Overview

MGX12 (B/W) is a versatile Digital mixer for a wide range of users and applications.





Features

- 11 + 1 fader configuration (non-motorized fader)
- A 4.3-inch touchscreen with five control knobs
- Input mixing channels: 4 mono + 4 stereo + 1 Sound Pad + 2 FX return
- Busses: 1 STEREO + 8 MIX
- Local Inputs: 4 Combo (Mic/Line), 4 TRS (Line), 4 RCA (Line)
- Local Outputs: 2 XLR, 6 TRS Phone, 4 Headphones
- USB MAIN: 18 inputs / 18 outputs (32-bit / 96 kHz)
- USB SUB: 2 inputs / 2 outputs (16-bit / 48 kHz)
- microSD Card: 16-track recording / 2-track playback (24-bit / Up to 96 kHz)
- Bluetooth Audio Input: 2 inputs (Bluetooth 5.0, A2DP)
- Built-in DSP processor for professional sound and latency-free monitoring
- Assistive features: Auto Gain, Clip Safe, Simple / Standard mode, Scene Recall
- Included accessories: Start Guide, Safety Guide, Steinberg Software License Card × 2 (Cubase AI + WaveLab Cast, Steinberg Plus), Basic FX Suite License Card, AC Power Adapter (PA-300)

Specifications 1/2

General Specifications

I/O Connectors	Analog Input	4 Combo (Mic/Line), 4 TRS (Line), 4 RCA (Line)
	Analog Output	2 XLR, 6 TRS
	USB TO HOST	2 (USB Type-C, MAIN: 32-bit/SUB: 16-bit)
	Phones	4 TRS (100 mW+100 mW @40 Ω)
	DC	1 (Barrel Type, DC Power IN)
	microSD Card Slot	1
	Bluetooth	1 Bluetooth Audio Input (Bluetooth 5.0, A2DP)
User Interface		4.3-inch Touch Screen, 12 × 60 mm Fader, 12 × SEND Knob, 5 × Rotary Encoder (4 × Screen Knob, 1 x "TOUCH AND TURN")
Recording & Playback	USB	18-track recording, 18-track playback
	USB (SUB)	2-track recording, 2-track playback
	microSD Card	Up to 16-track recording, 2-track playback
Sampling Frequency Rate		96 kHz - 44.1 kHz
Signal Delay		Less than 0.4 ms (INPUT to STEREO OUT @ Fs=96 kHz)
Frequency Response		+0.0 / -0.5dB 20 Hz to 20 kHz, reference to the nominal output level @1 kHz, Input Gain= Min.
Dynamic Range		125 dB typ., DAC to STEREO OUT, 115 dB typ., INPUT to MAIN OUT, Input Gain=Min.
Total Harmonic Distortion		Less than 0.002% 20 Hz to 20 kHz@+4 dBu, MIC INPUT to STEREO OUT, Input Gain=Min.
Hum & Noise Level	Equivalent Input Noise	-128 dBu typ., Input Gain= Max.
	Residual Output Noise	-108 dBu, ST main off
Crosstalk		-120 dB, adjacent INPUT/STEREO OUT channels, Input Gain= Min. @1 kHz
Gain Range		86 dB
Power Requirements		DC16 V/2.4 A, PA-300 AC Power Adapter (100 V - 240 V, 50 Hz/60 Hz)
Power Consumption		38.4 W
Dimensions	W	335 mm (13.2")
	H	96 mm (3.8")
	D	319 mm (12.6")
Net Weight		3.9 kg (8.6 lbs.)
Included Accessories		Start Guide, Safety Guide, Steinberg Software License Card × 2 (Cubase AI + WaveLab Cast, Steinberg Plus), Basic FX Suite License Card, AC Power Adapter (PA-300 including Power Cord)
Accessories		RK-MGX12 (Mixer Accessory)
Operating Temperature		0 to +40˚C
Storage Temperature		-20 to +60˚C

