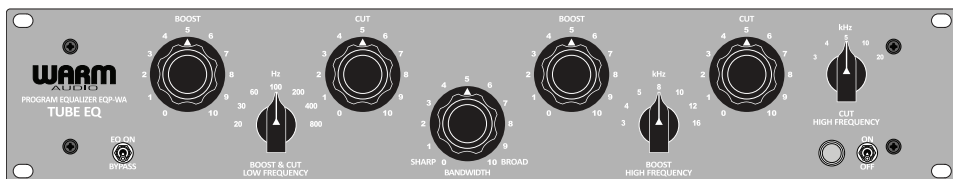


EQP-WA

TUBE AMPLIFIED PROGRAM EQUALIZER

Revision 1.1



WARMTM
AUDIO

THANK YOU!

REGISTER YOUR EQP-WA

Before we begin, please take the time to visit www.warmaudio.com to register your product. To ensure you receive proper and uninterrupted warranty support for your product, please register your unit within 14 days from purchase.

Thank you for purchasing the Warm Audio EQP-WA mono program equalizer. We feel this product offers the best in terms of the sound, function, and vibe of classic premium equalizers from the analog era of recording. We cut no corners when it comes to what goes into our products, and the EQP-WA is no exception. We've chosen the highest quality input and output transformers, and inductors by Cinemag Transformers. The EQP-WA features selected high quality vacuum tubes, potentiometers, switches, and rugged construction. We are confident you will love recording with the EQP-WA.

Welcome Back To the World Of Analog

Though digital technology and software have made great strides in their performance in recent years; we still feel that nothing compares to the level of articulation, depth, realism, and responsiveness of a well-built piece of analog gear. When you hear the bottom end presence and top end detail of quality analog gear, the difference can be astounding. The cost of most boutique analog equipment is financially out of reach for many recording artists. Our mission is to change this, and introduce as many people as we can to recording and mixing with real, dedicated hardware. Whether this is the first piece of outboard gear you've ever purchased outside of a recording interface, or merely the first in a long time; we thank you, and welcome you back to the world of analog.

Bryce Young
President
Warm Audio
Liberty Hill, Texas USA

WARRANTY STATEMENT

Warm Audio warranties this product to be free from defect in materials and workmanship for one year from date of purchase, for the original purchaser to whom this equipment is registered. This warranty is non-transferable.

This warranty is void in the event of damage incurred from unauthorized service to this unit, or from electrical or mechanical modification to this unit. This warranty does not cover damage resulting from abuse, accidental damage, misuse, improper electrical conditions such as mis-wiring, incorrect voltage or frequency, unstable power, disconnection from earth ground (for products requiring a 3 pin, grounded power cable), or from exposure to hostile environmental conditions such as moisture, humidity, smoke, fire, sand or other debris, and extreme temperatures.

Warm Audio will, at it's sole discretion, repair or replace this product in a timely manner. This limited warranty extends only to products determined to be defective and does not cover incidental costs such as equipment rental, loss of revenue, etc. Please visit us at www.warmaudio.com for more information on your warranty, or to request warranty service.

This warranty applies to products sold in the United States of America. For warranty information in any other country, please refer to your local Warm Audio distributor. This warranty provides specific legal rights, which may vary from state to state. Depending on the state in which you live, you may have rights in addition to those covered in this statement. Please refer to your state laws or see your local Warm Audio retailer for more information.

NON-WARRANTY SERVICE

If you have a defective unit that is outside of our warranty period or conditions; we are still here for you and can get your unit working again for a modest service fee. Please visit us at www.warmaudio.com to contact us about setting up a repair or for more information.

With the proper care, your Warm Audio gear should last a lifetime and provide a lifetime of enjoyment. We believe the best advertisement we can have is a properly working unit being put to great use. Let's work together to make it happen.

CHAPTER 1: NOW LET'S GET STARTED!

HARDWARE CONTROLS — FRONT PANEL

Bypass Switch: Located on the bottom left hand side of the faceplate is the bypass toggle switch. This switch engages or disengages the equalizer section of the EQP-WA. By design, it is not a true bypass; but merely takes the EQ circuitry out of the audio path. More on this is discussed later in the manual.

