GRAPHIC EQUALIZER

MQ3300/3400/3600

USER'S MANUAL

PHONIC

WWW.PHONIC.COM

!!! WARNING !!!

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

Avoid exposing rain, water, or any form of liquid to this unit. IMMEDIATELY unplug its power cord from its power source and contact a qualified technician when the unit is exposed to rain, water, or any form of liquid.

Keep the unit is away from heat sources like radiators, heat registers, stoves and etc.

ALWAYS have a qualified technician present when repairing or modifying this unit.

The arrowhead lightning flash symbol within an equilateral triangle is intended to alert you to the presence of uninsulated “dangerous voltage” inside the enclosure that may be sufficient to constitute a risk of shock.

The exclamation point within an equilateral triangle is intended to remind you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

!!! CAUTION !!!

TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE THE COVER OR THE BACK OF THE UNIT.

No user-serviceable parts inside. Always contact a qualified technician for repair or modification.

DO NOT open, modify, or disassemble the unit without a qualified technician present. Any change or repair of the unit requires the present of a qualified technician in order for the warranty to remain effective.

Clean the unit with damp cloth and dry brush. No other solvents are recommended for cleaning. Routine cleaning and proper maintenance guarantee best performance from the unit.

Carefully packed at the manufacturing site, the packing box is designed to protect the unit from rough handling. Please carefully examine the content inside the package and make sure the unit is well, undamaged.

Notify your dealer and the shipping company immediately when you find the unit damaged from shipping. Claims for damage or replacement would only be granted when reported properly and in a timely manner.

Use damp cloth or dry brush to clean the unit. **DO NOT** use any other solvents for cleaning. Good care and maintenance of your unit will prolong your unit’s operational life and insure its optimal performance.

GRAPHIC EQUALIZER

MQ 3300 3400 3600

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INTRODUCTION

Congratulations on your purchase of the new MQ series equalizer. This series comes in three models: MQ3600 (dual 31-band, 1/3 octave), MQ3400 (dual channel 15-band, 2/3 octave), and MQ3300 (dual channel 31-band, 1/3 octave). In order to get the best performance from your MQ series equalizer, please read this user's manual carefully and keep it for later reference. Please make sure you are completely familiar with the function and features of your new Phonic Graphic Equalizer to ensure the best performance.

