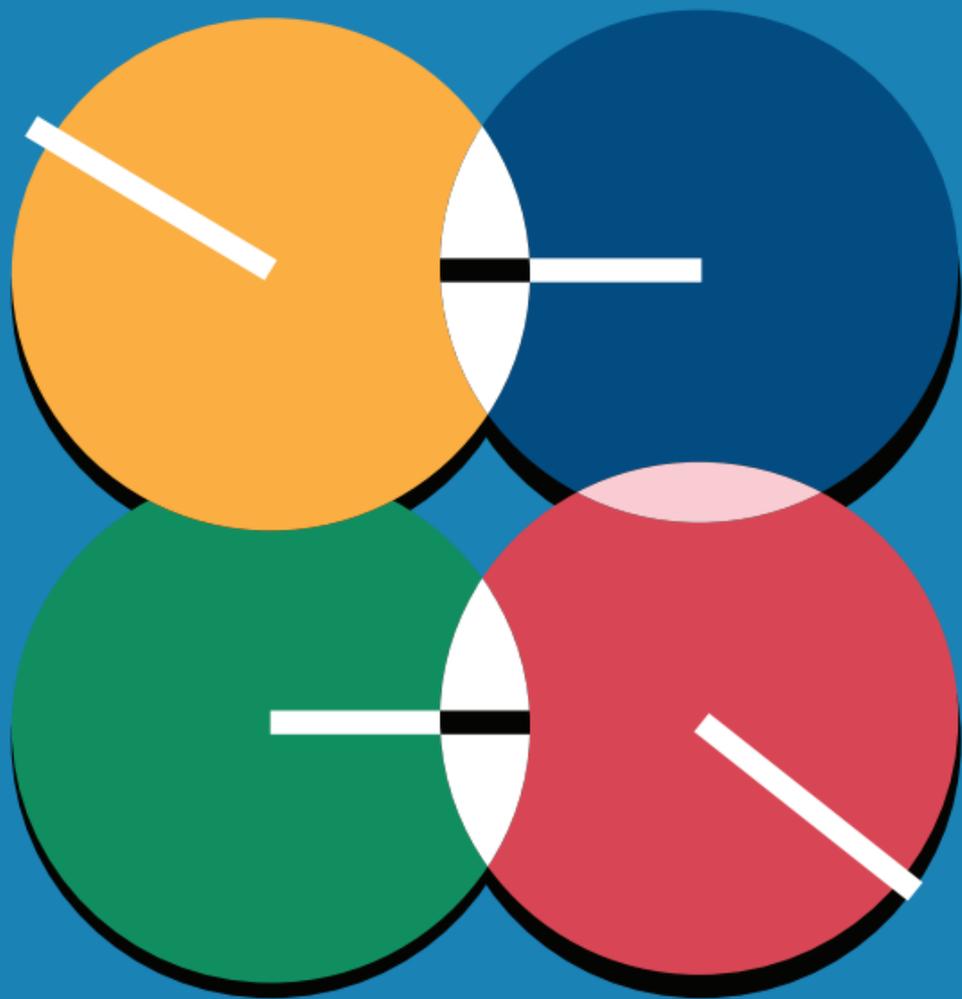


empres  
s effects



para eq  
mkll

deluxe

User Manual



# Contents

Introduction.....	iv
Sample Applications.....	1
Q Controls.....	2
High-Pass and Low-Pass Filters.....	3
Shelving Filters.....	3
Frequency Region Descriptions.....	4
Electric Guitar.....	4
Bass Guitar.....	5
DI'd Acoustic Guitar.....	6
Advanced Configuration.....	7
Controls at a Glance.....	8
Changing Startup State.....	10
Quickstart.....	11
My Settings.....	15
Powering the ParaEq MKII Deluxe.....	16
Regulatory Compliance Information.....	16
Specifications.....	20

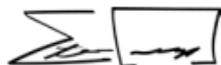
# Introduction

When we released our original ParaEq back in 2009, it quickly became a favourite among musicians who were searching for something more than the typical oversimplified controls found on most EQ pedals. Now, based on our users' valuable feedback, we've taken everything great about our original ParaEq and made it even better.

