

30th Anniversary

Mix With the Best

PM Consoles since 1972
Digital Consoles since 1987



MG Series MIXING CONSOLE

- MG10/2
- MG12/4
- MG16/4
- MG16/6FX
- MG24/14FX
- MG32/14FX



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A Century Of Sound Behind **Six** Superlative Mixers

Yamaha is an unusual company. There are very few others who can claim “total music involvement”, but that is Yamaha’s position. We’ve been making fine musical instruments for more than 100 years, industry-leading sound reinforcement mixers for more than 30 years, and cutting-edge digital mixers and music production gear for 15 years. In sound-reinforcement terms 30 years is a very long time. In fact, 30 years is roughly equal to the total history of sound reinforcement (the term “sound reinforcement” wasn’t even used back then – it was still “PA”), and we’ve been there the entire time. Innovating, leading, and in many ways defining the development of modern mixing consoles.

We’re still at it. We are proud to introduce the Yamaha MG-series mixing consoles, featuring six models ranging in size from a small 10-channel/2-bus unit right up to a very flexible 32-channel/14-bus type with an impressive selection of built-in effects. There have been no compromises. The MG mixers are built for great sound, total control, and superior reliability. In fact, they undergo the same rigorous quality and reliability tests as our world-class PM-series mixing consoles. But, by taking full advantage of the latest Yamaha technology and manufacturing techniques, we have been able to pack these superlative mixers with more value than you’ll find anywhere else. In short, they offer extraordinary performance and mixing power at remarkable prices.

If you need a high-performance analog mixer for music production or sound reinforcement, the Yamaha MG Series is the first – and last – place you should look.

MG10/2

MIXING CONSOLE



Just the Basics – With Class

If you simply need to mix a few sources to stereo – but insist on the finest audio quality available – the MG10/2 is probably the way to go. It's compact and convenient to use, but won't compromise your signal in any way. With an optional adaptor the MG10/2 can even be mounted on a microphone stand for totally flexible positioning and easy access. For demo and music production in your personal studio, for band rehearsal or small sound reinforcement applications, or simply as a super utility mixer for any application, you can't lose with the MG10/2.

10 Input Channels



The MG10/2 features a total of 10 input channels: two mono microphone/line inputs and four stereo line inputs, two of which offer mono microphone input capability.

Four Low-noise, High-precision Mic Preamps



The microphone preamps provided on the two mono channels and two of the four stereo channels would be worth the price of the entire mixer if packaged separately. These are high-performance head amplifiers that will bring out the best in any dynamic or condenser microphone.

Phantom Power

So you can take advantage of the superior sonic quality of professional-class studio condenser microphones, all four of the MG10/2's high-performance mic preamps feature switchable phantom power. A single switch turns phantom power on or off for all four channels.

Insert I/O

Mono input channels feature insert I/O patch points so you can add compressors, EQ, or other extra signal-processing to the channels as required.

3-band Channel EQ & HPF

Designed for smooth, "musical" response, the 3-band equalizers provided on all input channels are one more sonic tool you can use to create clean, professional mixes. All mono microphone input channels also feature a switchable high-pass filter that can be used to cut out unwanted low-frequency noise.

Two Aux Sends & Stereo Aux Return

The MG10/2 is also full equipped to handle external effects and monitor systems. Use the post-fader auxiliary sends in conjunction with the stereo auxiliary returns to add reverb, delay, or other external effects to the mix, and the pre-fader sends to feed a separate mix to your monitor system.

Optional Mic Stand Mount

What could be more convenient than having your mixer mounted on a microphone stand for freedom of placement and easy access? With the optional BMS-10A Mic Stand Adaptor you can do just that, and have your sonic control center within easy reach all the time.



MG12/4 MG16/4 MG16/6FX

MIXING CONSOLE

Extensive Creative Control In the Studio Or On Stage

The mid-range MG models go beyond the basics to give you extensive control for a wide range of applications – with the no-compromise Yamaha sonic quality that makes the MG mixers the finest in their class. Whether music is a hobby or profession, these mixers will deliver total satisfaction. If you don't need effects, or already have an arsenal of outboard favorites, the MG12/4 or MG16/4 may offer all the capacity and capabilities you need. But if the idea of having some of the finest effects available built right into the console appeals to you, then consider the effect-enabled MG16/6FX.

MG12/4

Superlative Balance Of Sound,
Size and Features



12 Input Channels

Four mono microphone/line inputs and four stereo line inputs, two of which offer mono microphone input capability.

Six Low-noise, High-precision Mic Preamps

Six high-performance head amplifiers that will bring out the best in any dynamic or condenser microphone.

Phantom Power

All six of the MG12/4's high-performance mic preamps feature switchable phantom power for studio condenser microphones. A single switch turns phantom power on or off for all six channels.

Insert I/O

All mono input channels feature insert I/O patch points so you can add extra signal-processing to the channels as required.

Four Buses (Stereo and Group)

In addition to the main stereo bus, the MG12/4 features a stereo group bus and outputs that can be used for convenient channel grouping.

3-band Channel EQ & HPF

Smooth, "musical-response" 3-band equalizers on all input channels. All mono microphone input channels also feature a switchable high-pass filter that can be used to cut out unwanted low-frequency noise.

Two Aux Sends & Stereo Aux Return

Two auxiliary sends on each channel – one post-fader and one switchable for pre- or post-fader operation – provide plenty of flexibility for external signal processing and monitoring. A stereo auxiliary return is also provided.