Outline

Mixing Capacity	Input Channels	4 mono + 4 stereo + 1 Sound Pad + 2 FX
	Mix Buses	8 (mono)
	Stereo Buses	1
	FX Buses	2
	Cue Buses	1
On-board Processors	DSP	Gate, Compressor, EQ, Sweet Spot Morphing Channel Strip (Comp & EQ), Guitar Amp Classics (Amp Simulator), Pitch Fix (Voice Changer), Ducker, Multi-Band Compressor, Compander, Delay, REV-X (Reverb)

Specifications 2/2

Input/Output Characteristics

0 dBu = 0.775 Vrms

Analog Input Characteristics

Terminal	GAIN	Actual Load Impedance	For Use with Nominal	Input Level			Connector
				Sensitivity *1	Nominal	Max. before Clip	
MIC/LINE 1-4	+70 dB	4 kΩ	150 Ω Mics	-94 dBu (15.5 µV)	-74 dBu (155 µV)	-62 dBu (616 µV)	Combo *2 (Balanced)
	-16 dB			-8 dBu (309 mV)	+12 dBu (3.09 V)	+24 dBu (12.3 V)	
LINE 5/6, 7/8	High	10 kΩ	600 Ω Lines	-26 dBu (38.8 mV)	-6 dBu (389 mV)	+6 dBu (1.55 V)	Phone *2 (Balanced)
	Low			-8 dBu (309 mV)	+12 dBu (3.09 V)	+24 dBu (12.3 V)	
LINE 9/10, 11/12	-	10 kΩ	600 Ω Lines	-20 dBu (77.5 mV)	0 dBu (0.775 V)	+12 dBu (3.09 V)	RCA Pin (Unbalanced)

*1 Sensitivity refers to the lowest input level that produces an output of +4 dBu (1.23 V) or the nominal output level when the unit is set to maximum gain, with all faders and level controls at their maximum positions.
*2 Combo and Phone pin assignments: 1 & Sleeve = GND, 2 & Tip = HOT, 3 & Ring = COLD

Analog Output Characteristics

Terminal	Actual Source Impedance	For Use with Nominal	Output Level		Connector
			Nominal	Max. before Clip	
STEREO OUT	300 Ω	10 kΩ Lines	+4 dBu (1.23 V)	+16 dBu (12.3 V)	XLR-3-32 *1 (Balanced)
OMNI OUT 1-6	150 Ω	10 kΩ Lines	-2 dBu (616 mV)	+10 dBu (2.45 V)	Phone *2 (Impedance Balanced)
PHONES 1-4	10 Ω	40 Ω Phones	6 mW + 6 mW	100 mW + 100 mW	Stereo Phone *3

*1 XLR-3-32 pin assignments: 1 = GND, 2 = HOT, 3 = COLD
*2 Phone pin assignments: Tip = HOT, Ring = COLD, Sleeve = GND
*3 Stereo Phone pin assignments: Tip = LEFT, Ring = RIGHT, Sleeve = GND