The Empress ParaEq MKII Deluxe is designed to be a tool for sweetening the tone of any instrument. We've designed it to give musicians a powerful, musical, high quality EQ in a conveniently small package. The signal path is comprised of the highest quality components chosen for their transparency, powerful tone shaping capabilities, and low operating noise. We've increased the headroom to 27V, similar to rackmount equipment, to ensure clarity of sound no matter how hot the signal. With added filters and Q knobs allowing for precise parametric control, the ParaEq MKII Deluxe allows for ultimate tonal shaping. Oh, and the whole package is now half the size. Who doesn't love a small package?!

With the Empress ParaEq MKII Deluxe, your instrument will still sound like your instrument, only better, and with more control than ever before.

- Steve Bragg



# Sample Applications

**General Sweetening:** Perhaps you really like the tone of your guitar but find it could be a little brighter with more high end detail. With the ParaEq MKII Deluxe, adding a small boost in the range of 3kHz to 5kHz with a wide Q will add a bit more detail, while still retaining the sound of your instrument. In a similar manner, adding a wide Q boost to the low frequency range will warm up your instrument's sound.

**Tone Correction:** Say you've set your amp up in a venue and find that the acoustics of the stage are making it sound too boomy. By cutting some of the frequencies in the low mids (200Hz – 600Hz) with a medium Q, you can minimize the negative effects of the room acoustics on your sound.

If you find your guitar isn't cutting through the rest of the band, you can boost the upper mid frequency range (1kHz – 4kHz) instead of simply turning up the volume of your amplifier, which could lead to you just drowning out the rest of the band.

**Feedback Zapping:** With a DI'd acoustic instrument, playing live at stage volumes can sometimes be a nightmare. Feedback through monitors can quickly ruin a great performance. By using the ParaEq MKII Deluxe's mid and hi frequency bands and narrow Q settings you'll be able to cut the frequencies causing the feedback while retaining

much of your instrument's sonic signature. The narrow Q setting ensures the range of frequencies being reduced is very small, preventing your instrument from sounding dull or muddy.

**Distortion Enhancement:** Having the ParaEq MKII Deluxe before your amplifier lets you use it to shape your distortion sounds in radical ways. For example, if you want the treble of your signal to distort a little more you can boost the high frequency band before it reaches your amplifier. This lets you add a little sonic slicing capability to your sound without muddying up your bottom end. The boost control on the ParaEq MKII Deluxe is a great way to push an already cooking tube amplifier into musical overdrive.

## Q Controls

The Q is a measurement of how much the EQ band affects a range of frequencies.

**Narrow Q (  $\wedge$  ):** Knob fully clockwise. This setting is best for attacking problems. For example, if an acoustic instrument is feeding back, a narrow Q allows you to cut the offending frequency without affecting frequencies around it.

**Medium Q (  $\wedge$  ):** Knob at 12:00. This is great for general tone shaping. Most equalizers in instrument amplifiers are medium Q. Try this setting and cut in

the 300Hz - 400Hz range if your amp sounds a little muddy, or boost in the 1kHz - 5kHz range if your guitar is a little dark.

**Wide Q** (  ): Knob fully counter-clockwise. Wide settings are best for transparent changes to the signal. With a wide Q, boosting around 100Hz can add warmth and boosting in the 3kHz range can add definition, all while retaining your instrument's tone.

## High-Pass and Low-Pass Filters

High-pass and low-pass filters are used to remove specific bands of frequencies from the sonic spectrum. These bands are determined by the filter shape and the cutoff frequency at which the filter is set.

**High-Pass Filter** (  ): The high-pass filter attenuates frequencies below the cutoff frequency set by the knob, which ranges from 10Hz to 330Hz, by 12dB/octave.

**Low-Pass Filter** (  ): The low-pass filter attenuates frequencies above the cutoff frequency set by the knob, which ranges from 1.5kHz to 22kHz, by 12dB/octave.

## Shelving Filters

Shelving filters are used to boost or attenuate a specific band of frequencies from the sonic spectrum.

The filter shape and amount of boost/attenuation determines the filter's frequency response. The ParaEq MKII Deluxe shelving filters are extremely gentle and musical sounding baxandall filters.

**Low Shelf Filter (↷):** Very gentle slope that boosts or attenuates frequencies below 200Hz by up to 15dB, depending on the knob position.

**High Shelf Filter (↶):** Very gentle slope that boosts or attenuates frequencies above 1kHz by up to 15 dB, depending on the knob position.

## Frequency Region Descriptions

Here's a rundown of different frequencies that should be helpful when using the ParaEq MKII Deluxe to achieve a specific result.