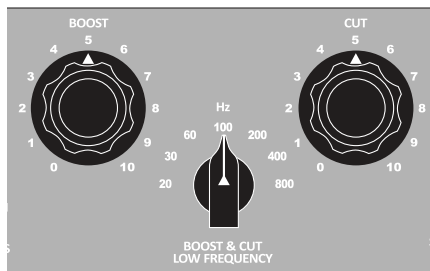
Power Switch and indicator bulb: Located on the bottom right hand side of the faceplate is the mains power toggle switch. This turns the unit on, and power will be indicated by the adjacent power indicator bulb.

Boost and Cut - Low Frequency' selector: this rotary switch selects a frequency in the low to lower midrange bands for boost, cut, or even simultaneous boost and cut to create a desired texture effect to the selected band.

LOW FREQUENCY CONTROL

'Boost' (low frequency): this controls the amount of gain applied to the band selected by the low frequency selector with a range from zero (unity gain) to +12dB.

'Cut' (low frequency): this controls the amount of attenuation applied to the band selected by the low frequency selector, with a range from zero (unity gain) to -18dB.



The Low Frequency Control Section

HIGH FREQUENCY CONTROL

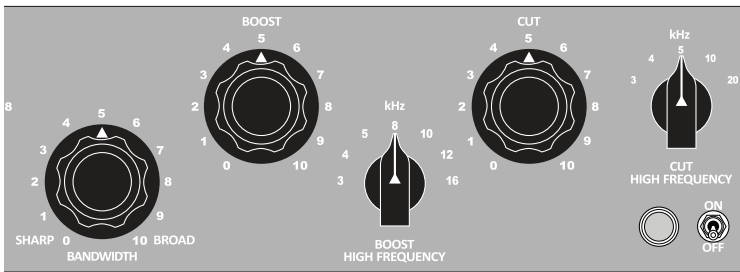
Bandwidth: this knob varies the width of the high frequency boost and cut controls from a relatively sharp Q (affecting the least surrounding frequencies) to a somewhat broader Q (affecting a larger area of bandwidth). A sharp Q is considered useful for more surgical work, such as boosting or cutting a specific overhead piece or octave of an instrument; while a broader Q is more natural and musical, for gentler tone shaping of instruments or program material.

Boost knob: This knob controls the amount of boost applied by the high frequency boost selector, from zero (unity gain) to +18dB.

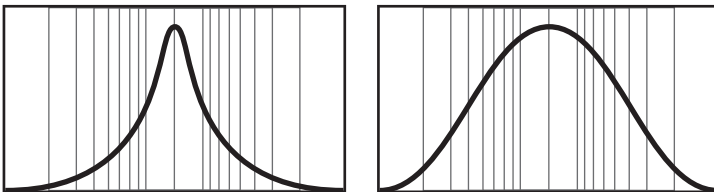
Boost High Frequency Selector: This rotary switch selects the high frequency to be boosted by the boost knob.

Cut knob: This knob controls the amount of attenuation applied by the high frequency cut selector, from zero (unity gain) to -14dB.

Cut High Frequency Selector: This rotary switch selects the high frequency to be attenuated by the cut knob.



The High Frequency Control Section



To the left: Sharp Q, Bandwidth knob set to 0.

To the right: Broad Q, Bandwidth knob set to 10

HARDWARE CONTROLS — REAR PANEL

POWER

The EQP-WA requires a 3-pin, grounded IEC cord, and should ship with the power cord appropriate for the territory in which it is sold. Voltage is selectable between 115v and 230v operation, from the rear voltage selector switch. Power input is via a standard fused IEC power receptacle with built in fuse access, chassis mounted on the rear of the unit. Power is turned on and off via the toggle switch labeled 'ON/OFF' on the right side of the unit's front panel.

AUDIO CONNECTIONS

The EQP-WA has both XLR and ¼ inch TRS balanced inputs and outputs, rear chassis-mounted, operating at line level. Unbalanced connection is also possible via a ¼ inch TS cable. It is not advised to connect both input connectors or both output connectors at once.



