K4

TAYLOR GUITARS K4 EQUALIZER™

USER GUIDE

By Rupert Neve
The Designer®

ACOUSTIC ELECTRONICS™

The serial number can be found on the bottom of your K4.
Please note it here for future reference.

SERIAL NO: _____

WARNING: To reduce the risk of fire or electric shock, do not expose this device to rain or moisture.

CAUTION: To reduce the risk of fire or electric shock, do not remove screws. No user-serviceable parts inside. Refer servicing to qualified service personnel.

CAUTION: This equipment has been tested and found to comply with Part 15 of 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.

The lightning symbol within a triangle means "electrical caution!" It indicates the presence of information about operating voltage and potential risks of electrical shock.

The exclamation point within a triangle means "caution!" Please read the information next to all caution signs.

You should read these important safety instructions. Keep these instructions in a safe place.

1. Obey all warnings on the K4 and in this User Guide.
2. Do not place near heat sources such as radiators, heat registers, or appliances which produce heat.
3. Guard against objects or liquids entering the enclosure.
4. Connect only to supplied AC power adaptor.
5. Do not step on power cords. Do not place items on top of power cords so that they are pinched or leaned on. Pay particular attention to the cord at the plug end and the point where it connects to the unit.
6. Unplug your K4 when not in use for extended periods of time.
7. Do not perform service operations beyond those described in the K4 User Guide. In the following circumstances, repairs should be performed only by qualified service personnel:
   - liquid is spilled into the unit
   - an object falls into the unit
   - the unit does not operate normally or changes in performance in a significant way
   - the unit is dropped or the enclosure is damaged
8. The Headphone output is capable of high levels. Prolonged listening at high volume levels may cause irreparable hearing loss and/or damage. Always be sure to practice "safe listening."

CONTENTS

INTRODUCTION: A MESSAGE FROM BOB TAYLOR

Thank you for purchasing the Taylor Guitars K4 Equalizer. You are now the owner of a very high quality audio preamplifier, worthy of any situation, whether it be a world-class recording studio or a backyard gig. If you're like me, you probably want to plug in and get started right now. Like any high-end electronics product though, it will take some learning to really master it. While this guide will show you the ins and outs of how it works, your creativity coupled with the skills you learn from this manual will open doors to very rich sonic rewards. Please make an effort to experiment and re-study the manual from time to time in order to fully understand the K4 Equalizer and what it can do for your tone. –

WELCOME TO THE K4

A NOTE FOR EXPRESSION SYSTEM™ OWNERS

If you're a Taylor acoustic-electric performer, you're about to discover a whole new world of creativity and control: the Taylor Guitars K4 Equalizer. Conceived by Taylor Guitars and designed by audio legend Mr. Rupert Neve, the Taylor K4 Equalizer extends the expressive possibilities of your Taylor's amplified sound, bringing the Taylor Expression System (ES) to a new level of acoustic performance.

Optimized
Building on the fully balanced output of the Taylor Expression System, we created the Taylor K4's EQ specifically for the acoustic guitar. We designed its voicing for the Dynamic Sensors™ that are an essential, and exclusive part of the Taylor ES. And then we perfected the additional frequency control the K4 delivers to allow you to explore your Taylor's range even further.

Equalized
Shape your guitar's tonality by zeroing in on the notes or frequencies of your choice and then massaging them to taste.

Energized
With its balanced, transformer coupled input and output, the Taylor K4 Equalizer also allows you to add other equipment into the loop—and still maintain the Expression System's signal integrity.

A NOTE REGARDING BATTERY LIFE

Your K4 was designed to be powered primarily by the external DC power supply (wall wart). But just in case you forget to take your power supply to a gig, we've included the ability to temporarily power the K4 with batteries. Fresh batteries should get you through a gig, but you should use the power supply whenever possible. The power LED will change from green to red when the batteries drop below the required voltage for operation. This is your warning: you will have sound, but not for long. Please plug in the power supply immediately.

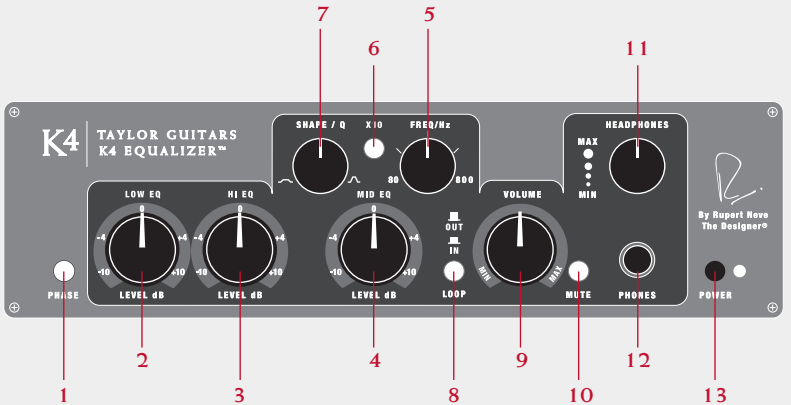
THE IMPORTANCE OF GROUND (EARTH)

Something in your system must be grounded. Every application will be different, but at some point in the signal flow there must be ground. This is usually achieved when plugging into a mixer or amplifier. The K4 is not a source for ground because it is a DI (direct interface). See Chapter 4 for more details regarding ground, ground loop noise, and possible solutions.