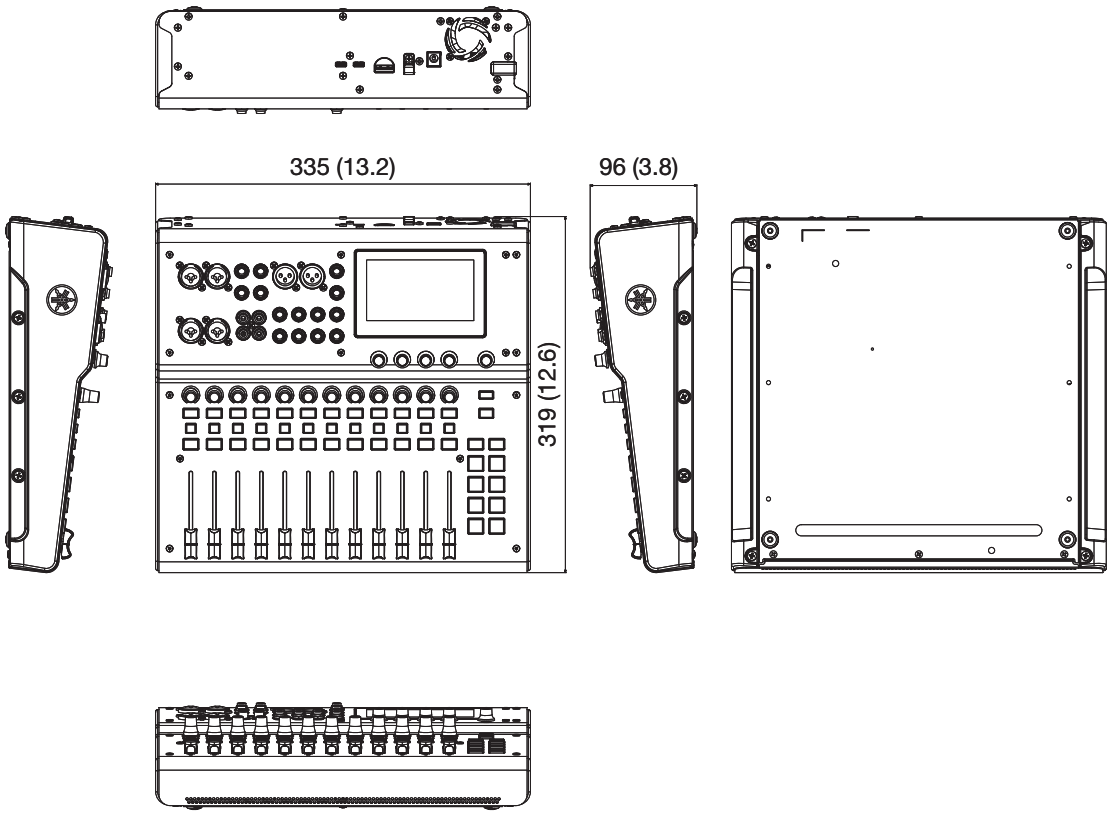
Digital Input/Output Characteristics

Terminal	Format	Data Length	Standard	Audio	Connector
USB TO HOST [MAIN]	PCM	32-bit / Up to 96 kHz	Yamaha Steinberg USB Driver	Up to 18 in / 18 out	USB (Type-C, USB 2.0 High Speed)
		32-bit / Up to 96 kHz	USB Audio Class (UAC 2.0)	14 in / 12 out	
USB TO HOST [SUB]	PCM	32-bit / Up to 96 kHz	USB Audio Class (UAC 1.0)	2 in / 2 out	USB (Type-C, USB 2.0 Full Speed)
microSD Card Slot	WAV	16-bit / 48 kHz	microSDHC/microSDXC (UHS-I or higher, Class 10 or higher), exFAT supported	Recording: 16 tracks @ 44.1/48 kHz 8 tracks @ 88.2/96 kHz Playback: 2 tracks	microSD Card Slot
Bluetooth Audio Input	AAC, SBC	16-bit / Up to 48 kHz	Bluetooth 5.0, A2DP	2 in	-

* Audio inputs from Bluetooth and USB SUB are converted to match with the Mixer audio format automatically.

Dimensions

Unit: mm (inch)