Illuminated Switches

Illuminated ON (ST buss assign), PFL (Pre-Fader Listen), and phantom-power switches provide easy visual confirmation of critical console settings.

Rack Mount Adaptors Included

Use your MG mixer on a desktop or mounted in a rack – the rack mount adaptors are provided.



MG16/4

When You Need
Extra Input Capacity ...



16 Input Channels

Eight mono microphone/line inputs and four stereo line inputs. Two of the stereo inputs also offer mono microphone input capability.

10 Low-noise, High-precision Mic Preamps

Ten high-performance head amplifiers will deliver optimum performance with any dynamic or condenser microphone.

Phantom Power

All ten mic preamps feature switchable phantom power for studio condenser microphones. A single switch turns phantom power on or off for all 10 channels.

Insert I/O

Add compressors, EQ, or other signal-processing gear to the mono channels as required via insert I/O patch points.

Four Buses (Stereo and Group)

The MG16/4 features a stereo group bus and outputs that can be used for convenient channel grouping, in addition to the main stereo bus.

3-band Channel EQ & HPF

Smooth, "musical-response" 3-band equalizers on all input channels. All mono microphone input channels also feature a switchable high-pass filter that can be used to cut out unwanted low-frequency noise.

Two Aux Sends & Stereo Aux Return

Each input channel has two auxiliary sends – one post-fader and one switchable for pre- or post-fader operation – affording plenty of flexibility for external signal processing and monitoring. A stereo auxiliary return is also provided.

Illuminated Switches

Illuminated ON (ST buss assign), PFL (Pre-Fader Listen), and phantom-power switches provide easy visual confirmation of critical console settings.



Rack Mount Adaptors Included

Desktop or rack-mounted, your MG mixer will happily integrate in any setup. Rack mount adaptors are provided.



MG16/6FX

No Outboard
Signal-processing Gear Required!



16 Input Channels

Eight mono microphone/line inputs and four stereo line inputs. Two of the stereo inputs also offer mono microphone input capability.

10 Low-noise, High-precision Mic Preamps

Ten high-performance head amplifiers offer superior performance with any dynamic or condenser microphone.

Phantom Power

All ten mic preamps feature switchable phantom power for phantom-powered studio condenser microphones. A single switch turns phantom power on or off for all 10 channels.

Insert I/O

Add compressors, EQ, or other signal-processing gear to the mono channels as required via insert I/O patch points.

Internal Digital Effects & 7-band Stereo GEQ

Yamaha digital signal processing is widely respected as the finest in the industry. In the MG16/6FX you get a complete effects system with a range of 16 superb reverb and delay effects built right in. There's also a 7-band stereo graphic equalizer for flexible overall response shaping control.



Six Buses (Stereo and Two Group Pairs)

The MG16/6FX features two pairs of stereo group buses and outputs that can be used for convenient channel grouping, in addition to the main stereo bus.

3-band Mid-sweep Channel EQ & HPF

Smooth, "musical-response" 3-band equalizers with a sweepable mid-band on all input channels. All mono microphone input channels also feature a switchable high-pass filter that can be used to cut out unwanted low-frequency noise.

Three Aux Sends & Stereo Aux Return

Each input channel has three auxiliary sends – one post-fader "Effect" send, one switchable for pre- or post-fader operation, and one pre-fader send – affording plenty of flexibility for external signal processing and monitoring. A stereo auxiliary return is also provided.

Illuminated Switches

Illuminated ON (ST buss assign), PFL (Pre-Fader Listen), and phantom-power switches provide easy visual confirmation of critical console settings.

Rack Mount Adaptors Included

Your MG mixer will happily fit in with any setup – desktop or rack-mounted. Rack mount adaptors are provided.

MG24/14FX MG32/14FX MIXING CONSOLE

Serious Capacity For Sound Reinforcement & Installations

If your application is live sound reinforcement you'll want all the channel capacity you can get – just in case. Vocal mics, instrument mics, stereo keyboards, direct-injection feeds, drum mics, and the rest can add up very quickly. With 24 and 32 input channels, respectively, the MG24/14FX and MG32/14FX are ready to handle all but the most ambitious sound-reinforcement setups. And with dual SPX digital effect systems on-board you won't need racks of outboard gear to get the sound you need. There's also a comprehensive range of group and auxiliary busses to make even complex mixes easy.

MG24/14FX



MG32/14FX



24 or 32 Input Channels

Choose either the 24-channel MG24/14FX or the 32-channel MG32/14MX according to your needs. All other features are the same. The MG24/14FX has 16 mono microphone/line channels while the MG32/14FX has 24. Both offer four stereo line channels in addition to the mono mic/line channels.

Low-noise, High-precision Mic Preamps With Phantom Power

All 16 mic preamps in the MG24/14FX and all 24 mic preamps in the MG32/14FX are of exemplary quality. They offer low-noise, transparent amplification with the widest possible range of dynamic and condenser microphones, which adds up to cleaner, better-sounding mixes. All mic preamps feature switchable phantom power for phantom-powered studio condenser microphones. Phantom power is switchable in 8-channel groups.



Illuminated Switches

Illuminated ON (channel), PFL (Pre-Fader Listen), and phantom-power switches let you confirm critical console settings at a glance.

