

# Q2031B GQ1031C GQ2015A

GRAPHIC  
EQUALIZER



# Affordable, Professional-Quality EQ That Performs

Graphic equalization has long been the choice for response control because of its ability to handle a wide range of applications. Yamaha's lineup of graphic equalizers deliver professional quality with versatile control, outstanding audio performance and excellent cost performance.

For dual channel applications, Yamaha offers the GQ2015A, a 2-channel, 15 band equalizer with excellent features at an affordable price, and the Q2031B, an independent 2-channel EQ with full 31 band control over the entire 20Hz to 20kHz range. And if you need monaural equalization the GQ1031C is an excellent choice with full 31 band control.

Yamaha Graphic Equalizers offer features and performance that meet today's equalization needs whether they be in sound reinforcement, recording, A/V production, electronic musical instruments, broadcasting, music listening, or any other applications where precise sound tailoring is essential.

## REAR PANEL

Q2031B



GQ1031C



GQ2015A



## ■ Versatile EQ Control

Yamaha graphic equalizers incorporate active filters to provide minimum phase shift and smooth response at any boost or cut setting. The Q2031B and GQ1031C models offer 31 equalization bands at 1/3 octave intervals from 20Hz to 20kHz while the GQ2015A provides 15 bands at 2/3 octave intervals from 25Hz to 16kHz.

## ■ Range Switches

Switchable EQ gain of  $\pm 6$ dB or  $\pm 12$ dB provides all three models with a broad control range, or a narrow, more precise scope of control. The  $\pm 12$ dB range offers wide-range control, essential for broad tonal variation or feedback control. The  $\pm 6$ dB range provides fine control within a narrower range, well suited for acoustic tuning and subtle response shaping.

## ■ 2-Channel Configurations

With synthesizers, signal processors, and other equipment offering stereo output as the rule, the Q2031B and GQ2015A models provide 2-channel versatility in single unit designs. The 2U-size Q2031B offers completely independent 2-channel control from input to output with separate 31 band equalization and variable high pass filters for each channel. If your on a budget, the GQ2015A provides independent 15 band per channel equalization with common High Pass Filter and Range switches all in a slim 1U-size.

## ■ Outstanding Audio Performance

A graphic equalizer's main function is to shape sound, without adding unwanted distortion or noise. The Q2031B, GQ2015A and GQ1031C models all provide quiet operation with less than 0.05% total harmonic distortion. Noise is kept to a minimum with levels better than -96dB on the

Q2031B and GQ2015A models, and -94dB on the GQ1031C. Yamaha equalizers supply smooth, natural sound that is even compatible with digital sources.

## ■ High Pass Filter

High pass filters are extremely useful in fighting against low-end boominess, AC hum, wind noise, and preventing subsonic components from muddying the sound as well as wasting amplifier power.

The Q2031B incorporates continuously variable high pass filters on both equalizer channels. Providing 12dB of octave rolloff below the desired frequency, the filters can be independently adjusted with sliders, to any frequency between 20Hz to 200Hz.

The GQ1031C and GQ2015A models feature a built in 80Hz high pass filter which is activated by a single switch.

## ■ Balanced Input/Output

Signal input and output is provided by both balanced 1/4" phone jacks and balanced XLR jacks, all rated at +4dB. This gives all three models an In/Out interface that can be easily connected to other types of equipment

## ■ Other Features

### Safety Devices

Independent peak indicators, to warn of excessively high signal levels, light when the output signal reaches 3dB below clipping.

An automatic muting circuit mutes the equalizer's output for approximately 3 seconds after the power is switched on, to prevent transients from damaging amplifiers and speaker systems.

### EQ Bypass

EQ ON/OFF switches provide easy EQ bypass and instant comparison between equalized and unequalized sound. LED indicators let you know when the EQ is on.

## Rugged Design

All Yamaha graphic equalizers are built with rugged construction making them dependable for home or studio use, as well as on the road.

## 19" Rack Mountable

The Q2031B, GQ2015A and GQ1031C can be mounted in any standard 19 inch rack.

## Option

The SC-2031 Security Cover attaches to the front of the Q2031B to protect its settings from being tampered with.

## Applications

### ● Acoustic Tuning

Use graphic equalization to fine tune any sound system to match the acoustics of a studio, concert hall, or any other sound environment. It can also be utilized to compensate for serious acoustic irregularities found in rooms that were not designed for music listening and keep properly designed studios or halls at their optimum sound level.

### ● Feedback Control

In situations where restrictions make a feedback proof setup impossible, Yamaha graphic equalizers can be used to reduce the gain of problem frequencies, thus minimizing the possibility of sudden outburst of feedback that can ruin a performance.