FEATURES

MQ3300 31-BAND, 1/3 OCTAVE

MQ3400 DUAL 15-BAND, 2/3 OCTAVE

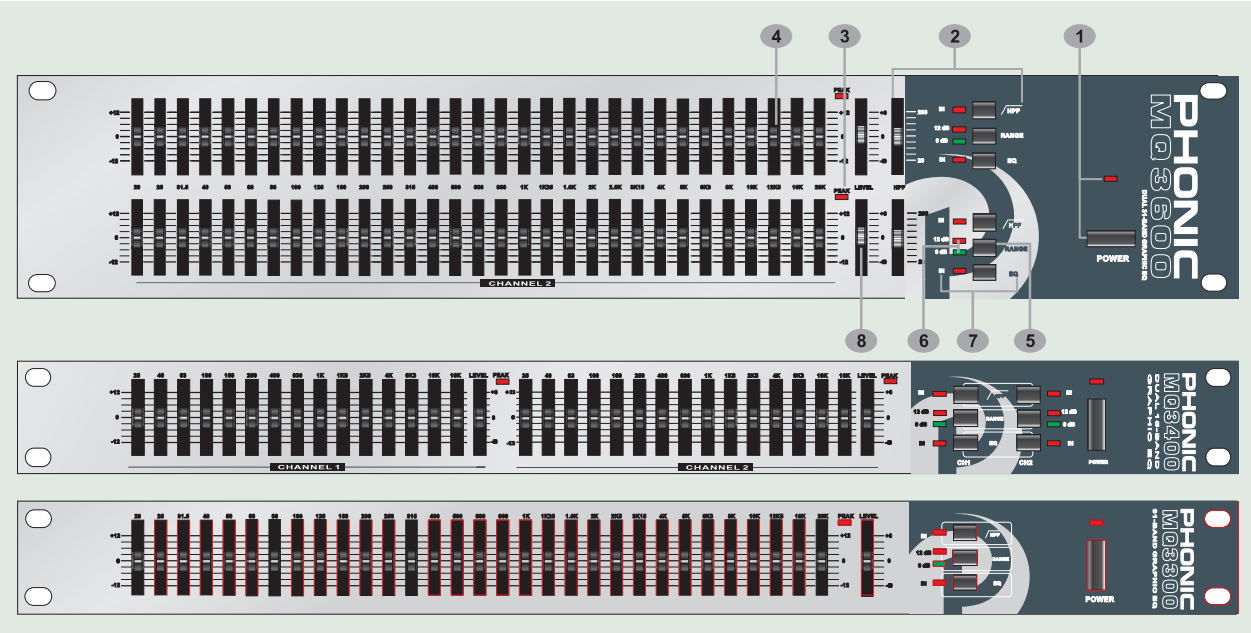
MQ3600 DUAL 31-BAND, 1/3 OCTAVE

- Switchable HPF at 40Hz
- 20Hz to 200Hz variable high pass filter (PEQ3600 only)
- Global range switch between +/-6dB and +/-2dB
- EQ IN/OUT switch
- Center-detented sliders
- Overall level control is for easy level matching with the sound system
- Separate LED displays for HPF in, 12dB/6dB range, EQ in/out, peak warning

GETTING STARTED

1 Check the AC voltage before connecting the plug. Proper grounding must be practiced to prevent electrical shock to the operator. Choose the main supply for the sound system with care, and do not share sockets or earthing with light dimmers.

2 Run audio cables separately from dimmer wiring, using balanced lines wherever possible. If necessary, cross the audio and lighting cables at right angles to minimize the possibility of interference. Keep unbalanced



cabling as short as possible.

3 Check your cables regularly and label each end for easy identification.

4 Before switching on the main power, keep the input level control all the way down to prevent damage or excessive noise caused by bad level adjustment, wrong wiring, defective cables, or bad connections.

5 Always turn on this unit before the power amplifier; turn it off after turning off the amplifier.

6 Always turn off the power before connecting or disconnecting the unit.

7. Never use solvents to clean the unit. Clean with a soft, dry cloth.

FRONT PANEL DESCRIPTION

1 POWER switch with LED

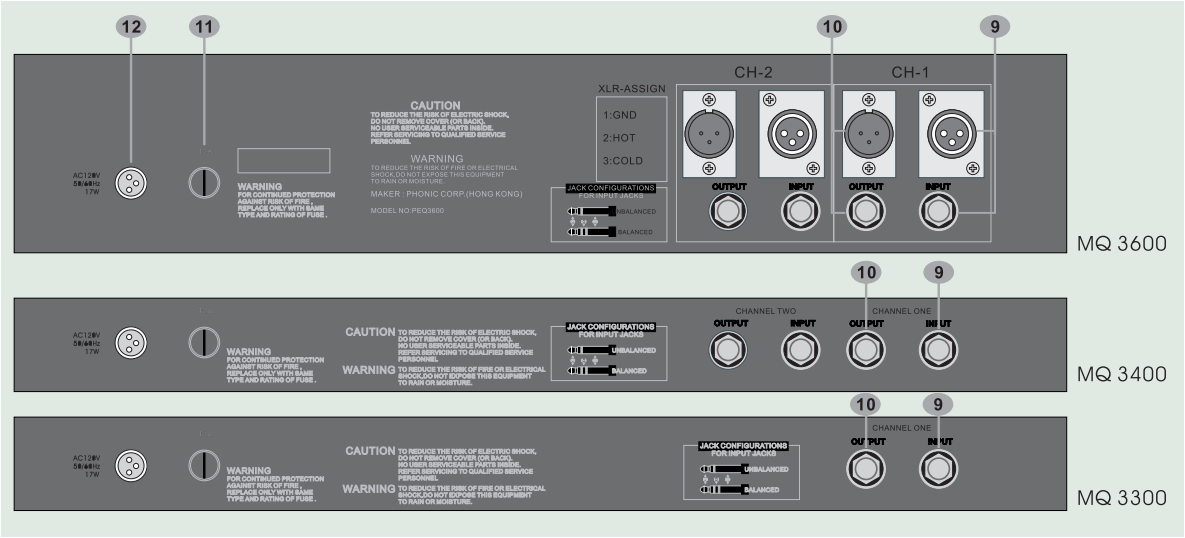
Use this switch to turn the equalizer on and off. Be sure to power-up before your power amplifier is turned on to avoid loud transients which could damage your speaker or annoy your audience.