14 Buses In All For Flexible Signal Routing



In addition to lots of input channels, live sound reinforcement applications usually demand a number of additional mixes – usually in the form of group sub-mixes and aux sends for external signal processing and monitor mixes. In both the MG24/14FX and MG32/14FX you have a total of 14 mix buses: the main stereo program bus, four stereo group bus pairs for convenient channel grouping, six auxiliary busses (four configurable for pre- or post-fader operation and two set up as effect sends), and two internal effect busses that feed the dual high-performance built-in effect processors.

Insert I/O

All mono input channels feature insert I/O patch points so you can insert compressors, EQ, or other extra signal-processing gear into the channel signal path as required.

3-band Mid-sweep Channel EQ and HPF

The 3-band equalizers with a sweepable mid-band provided on all input channels are designed for exceptionally smooth, intuitive response that can help you to create cleaner, tighter mixes. All mono microphone input channels also feature a switchable high-pass filter that can be used to cut out unwanted low-frequency noise.

Dual SPX Digital Effects

In the MG24/14FX and MG32/14FX you have not one, but two high-performance digital signal processing stages, fed by separate effect busses, so you can enhance your mix with two separate effects at the same time. And the effects are provided by the very latest Yamaha DSP technology - you know you're getting the best. Each stage provides a selection of 16 professional – quality SPX digital effects, including reverb, delay, pitch change, chorus, phasing, vocal doubling, distortion, and more. Parameter controls that can be adjusted to tailor the effects to your sonic requirement are also provided and Tap delay makes it easy to produce tempo-synchronized delays.



Talkback Input

Communication capability is important for efficient setup as well as for keeping a show running smoothly. The MG24/14FX and MG32/14FX both feature a talkback system that allows the FOH engineer to communicate with the monitor engineer, performers, or other staff to keep the team operating at optimum efficiency.

Balanced XLR Stereo and Mono Outputs

Professional connectivity is provided by reliable XLR-type balanced stereo and mono outputs.

Sweepable LPF for Mono Out

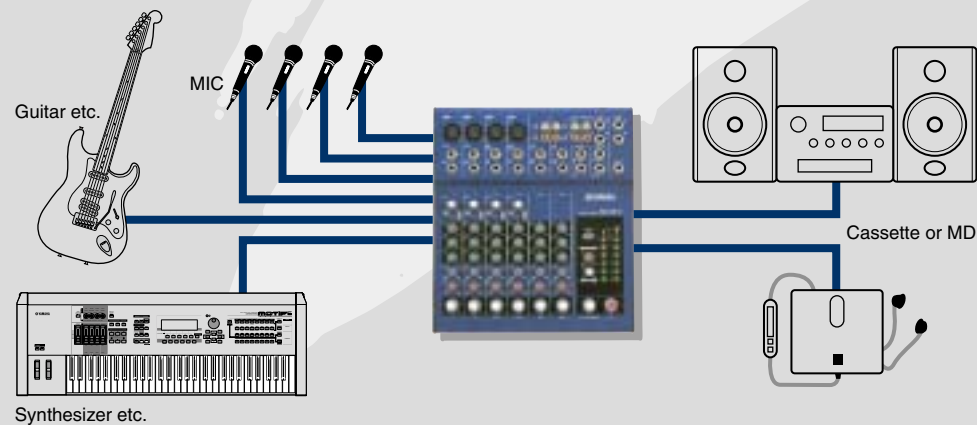
One of the many uses for a mono output is to drive a subwoofer system. The MG24/14FX and MG32/14FX make this easier than ever with a built-in sweepable low-pass filter on the mono outputs.



Application Examples

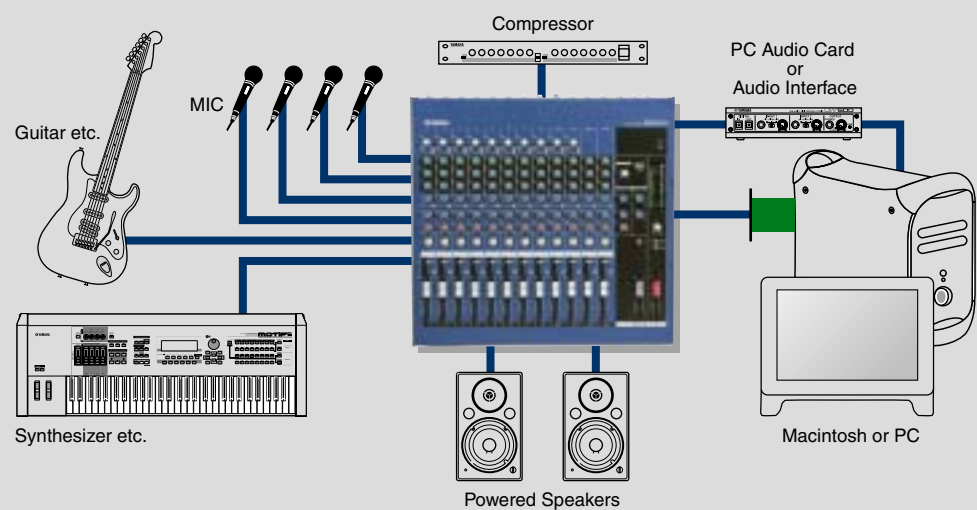
1. Basic Mix & Recording

In this simple recording system a small MG mixer is used to combine the outputs from a stereo keyboard, a rhythm/backing unit, a guitar, and vocal microphone. The results are mixed to stereo and recorded to cassette or MD.