Tube Gain Adjust

Located next to the output section, this control provides for approximately 6db of adjustable gain in the tube make up amplifier, generally between -3 and +3dB. This will allow users to match two units for stereo use with either a test tone or source material; or to match one or two units for unity gain within a particular setup. At fully clockwise (when facing rear of unit), the control is essentially by passed and the EQ has it's original default level. At fully counterclockwise, the EQ will be at full attenuation.

Aside from its technical purpose, this feature allows for some additional creative use. For instance, hotter bus material can benefit from the slightly improved headroom and transparency of pulling down the tube gain lower. Conversely, solo instruments and vocals (acoustic guitar or female vocal, for example) can benefit from the added tube roundness and girth of having the tube gain pulled up higher. As with anything, let your ears be the final judge of how to use this feature.

CHAPTER 2: TECHNICAL SPECS

ENGLISH

WARRANTY

NOW LET'S GET STARTED

TECHNICAL SPECS

A BIT OF HISTORY

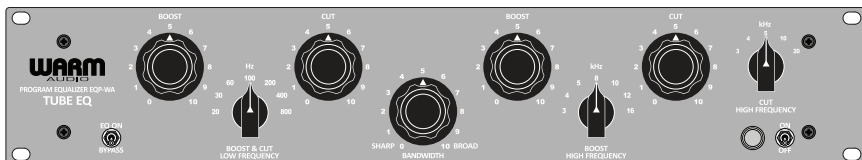
WAXING PHILOSOPHICAL

HOOKUP DIAGRAMS

RECALL SHEETS

| | |
|-----------------------------|--|
| frequency response | 20hz - 50khz, +/-1 db |
| insertion loss | none (vacuum tube makeup gain amplifier) |
| self noise | below -75db |
| input impedance | 600 ohms |
| output impedance | capable of driving a 600 ohm load |
| tube compliment | (1x) 12AX7, (1x) 12AU7 (graded for low noise/low microphonics) |
| power | selectable 115v 60hz/230v 50hz via standard grounded 3 conductor IEC cable |
| fuse compliment | 1 amp, 250 volt, fast blow |
| input | transformer balanced, pin 2/tip=positive, pin 3/ring=negative, pin 1/sleeve=ground |
| output | transformer balanced, pin 2/tip=positive, pin 3/ring=negative, pin 1/sleeve=ground |
| low frequency boost | 20, 30, 60, 100, 200, 400, and 800hz by +12 db maximum |
| low frequency cut | 20, 30, 60, 100, 200, 400, and 800hz by -18 db maximum |
| high frequency boost | 3, 4, 5, 8, 10, 12, and 16khz by +18 db maximum |
| high frequency cut | 3, 4, 5, 10, and 20 khz by -14 db maximum |

CHAPTER 3: A BIT OF HISTORY



In the beginning...

Most early recording consoles had very primitive equalization capabilities, often consisting of only two knobs. These consisted of either a simple 'tone control' type shelving equalizer, or a 'low' and 'hi' control knob with a fixed frequency center. One of the most significant advancements in early studio recording came with the advent of dedicated equalizers. The invention of dedicated equalizers inspired desk manufacturers to start putting more comprehensive equalization into their desks. This addition, more than any other, brought about what we would consider the modern recording desk.

Many of the earliest outboard equalizers were passive devices, operating in a purely subtractive manner, requiring a preamplifier (either in the form of outboard gear, or routed back into an unoccupied channel of the console). Not only did the equalizer lose signal level by performing equalization; but often caused 'loading loss' merely by being patched in, resulting in added noise, hum or buzz, and loss of tone or high frequencies. By the time an equalized signal was preamplified again and passed through additional console circuitry, the signal to noise ratio was often worse off. This made EQ difficult to use without negatively affecting the signal quality.

What followed next was the innovation that brought the use of EQ into the mainstream, known as active equalization. 'Active equalization' allowed an EQ to be patched into a mixing desk for the first time without the fear of 'insertion loss', added noise, or loss of fidelity. Finally, EQ could be performed risk-free. Most analog equalizers manufactured today use some form of solid state electronics to apply their boosts or makeup gain. The earliest incarnations of these equalizers, however, used vacuum tubes, along with large input and output transformers, as required by most high voltage tube circuits. This type of design imparts a 'sweet' character that many modern designs fail to reproduce. Though many modern EQ's have a generous amount of features, few offer the warmth and richness, or the natural and forgiving qualities of the classic designs.