2 HPF switch with LED

HPF stands for HIGH PASS FILTER which allows the high frequencies to passthrough unchanged, while severly attenuating (cutting) the very low frequencies. Use this switch to protect your audio system from damaging low-frequency transients(loud thumps). The HPF LED will light up when the high pass filter is working. MQ 3300 and MQ 3400 both have a 40Hz high pass filter, while MQ 3600 has a sweepable high pass filter from 20Hz to 200Hz.

3 PEAK LED Indicators

The LED will light up if you set too high a level for the output and overload happens. If this LED blinks only briefly during the very loudest parts of your program, there is no problem. But if it stays on constantly for more than a couple of seconds, you might have a distorting sound. If this happens, simply turn down the level control until this LED blinks only very briefly.



4 Individual boost/cut control

Moving these sliders upward boosts their labeled frequency bands, and moving them downward cuts (decrease) them. When moving these controls past zero, you will feel the center-detent (notch) in the control which makes it very easy to find zero in a hurry, or even in the dark.

5 EQ RANGE selector switch

One of the reasons to use a graphic equalizer is that the frequencies sliders themselves from a graphic depiction of the frequency response curve you have set. But if your setting is very subtle, the graph becomes difficult to set and see. If you encounter this difficulty, simply push this RANGE selector switch.

6 EQ RANGE LED

This LED will change from red to green indicating the maximum boost/cut range of the frequency sliders has been reduced from 12dB to 6dB. And you can make your adjustments, taking advantage of the greater fader travel necessary to get the same amount of boost or cut.

7 EQ IN/OUT switch with LED

This switch allows instant comparison of the original sound with the equalizer sound. The LED will go off when the equalizer is out of the circuit.

8 LEVEL control

After setting your response curve by using the individual frequency sliders, use this level control to compensate for overall changes in the audio signal level (volume).

REAR PANEL DESCRIPTION

9 Audio In

MQ3300 has one balanced 1/4”-inch jack. MQ3400 has two balanced 1/4”-inch jacks, one for each channel; while MQ3600 has an XLR male jack and a balanced 1/4”-inch jack for each channel.

10 Audio Out

MQ3300 has one balanced 1/4”-inch jack. MQ3400

has two balanced 1/4”-inch jacks, one for each channel; while MQ3600 has an XLR female jack and a balanced 1/4”-inch jack for each channel.

11 Fuse holder

Before you attempt to connect and operate this unit, please make sure that your local voltage matches the voltage indicated on the unit. Blown fuses may only be replaced by fuses of the same type and rating.

12 AC power socket

Connect the enclosed adaptor to this socket.

TYPICAL GRAPHIC EQUALIZER OPERATION

GENERAL TONE CONTROL

The graphic equalizer is a very useful device for general tone shaping because it is simple and easy to adjust. The visual reference provided by the slide fader position gives an approximate idea of the frequency response generated: the higher frequency on the right and lower frequency on the left. To use the equalizer, you need to know the numerical frequency range of the tone you want to produce. Here is a frequency range chart for your reference, which is useful for starting a new equalized experience. Use this as a guide, then adjust by ear. Unfortunately, even a good equalizer can not offer a complete solution when the room has severe, inherent acoustic problems. Also, equalization can not overcome the lack of sound clarity caused by rooms with unduly long reverberation times.