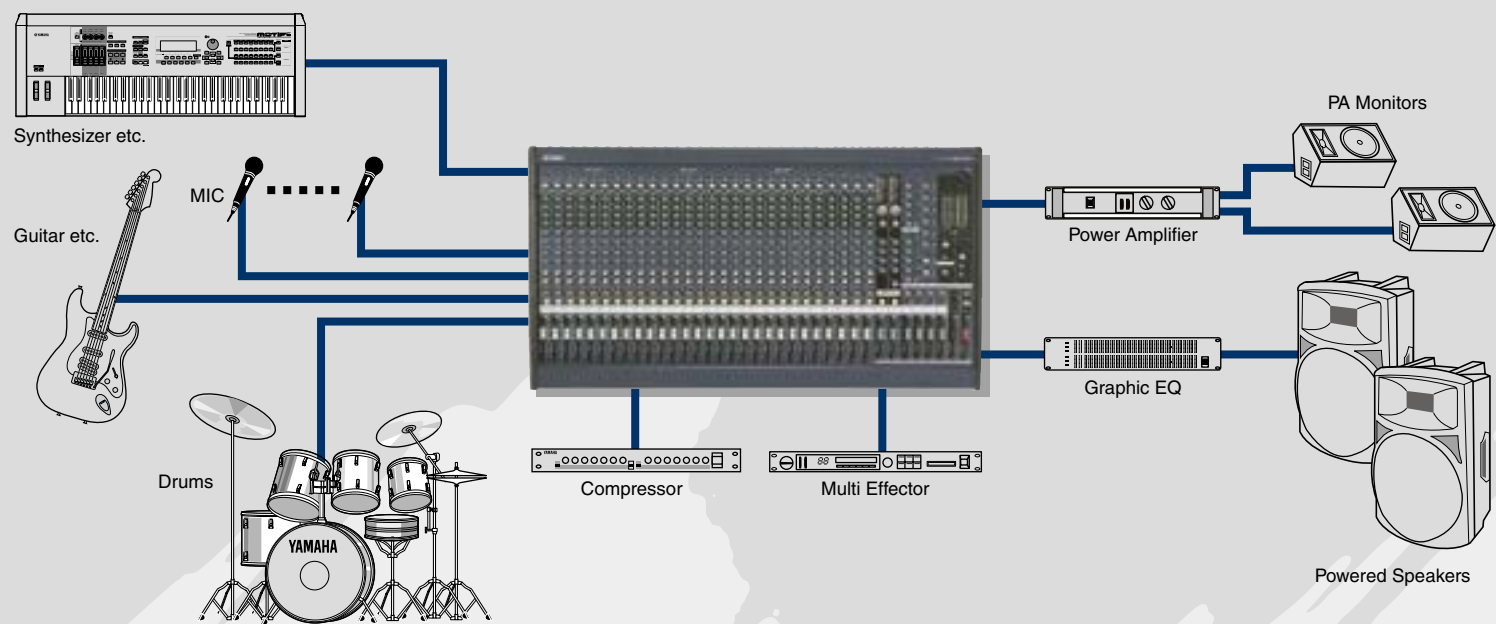
2. Computer-based Music Production

The current trend is toward computer-based music production, but you still need a good mixer in order to feed your computer's audio interface, as well as for monitoring.



3. A Small Sound Reinforcement System

A sound reinforcement system of about this scale is ideal for small clubs, churches, meeting rooms and similar venues.



