is suitable for a wide range of users and applications. The integral power amplifier shall have a power rating of 500W + 500W into 4-ohm loads (all versions), 320 W + 320 W into 8-ohm loads (220-240 volt version), 350 W + 350 W into 8-ohm loads (120 volt version), and 370 W + 370 W into 8-ohm loads (100 volt version). The EMX5016CF shall have 16 Line Inputs (8 mono, 4 stereo). Up to 12 microphone inputs shall be available, all with 48-volt phantom power. High-pass filters shall be provided on all channels. Speaker outputs A and B, a stereo output (L, R), a REC output (L, R), four auxiliary sends (including two effect sends), a phones jack, a subwoofer output, and eight mono channel insert outs shall be provided. Yamaha's "1-Knob Compressor" shall be included for easy compression control. A 9-band digital graphic equalizer with presets and memory shall be included. An FRC (Frequency Response Correction) system that automatically sets the graphic equalizer for optimized response shall also be included. A Feedback Suppressor shall be included for instant one-button feedback elimination. Two 16-effect digital "SPX" effect processors shall be provided, including effects such as reverb, echo, chorus, flanger, phaser, distortion, and others. Effect parameters shall be editable to allow broad effect customization. Yamaha speaker processing shall be included, with presets that provide optimum operation with Yamaha Concert Club series passive speakers. 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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