### Electric Guitar

**80Hz – 150Hz:** Boosting can add a subtle warmth and bigness to the sound. Cutting can bring down any rumble you're experiencing.

**150Hz – 400Hz:** Cutting in this region can remove a bit of mud, and boosting will bring out the warmth.

**400Hz – 800Hz:** Cutting in this region can make the sound more pristine. Boosting will add an aggressive edge to the sound.

**800Hz – 2kHz:** Boosting in this region will bring out the twang in your sound. Cutting will create a rounder, less aggressive tone.

**Above 3kHz:** Boosting in this region can add brightness and sheen. Cutting in this region can minimize noise and reduce harshness.

## **Bass Guitar**

**30Hz – 80Hz:** The sub-bass region. Be careful when boosting in this range; your speakers might not be happy if you boost too much.

**80Hz – 150Hz:** The bass region. Boost and cut in this region to change the amount of bass in your sound.

**150Hz – 500Hz:** If your bass sounds too muddy, try cutting in this region. If it needs a little warmth, try boosting in this region.

**500Hz – 900Hz:** Boosting in this region can add mid-range growl to your tone. Cutting in this region can make things clean and pristine.

**900Hz – 3kHz:** Boosting in this region can bring out attack. Cutting in this region can help create a rounder tone.

**Above 3kHz:** Cutting can bring down the noise without much effect on the signal. Boosting can add a sense of air and space.

## DI'd Acoustic Guitar

**35Hz – 100Hz:** Cutting in this region can help reduce rumble.

**100Hz – 200Hz:** This range is primarily responsible for the boominess of your acoustic guitar. Cutting or boosting here can help with low end projection.

**400Hz – 500Hz:** Boosting in this range can bring out warmth. Cutting in this range can help remove mud in your sound.

**500Hz – 4kHz:** This broad slice of the sonic spectrum is where most of your acoustic signal lives. Boosting here will make your guitar sound more aggressive, while cutting will help mellow it out.

**4kHz – 8kHz:** The brightness of your acoustic lives in this region. If your instrument sounds like you're hearing it through a wall, boost in this range. Cutting in this range will remove harshness.

**5kHz and Above:** Boosting in this range will bring out air in your sound, and cutting will reduce noise. Beware of feedback though!

## Advanced Configuration

These options let you choose the bypass and boost behaviour of your ParaEq MKII Deluxe.

**Entering the advanced configuration:** Connect power to the pedal while holding down both the boost and bypass footswitches. The LEDs will flash momentarily to confirm that you are in the advanced configuration.

**Modifying the advanced configuration:** To toggle between true bypass and buffered bypass use the bypass footswitch. The bypass LED will display which mode you are in:

Bypass LED off = true bypass (default)

Bypass LED on = buffered bypass

To toggle between normal bypass mode and independent bypass mode use the boost footswitch. With independent mode you can apply boost without having the equalization engaged. This makes it almost like having a separate EQ and boost pedal, each with their own bypass switch.

Boost LED off = normal (default)

Boost LED on = independent

**Exiting the advanced configuration:** Hold down both the tap and bypass footswitches. The bypass LEDs will blink momentarily to confirm the ParaEq MKII Deluxe has exited the advanced configuration.

## Controls and

**low freq, mid freq, high freq:** Selects the center frequencies around which you'd like to boost or cut for each band.

**gain:** Determines the amount of boost or cut applied to frequency band. At the 12:00 setting, there is no boost or cut applied. The range of cut or boost available for each frequency band is -15dB to +15dB.

(  ) Sets the cutoff frequency of the high-pass filter.

(  ) Sets the gain/attenuation of the low shelf filter.

(  ) Sets the gain/attenuation of the high shelf filter.

(  ) Sets the cutoff frequency of the low-pass filter.

**boost:** Controls the output level. It is a clean boost, perfect for providing gain before an effects chain to minimize noise or to overdrive the input of a tube amp. The available boost ranges from 0dB to +30dB and is toggled on/off with the boost footswitch.



**boost footswitch:** Turns the boost on/off the boost footswitch on the back of the unit. When the boost is applied, the boost is applied to the signal.

# at a Glance



**low q, mid q, high q:** The Q knobs determine the range of frequencies affected by the equalizer on each band.

Wide Q (  ) will affect a wide range of frequencies around the selected frequency.  $Q \approx 1$  affects about 1.5 octaves.

Medium Q (  ) will affect some frequencies around the selected frequency. This is a good place to start for overall tone shaping.  $Q \approx 2.5$  affects about 2/3 octave.