MG Series Specifications

	MG10/2	MG12/4	MG16/4	MG16/6FX
Total Harmonic Distortion	Less than 0.1% (THD+N) 20 Hz - 20 kHz @ +14 dB 600 Ω (ST OUT) *3			
Frequency Response	0 +1, -3 dB 20 Hz - 20 kHz @ +4 dB 600 Ω (ST OUT)			
Input Hum & Noise *1	-128 dB 20 Hz - 20 kHz, Rs=150 Ω, Input Gain=Maximum, Input sensitivity=-60 dB *3			
Crosstalk	-70 dB @ 1 kHz			
CH Input	Mic 4 (Ch 1 - 2, 3/4, 5/6: XLR) Line 2 (Ch 1 - 2 TRS)	6 (Ch 1 - 4, 5/6, 7/8: XLR) (Ch 1 - 4: TRS)	10 (Ch 1 - 8, 9/10, 11, 12: XLR) (Ch 1 - 8: TRS)	10 (Ch 1 - 8, 9/10, 11, 12: XLR) (Ch 1 - 8: TRS)
Insert I/O	2 (Ch 3 - 4, 5 - 6: TRS) *2, 2 (Ch 5 - 6: L/MONO) 2 (Ch 7 - 8, 9 - 10: TRS/RCA)	2 (Ch 5 - 6, 7 - 8: TRS) *2, 2 (Ch 9 - 10: L/MONO) 2 (Ch 9 - 10, 11 - 12: TRS/RCA)	2 (Ch 9 - 10, 11 - 12: TRS) *2, 2 (Ch 11, 12: L/MONO) 2 (Ch 9 - 10, 11 - 12: TRS/RCA)	2 (Ch 9 - 10, 11 - 12: TRS) *2, 2 (Ch 11, 12: L/MONO) 2 (Ch 9 - 10, 11 - 12: TRS/RCA)
AUX	Send 2 (1/Pre, 2/Post: TRS) Return 1 Stereo (L/MONO, R: TRS)	Send 4 (Ch 1 - 4: TRS - T: Out, R: In, S: Gnd) Return 1 Stereo (L/MONO, R: TRS)	Send 8 (Ch 1 - 8: TRS - T: Out, R: In, S: Gnd) Return 1 Stereo (L/MONO, R: TRS)	Send 8 (Ch 1 - 8: TRS - T: Out, R: In, S: Gnd) Return 1 Stereo (L/MONO, R: TRS)
EFFECT	Send 1 Stereo (L/MONO, R: TRS)	Send 1 Stereo (L/MONO, R: TRS)	Send 1 Stereo (L/MONO, R: TRS)	Send 1 Stereo (L/MONO, R: TRS)
ZTR	In 1 Stereo (L, R: RCA)	In 1 Stereo (L, R: RCA)	In 1 Stereo (L, R: RCA)	In 1 Stereo (L, R: RCA)
REC	Out 1 Stereo (L, R: RCA)	Out 1 Stereo (L, R: RCA)	Out 1 Stereo (L, R: RCA)	Out 1 Stereo (L, R: RCA)
ST	Out 1 Stereo (L, R: TRS)	Out 2 Stereo (L, R: 2 TRS & 2 XLR)	Out 2 Stereo (L, R: 2 TRS & 2 XLR)	Out 2 Stereo (L, R: 2 TRS & 2 XLR)
C/R	Out 1 Stereo (L, R: TRS)	Out 1 Stereo (L, R: TRS)	Out 1 Stereo (L, R: TRS)	Out 1 Stereo (L, R: TRS)
GROUP	Out ---	Out 2 (1, 2: TRS)	Out 2 (1, 2: TRS)	Out 4 (1 - 4: TRS)
Phones	Out 1 (TRS Stereo) +48 V	Out 1 (TRS Stereo) +48 V	Out 1 (TRS Stereo) +48 V	Out 1 (TRS Stereo) +48 V
CH & ST Ch Input Gain Control	44 dB variable	44 dB variable	44 dB variable	44 dB variable
CH & ST High Pass Filter	80 Hz 12 dB/Octave	80 Hz 12 dB/Octave	80 Hz 12 dB/Octave	80 Hz 12 dB/Octave
CH EQ (MONO) *2	High 10 kHz (Shelving) Mid 2.5 kHz (Peaking) Low 100 Hz (Shelving)	High 10 kHz (Shelving) Mid 2.5 kHz (Peaking) Low 100 Hz (Shelving)	High 10 kHz (Shelving) Mid 2.5 kHz (Peaking) Low 100 Hz (Shelving)	High 10 kHz (Shelving) Mid 2.5 kHz (Peaking) Low 100 Hz (Shelving)
CH EQ (STEREO) *2	High 10 kHz (Shelving) Hi-Mid --- Mid 2.5 kHz (Peaking) Low-Mid --- Low 100 Hz (Shelving)	High 10 kHz (Shelving) Hi-Mid --- Mid 2.5 kHz (Peaking) Low-Mid --- Low 100 Hz (Shelving)	High 10 kHz (Shelving) Hi-Mid --- Mid 2.5 kHz (Peaking) Low-Mid --- Low 100 Hz (Shelving)	High 10 kHz (Shelving) Hi-Mid --- Mid 2.5 kHz (Peaking) Low-Mid --- Low 100 Hz (Shelving)
Graphic Equalizer	---	---	---	7-band (125, 250, 500, 1 k, 2 k, 4 k, 8 kHz) ±12 dB (Max.)
Internal Digital Effect	---	---	---	16 Programs: Parameter Control
Dimensions	Height 65 mm Depth 290 mm Width 251 mm	Height 104 mm Depth 417.5 mm Width 317.5 mm	Height 104 mm Depth 417.5 mm Width 423 mm	Height 108 mm Depth 416.6 mm Width 423 mm
Weight	1.8 kg	5.0 kg	5.2 kg	5.5 kg
Power Requirements *4	U: 19 W 120 V/60 Hz H: 19 W 230 V/50 Hz B: 19 W 230 V/50 Hz K: 19 W 220 V/50 Hz A: 19 W 240 V/50 Hz	U/C: 27 W 120 V/60 Hz H: 27 W 230 V/50 Hz B: 27 W 230 V/50 Hz K: 27 W 220 V/50 Hz A: 27 W 240 V/50 Hz	U/C: 38 W 120 V/60 Hz H: 38 W 230 V/50 Hz B: 38 W 230 V/50 Hz K: 38 W 220 V/50 Hz A: 38 W 240 V/50 Hz	U: 51 W 120 V/60 Hz H: 51 W 230 V/50 Hz B: 51 W 230 V/50 Hz K: 51 W 220 V/50 Hz A: 51 W 240 V/50 Hz
Other	Mic Stand Mountable	Rack Mountable	Rack Mountable	Rack Mountable
Option	Mic Stand Adapter BMS-10A	---	---	---

*1 Hum & Noise are measured with a 6 dB/octave filter @ 12.7 kHz equivalent to a 20 kHz filter with infinite dB/octave attenuation.
*2 Turn over /roll-off frequency of shelving: 3 dB below maximum variable level.
*3 (Ch 12): MG10/2, (Ch 4): MG12/4, (Ch 8): MG16/4, MG16/6FX.
*4 Power Supply Adapter PA-10 (MG10/2), PA-20 (MG12/4, 16/4), PA-30 (MG16/6FX).