REGISTER AND GET CONNECTED

Please fill out and return the enclosed warranty card. Registering your K4 will help us validate your warranty coverage should service ever be needed. (Warranty information is at the end of this manual.) It also ensures that we'll be able to contact you with new applications and tips as necessary.

FRONT PANEL CONTROLS



[1] Phase Reverse Button
[2] Low Frequency EQ Level Control
[3] High Frequency EQ Level Control
[4] Mid EQ Level Control
[5] Frequency Select Control (Hz)
[6] X10 Range Button
[7] Shape / Q Control
[8] Effects Loop Button
[9] Main Volume Control
[10] Mute Button
[11] Headphone Volume Level Control
[12] Headphone Output Jack
[13] Power Button

PHASE REVERSE BUTTON [1]

The normal selection for this button would be the OUT position – which designates the output will be **in phase** with your guitar. In some situations it may be advantageous to use this button in the IN position – reversing the phase in order to help reduce feedback.

Explanation

The electronic signal put out by your pickup can be thought of like thousands of waves cresting above and below an invisible line. Signals above the line are positive, below are negative. When two sources of the same sound (e.g. your guitar and an amplifier) are aligned on the positive side they are considered IN PHASE. When one is positive and the other is negative they are called OUT OF PHASE.

When you listen to your guitar through an amp or PA, the sound you hear is a combination of what's coming off of the guitar and what's coming from the speaker. When these two sources are IN PHASE it will sound full and warm. But sometimes, in some venues, this sound may be too full and too warm, resulting in unwanted resonant feedback. In this instance, reversing the phase of the electronic signal will cause some frequencies to cancel each other out and provide a measure of control over run-away resonant feedback.

LOW FREQUENCY EQ LEVEL CONTROL [2]
This active control can either boost or cut the low frequencies coming from your guitar. It is voiced at 125Hz (hertz) and its primary effect is on the fundamental low string tones. When it's in the center detent position it is effectively out of the circuit and gives you true flat response (no effect).

HIGH FREQUENCY EQ LEVEL CONTROL [3]
This active control can either boost or cut the high frequencies coming from your guitar. It's voiced starting at 1Khz (kilohertz) and reaches its full effect around 8Khz. Its primary effect is on the string harmonics. When it is in the center detent position it is effectively out of the circuit and gives you true flat response (no effect).

SWEEPABLE MID FREQUENCY CONTROLS
This function has four components: **Level**, **Frequency**, **Shape/Q** and **Range**. Together, these controls provide you great power to shape and season your sound. Here's what they do.

Mid EQ Level Control [4]
This knob is labeled Mid EQ, but it can be any frequency that you assign. This active control can either boost or cut the volume of many frequencies coming from your guitar. Its voice is determined by where you set the **Freq/Hz** knob and the **x10** range button. When it's in the center detent position it is effectively out of the circuit and gives you true flat response (no effect).

Frequency Select Control (Hz) [5]
This knob determines at what frequency the **Mid EQ** control will be voiced. It is variable from 80Hz all the way up to 8Khz depending on the position of the **x10** range button. Sweeping this control allows you to find specific frequencies that you may want to enhance or trim.

X10 Range Button [6]
This button is a simple multiplier – it looks at where the **Frequency** select control is and then takes it up TIMES TEN (x10). For example: 80Hz becomes 800Hz, and 800Hz becomes 8Khz.

Shape / Q Control [7]
This function controls the shape of the selected frequency. In the wide position (counter-clockwise) it will affect a wide range of notes on either side of the note defined by the **Frequency Select** control. This setting affects the tone of the entire guitar. In the narrow position (clockwise) it will affect only the notes very close to either side of the defined frequency, thus pinpointing specific strings or pitches.

EFFECTS LOOP BUTTON [8]
Selects the rear panel Effects Loop and routes your sound through it. (See Rear Panel Controls for loop placement options.)

MAIN VOLUME CONTROL [9]
This controls the main output volume of your K4. The center detent position is usually enough level to drive any equipment "downstream" from the K4.

MUTE BUTTON [10]

When pressed IN this button mutes the main output so you can tune discreetely or make private adjustments to your sound. The **Headphone** and **Tuner** outputs are not affected so you can still listen to what you are doing.

HEADPHONE VOLUME LEVEL CONTROL [11]

The **Volume Level** control produces independent control of the level going out the **Headphone** jack. Please be careful, there's enough here to damage your hearing.