Narrow Q (  ) will only affect a very narrow range of frequencies around the selected frequency.  $Q \approx 4$  affects about 1/3 octave.

There is a Q control for each of the three frequency bands available on the ParaEq MKII Deluxe.

**bypass footswitch:** When the LED is on, the ParaEq MKII Deluxe effect is applied to the signal. When off, the effect is bypassed. See Advanced Configuration for bypass options.

**LED:** Toggles the bypass section of the pedal. When the LED is on, the effect is applied to the signal.

## Changing Startup State

The EQ and boost functions can be set independently to be active or bypassed when the pedal starts. To switch the startup state, press and hold the respective footswitch when power is applied to the pedal.

# Quickstart

## Sittin' in the Mix

Low cut to leave room for bass and drums in the mix. Mid boost at the guitar's sweet spot. Cut those pesky, shrill high frequencies.



## Distortion Tamer

To tame high gain distortion, cut some of the lows and boost what's left. Boost the mids and cut any shrill harmonics for a more even frequency response.

## Country Humbucker Twang

Boost the high mids and really push the high-self filter to get that twang. Cut the lows and highs slightly to sit better in the mix.



## Airy Acoustic

Cut extreme highs and lows while boosting the remaining bass. The mid boost and selective high-frequency removal means it still sounds natural, but lighter.

## Buttery Bass

Cut out highs and high mids while maintaining low end and enough mids to still bite. The result is smooth and consistently buttery.



## Doom Bass

Heavily boosted lows create a sub bass, accented with an upper-mid boost for a tight sound and fuzzy sustain.

## Gnarly Bass Synth

Tame the piercing frequencies from the cranked resonant filter so it sounds less sharp. Bass boost really fattens up the low end.



## Underwater Black and White

Extreme filtering with narrow frequency boosts make your instrument sound like it's underwater, flickering in the light of an old projector.

# My Settings



## Powering the ParaEq MKII Deluxe

Go to [www.empreseffects.com/power](http://www.empreseffects.com/power) for list of power supplies we've tested.

Please note: The ParaEq MKII Deluxe requires at least 300mA of current to function properly. Any power supply rated at 9V DC, supplying negative tip polarity and at least 300mA of current should work.

## Regulatory Compliance Information

### FCC (USA)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

### Responsible Party in the USA

Americas Compliance Consulting LLC dba iCertifi

1001 SW Disk Drive, Ste 250

Bend, Oregon 97702 USA

FCC\_sDoC@icertifi.com

icertifi.com

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful

interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## **ICES-003 (Canada)**

CAN ICES-003(B) / NMB-003(B)

## **CE (European Union)**

This declaration of conformity is issued under the sole responsibility of Empress Effects Inc- 105-62 Steacie Dr, Kanata Ontario K2K 2A9. The device identified on the front page of this manual is in conformity with the requirements of the European Union's Electromagnetic Compatibility Directive 2014/30/EU, in accordance with the following harmonized standards:

- EN 55032:2015/A11:2020 – Electromagnetic compatibility of multimedia equipment - Emission Requirements
- EN 61000-3-2:2014 – Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current  $\leq 16$  A per phase)
- EN 61000-3-3:2013 – Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current  $\leq 16$  A per phase and not subject to conditional connection
- EN 55035:2017/A11:2020 – Electromagnetic compatibility of multimedia equipment - Immunity Requirements



Name: Colin King

Title: Design Engineer

Company: Empress Effects Inc

Date: August 19, 2023

Location: 105-62 Steacie Dr, Kanata Ontario K2K 2A9



### **WEEE (2012/19/EU)**

This product must not be disposed of with regular household waste. In compliance with WEEE regulations, please take this product to a designated collection facility or return to the supplier for proper recycling. Comply with local laws and regulations for disposal. Contact your local authority or [support@empresseffects.com](mailto:support@empresseffects.com) for specific information.



## Specifications

Input Impedance:	1M $\Omega$
Output Impedance:	100 $\Omega$
Frequency Response (-3dB):	22Hz - 25kHz
Total Harmonic Distortion:	< 0.05%
Noise:	> 107dB
Headroom:	+30dBu
Input Voltage:	9VDC +  -
Required Current:	300mA
Power Input Connector:	2.1 mm Barrel Connector
Height:	2.5"
Length:	4.8"
Width:	2.6"
Weight:	1lb