MG10/2 INPUT CHARACTERISTICS

Connection	Gain Trim	Actual Load Impedance	For Use With Nominal	Input Level *1		Connector In Mixer
				Nominal	Max. before Clip	
CH IN MIC (1 - 2)	-60	3 kΩ	50 - 600 Ω Mics	-60 dBu (0.775 mV) -16 dBu (123 mV)	-40 dBu (7.75 mV) +4 dBu (1.23 V)	XLR-3-31 type *2
CH IN LINE (1 - 2)	-34	10 kΩ	600 Ω Lines	-34 dBu (15.5 mV) +10 dBu (2.45 V)	-14 dBu (155 mV) +30 dBu (24.5 V)	Phone Jack (TRS) *3
ST CH MIC IN (CH 3 - 4, 5 - 6)	-60	3 kΩ	50 - 600 Ω Mics	-60 dBu (0.775 mV) -16 dBu (123 mV)	-40 dBu (7.75 mV) +4 dBu (1.23 V)	XLR-3-31 type *2
ST CH LINE IN (CH 3 - 4, 5 - 6)	-34	10 kΩ	600 Ω Lines	-34 dBu (15.5 mV) +10 dBu (2.45 V)	-14 dBu (155 mV) +30 dBu (24.5 V)	Phone Jack *4
ST CH INPUT (CH 7 - 8, 9 - 10)	10	10 kΩ	600 Ω Lines	-10 dBu (245 mV) +10 dBu (2.45 V)	+10 dBu (2.45 V)	Phone Jack *4 RCA Pin Jack
CH INSERT IN (1 - 2)	10	10 kΩ	600 Ω Lines	0 dBu (0.775 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +24 dBu (12.3 V)	Phone Jack (TRS) *5
AUX RETURN (L, R)	10	10 kΩ	600 Ω Lines	+4 dBu (1.23 V) -10 dBV (316 mV)	+24 dBu (12.3 V) +10 dBV (3.16 V)	Phone Jack *4 RCA Pin Jack
ZTR IN (L, R)	10	10 kΩ	600 Ω Lines	+4 dBu (1.23 V) -10 dBV (316 mV)	+24 dBu (12.3 V) +10 dBV (3.16 V)	Phone Jack *4 RCA Pin Jack

MG10/2 OUTPUT CHARACTERISTICS

Connection	Actual Source Impedance	For Use With Nominal	Output Level *1		Connector In Mixer
			Nominal	Max. before Clip	
ST OUT (L, R)	150 Ω	10 kΩ Lines	+4 dBu (1.23 V) +4 dBu (1.23 V)	+24 dBu (12.3 V) +24 dBu (12.3 V)	Phone Jack (TRS) *6 Phone Jack (TRS) *6
AUX SEND	150 Ω	10 kΩ Lines	+4 dBu (1.23 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +20 dBu (7.75 V)	Phone Jack (TRS) *6 Phone Jack (TRS) *3
CH INSERT OUT (1 - 2)	150 Ω	10 kΩ Lines	0 dBu (0.775 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +20 dBu (7.75 V)	Phone Jack (TRS) *3 RCA Pin Jack
ZTR OUT (L, R)	600 Ω	10 kΩ Lines	-10 dBV (316 mV) +10 dBV (3.16 V)	+10 dBV (3.16 V) +10 dBV (3.16 V)	Phone Jack *4 RCA Pin Jack
C-R OUT (L, R)	150 Ω	10 kΩ Lines	+4 dBu (1.23 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +20 dBu (7.75 V)	Phone Jack (TRS) *5 Stereo Phones Jack
PHONES OUT	100 Ω	40 Ω Phones	3 mW 3 mW	75 mW 75 mW	Stereo Phones Jack

MG12/4, MG16/4 INPUT CHARACTERISTICS

Connection	Gain Trim	Actual Load Impedance	For Use With Nominal	Input Level *1		Connector In Mixer
				Nominal	Max. before Clip	
CH IN MIC *7	-60	3 kΩ	50 - 600 Ω Mics	-60 dBu (0.775 mV) -16 dBu (123 mV)	-40 dBu (7.75 mV) +4 dBu (1.23 V)	XLR-3-31 type *2
CH IN LINE *7	-34	10 kΩ	600 Ω Lines	-34 dBu (15.5 mV) +10 dBu (2.45 V)	-14 dBu (155 mV) +30 dBu (24.5 V)	Phone Jack (TRS) *3
ST CH MIC IN *8	-60	3 kΩ	50 - 600 Ω Mics	-60 dBu (0.775 mV) -16 dBu (123 mV)	-40 dBu (7.75 mV) +4 dBu (1.23 V)	XLR-3-31 type *2
ST CH LINE IN *8	-34	10 kΩ	600 Ω Lines	-34 dBu (15.5 mV) +10 dBu (2.45 V)	-14 dBu (155 mV) +30 dBu (24.5 V)	Phone Jack *4
ST CH INPUT *9	10	10 kΩ	600 Ω Lines	-10 dBu (245 mV) +10 dBu (2.45 V)	+10 dBu (2.45 V)	Phone Jack *4 RCA Pin Jack
CH INSERT IN *7	10	10 kΩ	600 Ω Lines	0 dBu (0.775 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +24 dBu (12.3 V)	Phone Jack (TRS) *11 Phone Jack *3
AUX RETURN (L, R)	10	10 kΩ	600 Ω Lines	+4 dBu (1.23 V) -10 dBV (316 mV)	+24 dBu (12.3 V) +10 dBV (3.16 V)	Phone Jack *4 RCA Pin Jack
ZTR IN (L, R)	10	10 kΩ	600 Ω Lines	+4 dBu (1.23 V) -10 dBV (316 mV)	+24 dBu (12.3 V) +10 dBV (3.16 V)	Phone Jack *4 RCA Pin Jack