Options

- Rack Mount Kit RK-MGX12

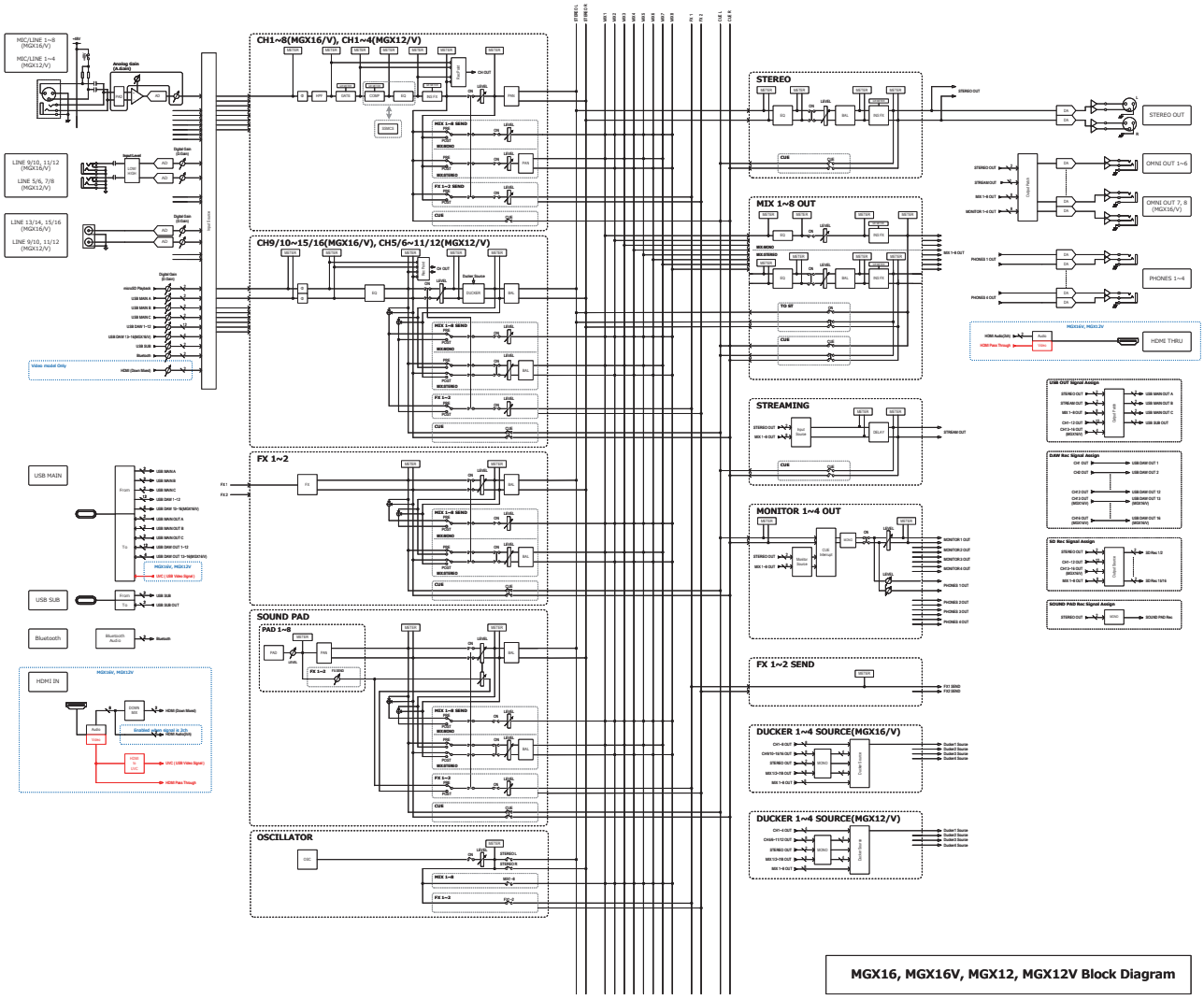
Software

- Cubase AI
- WaveLab Cast
- Steinberg Plus
- Basic FX Suite

Architectural and Engineering Specifications

The Yamaha MGX12 (B/W) shall be a 18-channel digital mixing console with video interface suitable for live sound, streaming, content creation, recording, and installed sound applications. The MGX12 (B/W) shall provide four Mic/Line combo inputs with MGX microphone preamplifiers supporting 48-volt phantom power, four stereo line input channels, and comprehensive digital processing. The console shall provide two XLR main outputs, six TRS omni outputs, and four headphone outputs. The internal bus structure shall include one stereo bus, eight MIX buses, two FX buses, and one cue bus. A 4.3-inch color touchscreen, sixteen 60-mm non-motorized faders, and physical control knobs shall be provided for intuitive operation. Onboard DSP with professional effects, Auto Gain, Clip Safe, and Scene Recall shall be included. The MGX12 (B/W) shall integrate a multi-channel USB audio interface supporting up to 18-track recording and playback, a microSD card slot for up to 16-track recording, and Bluetooth audio input. The MGX12 (B/W) shall be 335 (W) × 96 (H) × 319 (D) mm. The weight shall be 3.9 kg.

Block Diagrams



MGX16, MGX16V, MGX12, MGX12V Block Diagram

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