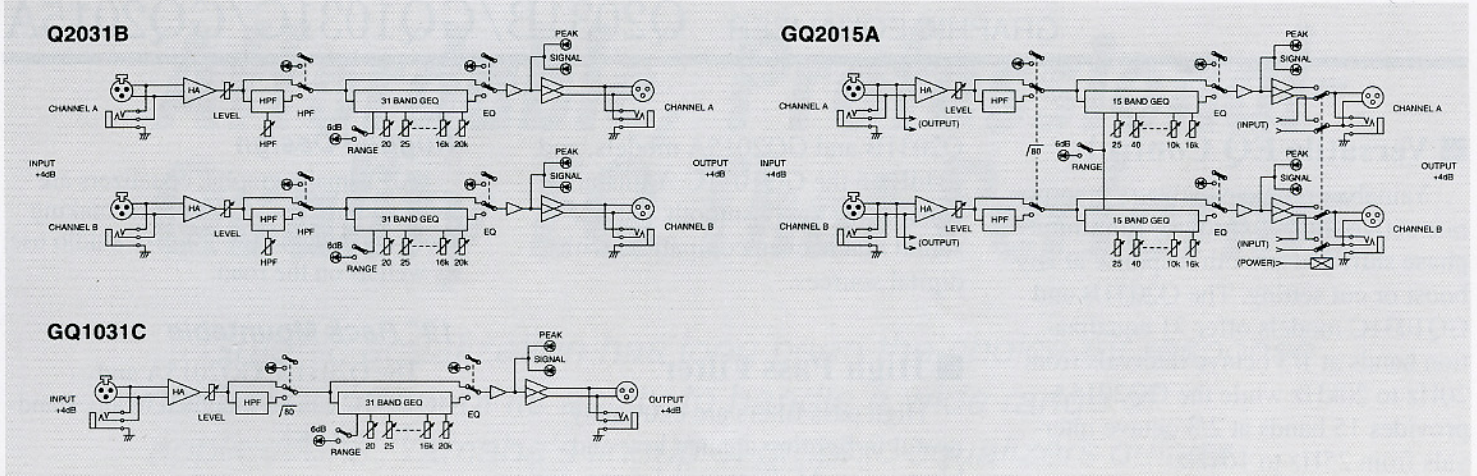
### ● Sound Shaping

Yamaha graphic equalizers are also creative tools that can shape the tone of an instrument or voice to achieve a better blend in the mix. When added to reverb, EQ can electronically simulate a wide range of acoustic environments.

### ● Noise Suppression

Graphic equalization can effectively minimize tape hiss, stage rumble, wind noise, microphone popping, excessive sibilance, and other sources of unwanted noise.

# Block Diagram



## Specifications

	Q2031B	GQ1031C	GQ2015A
<b>FREQUENCY RESPONSE</b>	20 Hz ~ 20 kHz ± 0.5dB @ +4dB* 600Ω		
<b>TOTAL HARMONIC DISTORTION</b>	Less than 0.05% (THD+N), 20 Hz ~ 20 kHz @ +4 dB* 600Ω, Equalizer...all flat (0dB)		
<b>HUM &amp; NOISE</b> (Average, Rs=600Ω BPF : 20Hz ~ 20kHz)	-96 dB*	-94 dB*	-96 dB*
<b>MAXIMUM VOLTAGE GAIN</b>	0 dB, Input Level ... Max.		
<b>Center Frequencies:</b>	31 band (1/3 octave) 20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k, 2k, 2.5k, 3.15k, 4k, 5k, 6.3k, 8k, 10k, 12.5k, 16k, 20kHz		15 band (2/3 octave) 25, 40, 63, 100, 160, 250, 400, 630, 1k, 1.6k, 2.5k, 4k, 6.3k, 10k, 16kHz
<b>Variable Range:</b>	± 12dB / ± 6dB		
<b>HIGH PASS FILTER</b> (Roll-off Frequency)	12dB/octave (20 ~ 200Hz at -3dB point.)	12dB/octave (80Hz at -3dB point.)	
<b>PEAK LED INDICATOR</b>	Red LED on each channel turns on when post-EQ signal reaches the level 3 dB below clipping.		
<b>SIGNAL LED INDICATOR</b>	Green LED on each channel turns on when post-EQ signal reaches the level 13 dB below nominal level.		
<b>POWER REQUIREMENTS</b>	U. S. & Canadian Models : AC120V, 60Hz General Model : AC230V, 50Hz		
<b>POWER CONSUMPTION</b>	20W	13W	15W
<b>DIMENSIONS</b> (W × H × D)	480 × 93.4 × 230mm (18-7/8" × 3-11/16" × 9-1/16")	480 × 49.4 × 230mm (18-7/8" × 1-15/16" × 9-1/16")	
<b>WEIGHT</b>	4.0kg (8.8 lbs.)	2.8kg (6.1 lbs.)	3.0kg (6.6 lbs.)

\* 0 dB is referenced to 0.775V RMS.

### ● INPUT SPECIFICATIONS

INPUT Connectors	Input Impedance	Source Impedance	Input Level			Connectors **
			Sensitivity *	Nominal Level	Maximum Before Clipping	
INPUT (A, B)	15 kΩ	600 Ω Lines	+4 dB (1.23V)	+4 dB (1.23V)	+24 dB (12.3V)	XLR-3-31 Type Phone Jack (TRS)

### ● OUTPUT SPECIFICATIONS

OUTPUT Connectors	Output Impedance	Load Impedance	Output Level		Connectors **
			Nominal Level	Maximum Before Clipping	
OUTPUT (A, B)	150 Ω	600 Ω Lines	+4 dB (1.23V)	+24 dB (12.3V)	XLR-3-32 Type Phone Jack (TRS)

\* The input level required to obtain the nominal output level. \*\* XLR-type connectors are balanced. 1=Ground, 2=+, 3=-  
Phone jacks are balanced. T=+, R=-, S=Ground

All specifications subject to change without notice.

For details please contact:

YAMAHA Web Site

<http://www.yamaha.co.jp/english/>

<http://www.yamaha.co.jp/product/proaudio/homeenglish/>



# YAMAHA

YAMAHA CORPORATION  
P.O.Box 1, Hamamatsu, Japan

LPA365 98915 Printed in Japan