MG12/4, MG16/4 OUTPUT CHARACTERISTICS

Connection	Actual Source Impedance	For Use With Nominal	Output Level *1		Connector In Mixer
			Nominal	Max. before Clip	
ST OUT (L, R)	150 Ω	600 Ω Lines	+4 dBu (1.23 V) +4 dBu (1.23 V)	+24 dBu (12.3 V) +24 dBu (12.3 V)	XLR-3-32 type *2 Phone Jack (TRS) *4
GROUP OUT (1 - 2)	150 Ω	10 kΩ Lines	+4 dBu (1.23 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +20 dBu (7.75 V)	Phone Jack (TRS) *6 Phone Jack (TRS) *6
CH INSERT OUT *7	150 Ω	10 kΩ Lines	0 dBu (0.775 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +20 dBu (7.75 V)	Phone Jack (TRS) *5 RCA Pin Jack
REC OUT (L, R)	600 Ω	10 kΩ Lines	-10 dBV (316 mV) +10 dBV (3.16 V)	+10 dBV (3.16 V) +10 dBV (3.16 V)	RCA Pin Jack *8 RCA Pin Jack
C-R OUT (L, R)	150 Ω	10 kΩ Lines	+4 dBu (1.23 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +20 dBu (7.75 V)	Phone Jack (TRS) *5 Stereo Phones Jack
PHONES OUT	100 Ω	40 Ω Phones	3 mW 3 mW	75 mW 75 mW	Stereo Phones Jack

*1 In these specifications, when dB represents a specific voltage, 0 dB is referenced to 0.775 Vrms.
*2 XLR type connectors are balanced.
*3 CH INPUT Phone Jacks (TRS) are balanced. (T: HOT, R: COLD, S: GND)
*4 Phone Jacks are unbalanced.
*5 INSERT Phone Jacks (TRS) are unbalanced. (T: OUT, R: IN, S: GND)
*6 Phone Jacks (TRS) are impedance balanced. (T: HOT, R: COLD, S: GND)
*7 CH INPUT/7 XLR type connectors and Phone Jacks (TRS) are balanced. (T: HOT, R: COLD, S: GND)
*8 C-R OUT (L, R) is impedance balanced.
*9 MG12/4: CH1 - CH4, MG16/4: CH1 - CH8, MG16/6FX: CH9 (L)/10 (R), CH11 (L)/12 (R).
*10 MG12/4: CH1 - CH4, MG16/4: CH1 - CH8, MG16/6FX: CH9 (L)/10 (R), CH11 (L)/12 (R).
*11 MG12/4: CH1 - CH4, MG16/4: CH1 - CH8, MG16/6FX: CH9 (L)/10 (R), CH11 (L)/12 (R).
*12 MG12/4: CH1 - CH4, MG16/4: CH1 - CH8, MG16/6FX: CH9 (L)/10 (R), CH11 (L)/12 (R).

	MG24/14FX	MG32/14FX
Total Harmonic Distortion	Less than 0.1% (THD+N) 20 Hz - 20 kHz @ +14 dB 600 Ω (ST OUT)	
Frequency Response	0 +1, -3 dB 20 Hz - 20 kHz @ +4 dB 600 Ω (ST OUT)	
Input Hum & Noise *1	-128 dB 20 Hz - 20 kHz, Rs=150 Ω, Input Gain=Maximum, Input Pad=OFF, Input sensitivity=-60 dB	
Crosstalk	-70dB @ 1kHz	
CH Input	Mic 16+1 (Input A 1 - 16, Talk Back: XLR) Line 16 (Input B 1 - 16: TRS) Stereo 2 (Ch 17 - 18, 19 - 20: TRS) *2, 2 (Ch 21 - 22, 23 - 24: TRS/RCA)	24+1 (Input A 1 - 24, Talk Back: XLR) 24 (Input B 1 - 24: TRS) 2 (Ch 25 - 26, 27 - 28: TRS) *2, 2 (Ch 29 - 30, 31 - 32: TRS/RCA)
Insert I/O	16 (Ch 1 - 16: TRS T: Out, R: In, S: Gnd)	24 (Ch 1 - 24: TRS T: Out, R: In, S: Gnd)
AUX	Send 6 (1 - 2/Post-Pre selectable, 3 - 4/Post-Pre selectable, 5 - 6/Post: TRS)	2 Stereo Sub In (L/MONO, R: TRS)
EFFECT	Send 2 Stereo Sub In (L/MONO, R: TRS)	2 (1, 2: TRS)
ZTR	In 1 Stereo (L, R: RCA)	In 1 Stereo (L, R: RCA)
STEREO	Insert 1 Stereo (L, R: TRS)	Insert 1 Stereo (L, R: TRS)
GROUP	Insert 4 (1 - 4: TRS)	Insert 4 (1 - 4: TRS)
REC	Out 1 Stereo (L, R: RCA)	Out 1 Stereo (L, R: RCA)
ST	Out 1 Stereo (L, R: XLR)	Out 1 Stereo (L, R: XLR)
MONO	Out 1 (XLR)	Out 1 (XLR)
ST SUB	Out 1 Stereo (L, R: TRS)	Out 1 Stereo (L, R: TRS)
GROUP	Out 4 (1 - 4: TRS)	Out 4 (1 - 4: TRS)
Phones	Out 1 (TRS Stereo) +48 V	Out 1 (TRS Stereo) +48 V
Phantom Power	44 dB variable	44 dB variable
CH & ST Ch Input Gain Control	80 Hz 12 dB/Octave	80 Hz 12 dB/Octave
CH & ST High Pass Filter	High 10 kHz (Shelving) Mid 2.5 kHz (Peaking) Low 100 Hz (Shelving)	High 10 kHz (Shelving) Mid 2.5 kHz (Peaking) Low 100 Hz (Shelving)
CH EQ (MONO) *2	High 10 kHz (Shelving) Mid 2.5 kHz (Peaking) Low 100 Hz (Shelving)	High 10 kHz (Shelving) Mid 2.5 kHz (Peaking) Low 100 Hz (Shelving)
CH EQ (STEREO) *2	High 10 kHz (Shelving) Hi-Mid --- Mid 2.5 kHz (Peaking) Low-Mid --- Low 100 Hz (Shelving)	High 10 kHz (Shelving) Hi-Mid --- Mid 2.5 kHz (Peaking) Low-Mid --- Low 100 Hz (Shelving)
MONO Out Low Pass Filter	80 - 120 Hz 12 dB/Octave	80 - 120 Hz 12 dB/Octave
Internal Digital Effect	SPX x 2 (Effect 1: 16 Programs, Effect 2: 16 Programs: Parameter Control)	SPX x 2 (Effect 1: 16 Programs, Effect 2: 16 Programs: Parameter Control)
Dimensions	Height 140 mm Depth 551 mm Width 819 mm	Height 140 mm Depth 551 mm Width 1027 mm
Weight	18.5 kg	22 kg
Power Requirements	100 W 100 V AC/50/60 Hz	120 W 100 V AC/50/60 Hz