FEEDBACK CONTROL

In live performance applications, graphic equalization is almost always applied separately to the stage monitor or foldback system to reduce the level of those frequencies that would otherwise cause feedback problems. These problems arise due to peaks in the frequency response curves of the monitor speaker system, monitor positioning, and sound reflected from the stage walls. A graphic equalizer can be used to provide some control over moderate feedback problems, but it does not have enough flexibility or resolution to handle severe situations. You will get the best results when you eliminate one or two feedback points by adjusting one or two slide faders, please cut no more than 6 dB. If you find feedback points covering many equalizer bands and cutting every band does not help, then you have to reduce the system gain. The combined use of a graphic equalizer for tone control and a parametric equalizer for feedback control is highly recommended.

MIXER CHANNEL EQUALIZATION

Many mixers provide only simple equalization for individual channels. If your mixer has channel inserts, you can patch your equalizer into a channel that is being used for something important and use it to tailor the sound of this channel exactly the way you want.

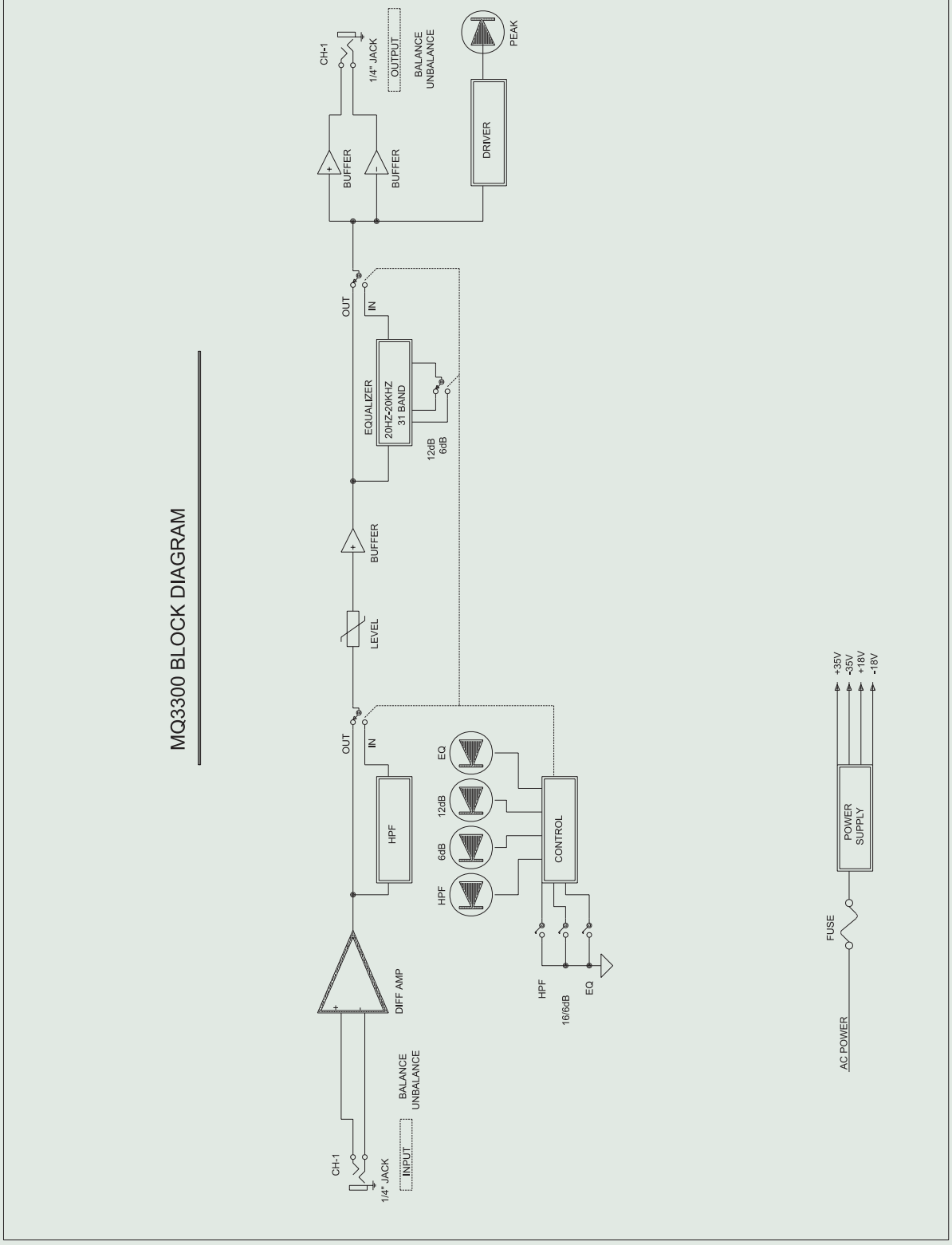
LARGE ROOM EQUALIZATION

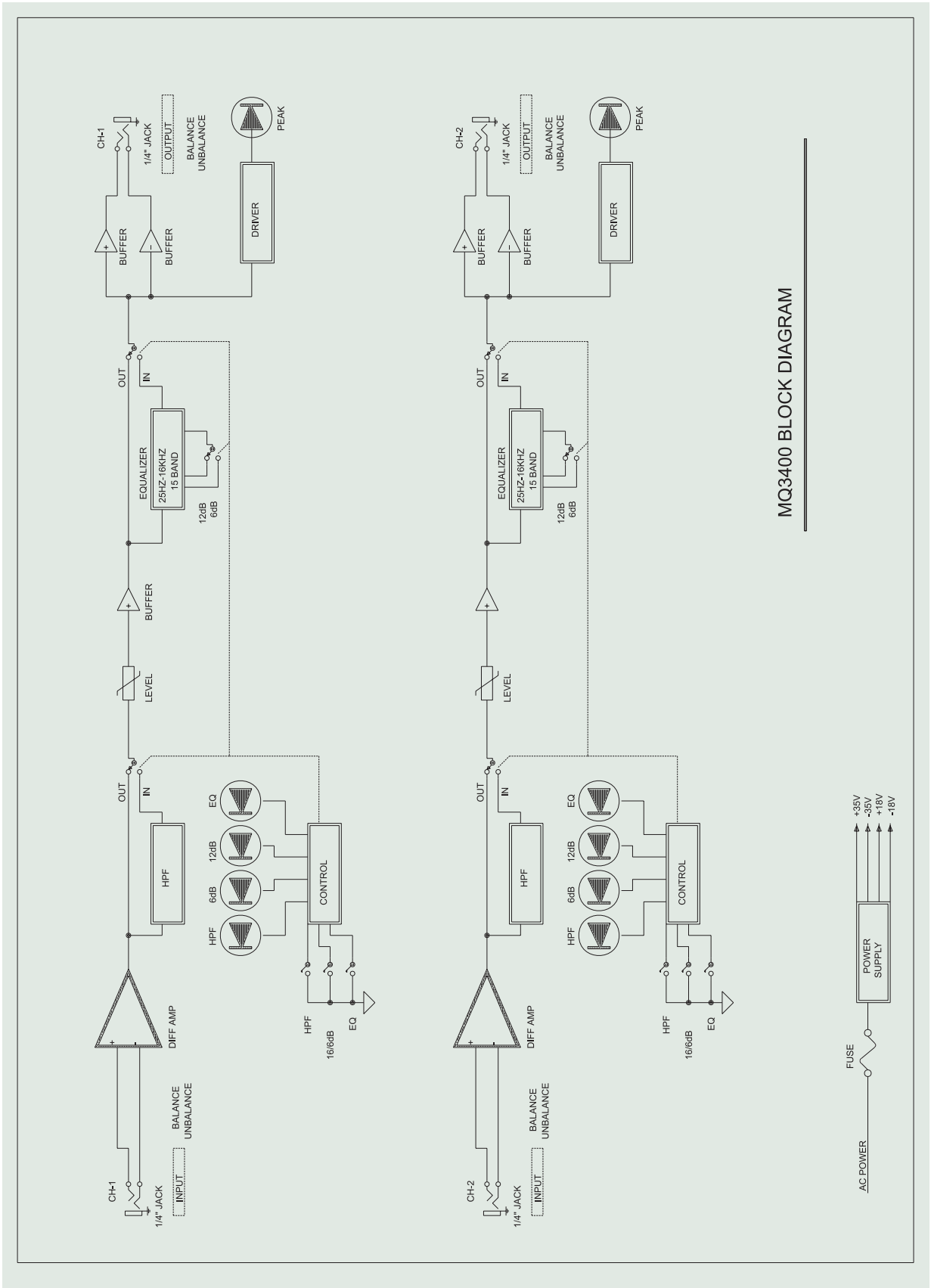
Large rooms tend to suffer from multiple reflections with long time delays and long reverberation times; all of which lead to reduced intelligibility and a generally muddy sound. As sound travels long