In the early days of recording, distance mic recording was more common than close-mic technique. Large rooms tend to 'even out' a soundstage, eliminating the need for much of the corrective EQ used in modern production. As close mic recording became the accepted norm for superior track isolation, the need for equalization became much more apparent to recording engineers. Early studios began to utilize what many termed the 'Tamlam/Motown' technique (named after the famous record label and studio), whereby an instrument or voice is 'manipulated' to some degree via equalization in order to sit well within the context of a mix. Today, this is a nearly inseparable part of the art and science of modern music production.

CHAPTER 4: WAXING PHILOSOPHICAL

WHEN TO EQ?

This is a question that deserves thought. In some cases, EQ can be intuitive. One of the simplest examples of corrective EQ would be in treating the human voice; adding top end to a vocal that needs articulation, or adding bottom end to a vocal that appears thin. In all cases, one should listen thoughtfully and let the material tell you what it needs. Ultimately, one should EQ when a signal requires help to fit naturally and compliment a mix.

Most musicians and artists would say they want their voice or instrument to sound as natural as possible; however, there are many acoustic factors which can affect one's perception of how an event sounds. What most artists and engineers desire is for an instrument to sound natural or, in an idealized way, closer to the artist's intention. Most artists expect their recorded material to perform well in the context of a mix without covering other performers or getting covered up. Using an outboard equalizer should typically be viewed as much of a way to make corrective changes as it is to make creative changes. The reason for this is that microphone placement, room acoustics, the settings of the instrument or amp, and a whole host of other variables are always applying their own unique type of EQ to a signal, some of which may be outside of your control and undesirable.

As a general rule, one should do most EQ after applying compression; though there are exceptions, such as taming a problem frequency in advance of a compressor to allow the compressor to respond more naturally. In this situation, one might consider subtractive EQ prior to compression, and additive EQ post-compression. The most notable exception to this rule is in stereo mastering, where EQ should precede final compression and limiting, to prevent any chance of peak overages.

TIPS ON USING YOUR EQP-WA

The EQP-WA is a program equalizer by design, which means, though quite capable on individual instruments, it especially shines on complex, full bandwidth material; i.e. complete mixes or instrument groups. It is especially good with providing a final tone balance and adjusting the relationship of the midrange to the low and high frequency bands in finished material. As with all equalization, listen for what the source material calls for, and reference back to the original (unaltered) source often to maintain perspective.