*1 Hum & Noise are measured with a 6 dB/octave filter @ 12.7 kHz equivalent to a 20 kHz filter with infinite dB/octave attenuation.
*2 Turn over /roll-off frequency of shelving: 3 dB below maximum variable level.

MG16/6FX INPUT CHARACTERISTICS

Connection	Gain Trim	Actual Load Impedance	For Use With Nominal	Input Level *1		Connector In Mixer
				Nominal	Max. before Clip	
CH IN MIC (CH 1 - 8)	-60	3 kΩ	50 - 600 Ω Mics	-60 dBu (0.775 mV) -16 dBu (123 mV)	-40 dBu (7.75 mV) +4 dBu (1.23 V)	XLR-3-31 type *2
CH IN LINE (CH 1 - 8)	-34	10 kΩ	600 Ω Lines	-34 dBu (15.5 mV) +10 dBu (2.45 V)	-14 dBu (155 mV) +30 dBu (24.5 V)	Phone Jack (TRS) *6
ST CH MIC IN *7	-60	3 kΩ	50 - 600 Ω Mics	-60 dBu (0.775 mV) -16 dBu (123 mV)	-40 dBu (7.75 mV) +4 dBu (1.23 V)	XLR-3-31 type *2
ST CH LINE IN *7	-34	10 kΩ	600 Ω Lines	-34 dBu (15.5 mV) +10 dBu (2.45 V)	-14 dBu (155 mV) +30 dBu (24.5 V)	Phone Jack *4
ST CH INPUT *8	10	10 kΩ	600 Ω Lines	-10 dBu (245 mV) +10 dBu (2.45 V)	+10 dBu (2.45 V)	Phone Jack *4 RCA Pin Jack
CH INSERT IN (1 - 8)	10	10 kΩ	600 Ω Lines	0 dBu (0.775 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +24 dBu (12.3 V)	Phone Jack (TRS) *5 Phone Jack *4
AUX RETURN (L, R)	10	10 kΩ	600 Ω Lines	+4 dBu (1.23 V) -10 dBV (316 mV)	+24 dBu (12.3 V) +10 dBV (3.16 V)	Phone Jack *4 RCA Pin Jack
ZTR IN (L, R)	10	10 kΩ	600 Ω Lines	+4 dBu (1.23 V) -10 dBV (316 mV)	+24 dBu (12.3 V) +10 dBV (3.16 V)	Phone Jack *4 RCA Pin Jack

MG16/6FX OUTPUT CHARACTERISTICS

Connection	Actual Source Impedance	For Use With Nominal	Output Level *1		Connector In Mixer
			Nominal	Max. before Clip	
ST OUT (L, R)	150 Ω	10 kΩ Lines	+4 dBu (1.23 V) +4 dBu (1.23 V)	+24 dBu (12.3 V) +24 dBu (12.3 V)	XLR-3-32 type *2 Phone Jack (TRS) *4
AUX SEND (1, 2)	150 Ω	10 kΩ Lines	+4 dBu (1.23 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +20 dBu (7.75 V)	Phone Jack (TRS) *6 Phone Jack (TRS) *6
CH INSERT OUT (CH 1 - 8)	150 Ω	10 kΩ Lines	0 dBu (0.775 V) +4 dBu (1.23 V)	+20 dBu (7.75 V) +20 dBu (7.75 V)	Phone Jack (TRS) *5 Phone Jack (TRS) *5
REC OUT (L, R)	6				