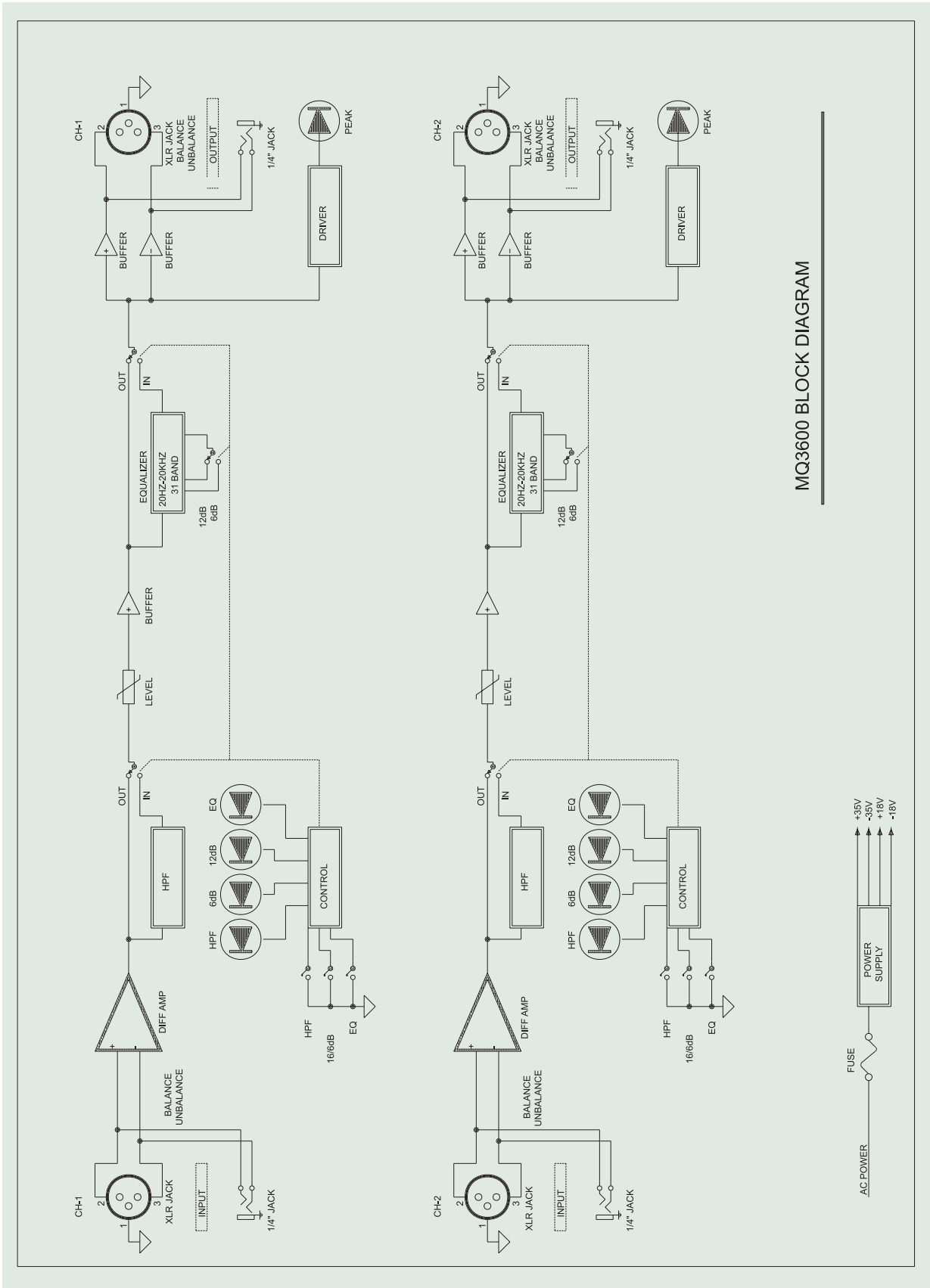
	MQ3300	MQ3400	MQ3600
INPUT	**1**	**2**	**2**
Format	Balanced, line level (+4dBu)		
Impedance	22k ohms		
Frequency Response 20Hz~20KHz, Flat setting EQ in	+/- 0.25 dB		
Gain	-12~+12dB		
THD	0.01%, @maximum output		
EQUALIZER	31-band, 1/3 octave	Dual 15-band, 2/3 octave	Dual 31-band, 1/3 octave
Center Frequency	ISO Standard, 20Hz to 20KHz	ISO Standard, 25Hz to 16KHz	ISO Standard, 20Hz to 20KHz
Range	+/-12dB or +/-6dB global switchable		
OUTPUT			
Format	Active balanced		
Maximum output	+18dBu		
Impedance	600 ohms		
POWER			
Mains power (depend on region)	100~120, 200~240VAC, 50~60Hz		
Power Consumption	15 watts	15 watts	30 watts
Fuse	100-120 VAC: 500mA 220-240 VAC: T315mA	100-120 VAC: 500mA 220-240 VAC: T315mA	100-120 VAC: 1A 220-240 VAC: T500mA
PHYSICAL			