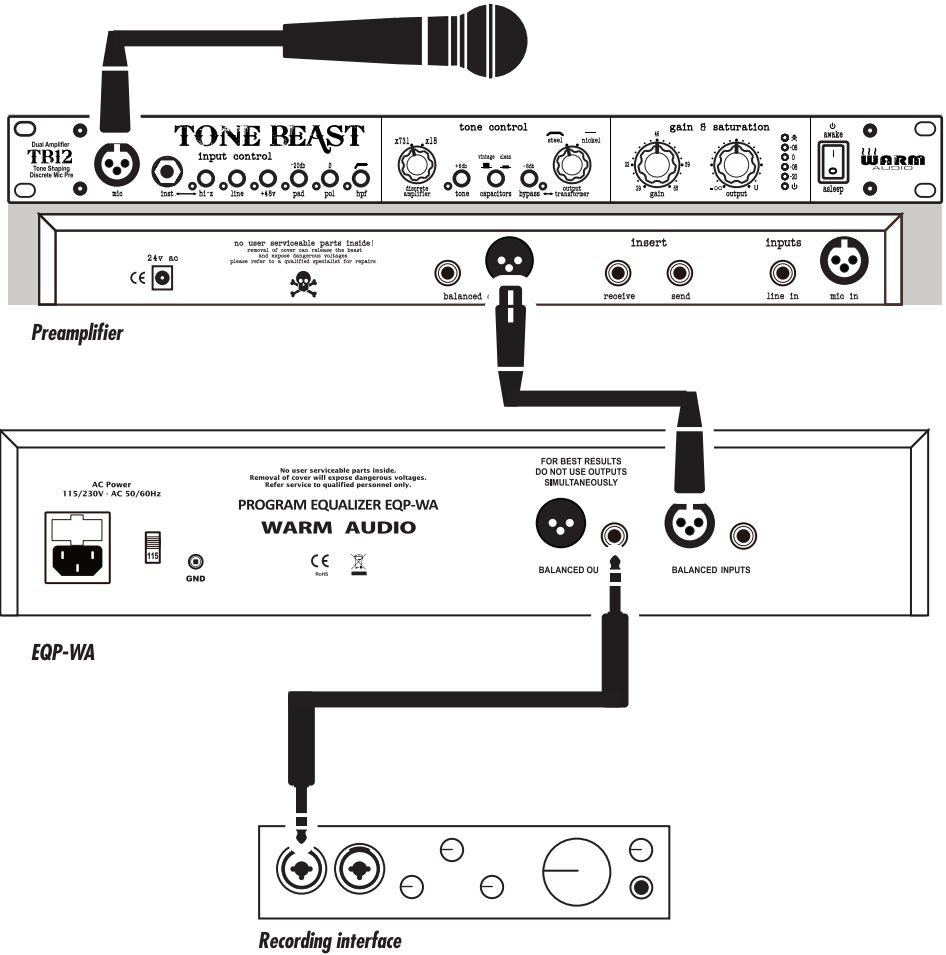
THE 'BOOST AND CUT' TRICK

Another phenomenon well known with this classic type of design is the ability to apply both boost and cut to a specific frequency at the same time. The resulting effect is hardly the type of simple cancellation one might expect. The cue shape of the boost and cut functions vary slightly, as do their gain potential; so even matching boost and cut levels by ear can produce a result quite different from when boost and cut are returned to zero. Some have described this effect as a gentle scooping of the area around the target frequency, with an emphasis added closer to the center frequency itself. Others describe it as a phase shift type of effect for the target frequency. The result, by any name, is hardly subtle; and can be used to create emphasis or texture to a specified frequency.

USING THE EQP-WA IN BYPASS MODE

When in bypass mode, the audio signal is still routed through the Cinemag input transformer, dual vacuum tube stage line amplifier, and Cinemag output transformer; and the EQP-WA will output at approximately unity gain relative to the input level (or within close margin, due to small variations in output gain from individual vacuum tubes). This design allows the user to take advantage of an old 'engineering trick' known to many successful producers and recordists, whereby one uses a piece of gear with large transformers and high voltage tube stages as a 'pass-through' device or 'tube buffer' following a mic preamp, console send, or other piece of hardware, adding subtle sheen, richness, thickness, and harmonic content to an audio signal. This technique can also be used on program material (complete mixes or subgroups).

CHAPTER 5: HOOKUP DIAGRAMS



In this example, a microphone is feeding into a preamp, which feeds in to the EQP-WA via a balanced XLR patch cable, which feeds in the LINE LEVEL input of your recording interface/recorder.

Note: it is important to use a line level input on your recording device as opposed to a microphone or instrument level input.