Case	Aluminum front panel. Steel housing		
Dimension(WxHxD)	482x44.5x210mm (19"x1.75"x8.3")	482x44.5x210mm (19"x1.75"x8.3")	482x89x270mm (19"x3.5"x10.6")
Net Weight	2.9 kg (6.4 lbs)	2.9 kg (6.4 lbs)	5.05 kg (11.1 lbs)

All specifications are subject to change without prior notice.

MQ3300 BLOCK DIAGRAM




MQ3400 BLOCK DIAGRAM
CH-1
1/4" JACK
INPUT
BALANCE
UNBALANCE
DIFF AMP
HPF
16/6dB
EQ
CONTROL
HPF
6dB
12dB
EQ
LEVEL
BUFFER
OUT
IN
EQUALIZER
25HZ-16KHZ
15 BAND
12dB
6dB
DRIVER
PEAK
OUTPUT
CH-2
POWER
SUPPLY
FUSE
AC POWER
+35V
-35V
+18V
-18V


MQ3600 BLOCK DIAGRAM
CH-1
CH-2
XLR JACK
BALANCE
UNBALANCE
OUTPUT
1/4" JACK
PEAK
DRIVER
BUFFER
OUT
IN
EQUALIZER
20HZ-20KHZ
31 BAND
12dB
6dB
LEVEL
HPF
DIFF AMP
EQ
CONTROL
16/6dB
INPUT
POWER
SUPPLY
FUSE
AC POWER
+35V
-35V
+18V
-18V

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