CHAPTER 5: HOOKUP DIAGRAMS

ENGLISH

WARRANTY

NOW LET'S GET STARTED

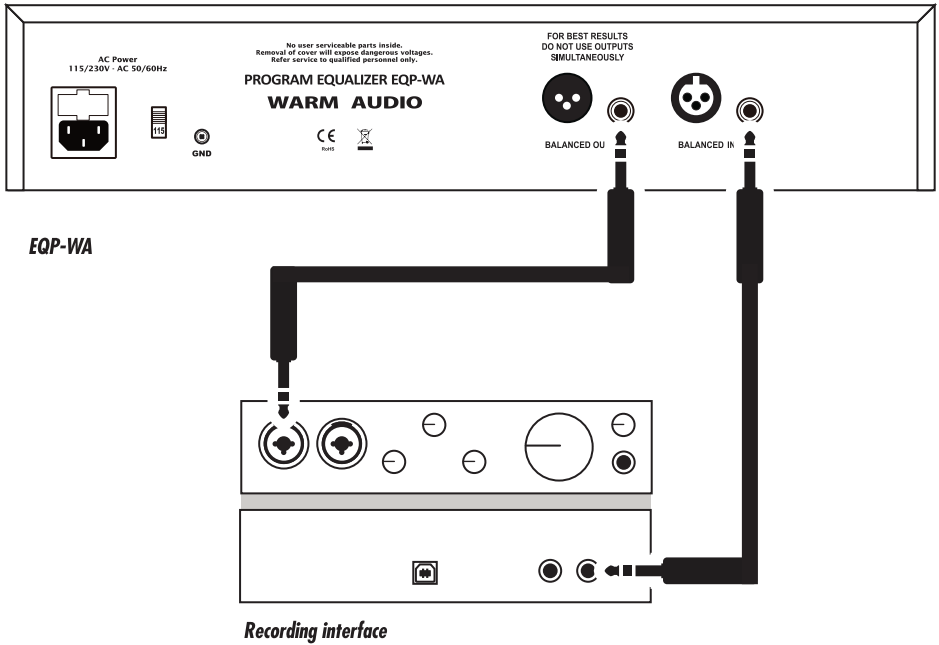
TECHNICAL SPECS

A BIT OF HISTORY

WAXING PHILOSOPHICAL

HOOKUP DIAGRAMS

RECALL SHEETS



In this example, the EQP-WA is being routed as an insert into a recording device. This is useful for using the EQP-WA as an “analog plug-in” or insert for mix-down. The recording device is feeding the EQP-WA with a balanced 1/4” cable via a line output. Then, the recording device is capturing the EQP-WA via a LINE LEVEL input.

CHAPTER 6: RECALL SHEETS

WARM
ALTIMETER
TUBE EQ
PROGRAM EQUALIZER EQP-WA

EQ ON **BYPASS**

BOOST 0 1 2 3 4 5 6 7 8 9 10
SHARP BANDWIDTH

CUT 0 1 2 3 4 5 6 7 8 9 10
BOOST & CUT LOW FREQUENCY
 Hz 20 30 40 60 100 200 400

BOOST 0 1 2 3 4 5 6 7 8 9 10
BROAD BANDWIDTH

CUT 0 1 2 3 4 5 6 7 8 9 10
BOOST HIGH FREQUENCY
 kHz 3 4 5 10 20

CUT 0 1 2 3 4 5 6 7 8 9 10
HIGH FREQUENCY
 ON **OFF**

Session: _____ Track: _____ Notes: _____

Date: _____ Instrument: _____ Notes: _____

WARM
ALTIMETER
TUBE EQ
PROGRAM EQUALIZER EQP-WA

EQ ON **BYPASS**

BOOST 0 1 2 3 4 5 6 7 8 9 10
SHARP BANDWIDTH

CUT 0 1 2 3 4 5 6 7 8 9 10
BOOST & CUT LOW FREQUENCY
 Hz 20 30 40 60 100 200 400

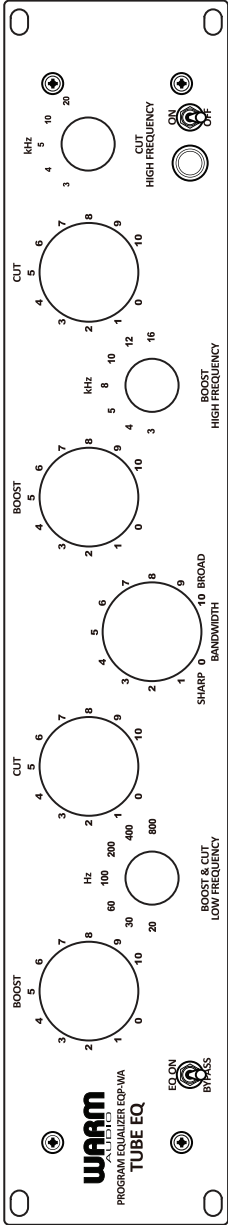
BOOST 0 1 2 3 4 5 6 7 8 9 10
BROAD BANDWIDTH

CUT 0 1 2 3 4 5 6 7 8 9 10
BOOST HIGH FREQUENCY
 kHz 3 4 5 10 20

CUT 0 1 2 3 4 5 6 7 8 9 10
HIGH FREQUENCY
 ON **OFF**

Session: _____ Track: _____ Notes: _____

Date: _____ Instrument: _____ Notes: _____



Session: _____ Track: _____ Notes: _____
Date: _____ Instrument: _____ Notes: _____

WARMTM
AUDIO

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