HEADPHONE OUTPUT JACK [12]

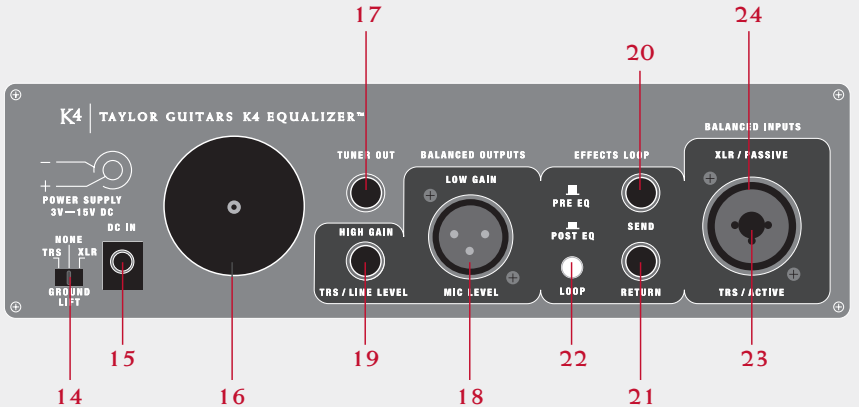
Plug your headphones in here and monitor your sound in private. Recommended headphones include: Sennheiser HD280 Pro (64ohm), Sony MDR7506 (63ohm). Please note: the **Headphone** output is driven by a separate circuit and does not receive the sonic benefit from the transformer that feeds the main output. It's best to monitor the **Main** outputs for critical listening.

POWER BUTTON [13]

IN is on (LED indicator glows green), OUT is off.

Note: the power LED changes from green to red when the batteries drop below the required voltage for operation. Approximately 30 minutes of operation will remain; please plug in the power supply as soon as possible.

REAR PANEL CONTROLS



[14] Ground Lift switch

[15] DC Power Inlet

[16] Battery Compartment

[17] Tuner Output

[18] XLR Balanced Output (mic level – low gain)

[19] TRS Balanced Output (line level – high gain)

[20] Effects Loop Send Jack

[21] Effects Loop Return Jack

[22] Pre/Post EQ Button

[23] TRS Input (active sources)

[24] XLR Input (passive sources)

GROUND LIFT SWITCH [14]

This three position switch can help you eliminate potential ground conflicts that result in ground-loop noise. IMPORTANT: the normal operating setting for the **Ground Lift** switch is in the NONE position. Lifting the ground should only be explored in cases where ground conflicts cannot be resolved by lifting the ground on other elements of your system.

POWERING THE K4

Your K4 was designed to be powered primarily by the external DC power supply (wall wart). But in case you forget to take your power supply to a gig, we've included the ability to temporarily power the K4 with batteries. Fresh batteries will get you through a gig and offer approximately10 hours of operation, but you should use the power supply whenever possible.

DC Power Inlet [15]

This barrel-type jack is wired Tip positive/Sleeve negative and will accept special AC adaptors that deliver 3.0 to 15 volts (DC). This means you must make sure the adaptor you use has an output of 3~15 volts DC and is rated for 800mA (milliamps).

BATTERY COMPARTMENT [16]

Insert two fresh 1.5 volt "C" batteries here. Taylor uses and recommends Duracell® for optimal performance and long life. It is not necessary to have batteries in place if you are using an external DC source but it is advisable because if the power plug gets pulled out, your music will continue seamlessly on battery power. Please note: plugging in a DC power supply does not charge onboard batteries.

Note: the power LED changes from green to red when the batteries drop below the required voltage for operation. Approximately 30 minutes of operation will remain; please plug in the power supply as soon as possible.

TUNER OUTPUT [17]

Use this output to send signal to your tuner. It's located before the EQ circuit and is always on. Press the **Mute** button to turn off the main output so you can tune discreetly onstage.

BALANCED OUTPUTS

Whether you're feeding an amp, a mixer, a stage box (snake), or a stadium's PA, your K4 has got the right outputs for you.

XLR Balanced Output (mic level – low gain) [18]

This is a transformer-coupled, balanced and floating output. Use this output to feed anything from a compact personal PA all the way up to an arena system. When used with a high-quality cable into another balanced device (like a good mixer) this output can drive long cable runs with little or no signal loss or noise. You'll also want to know that the XLR connector is wired as Pin 2 Hot/Pin 1 Ground/Pin 3 Neutral, and that it can run unbalanced as well.

TRS Balanced Output (line level – high gain) [19]

The balanced output also appears on this jack in parallel with the XLR Output. It's the same quality signal, just a different type of connector. Use a high-quality 1/4" TRS (Tip/Ring/Sleeve) cable and you'll get the same great results as above. This means you can drive two devices simultaneously – like an onstage amp and the PA at the same time.

Note: the XLR and TRS outputs may both be used unbalanced as well (e.g. a regular guitar cable out of the TRS jack). Operating one output unbalanced will cause both outputs to become unbalanced since they are connected internally.

EFFECTS LOOP

This is the place to connect your volume pedal, and/or any effects you'd like to hear on your guitar. The Effects Loop is fully balanced when used with TRS balanced cables. You may also use it with standard unbalanced 1/4"

cables as well, but running it unbalanced will result in 6db less gain. In addition, you can select where the Effects Loop is located within the circuit by using the **Pre/Post EQ** button.

Effects Loop Send Jack [20]
This jack sends the sound of your guitar to external devices. Connect a 1/4" guitar cable (or TRS balanced cable if using balanced effects) from this jack to the *input* of your volume pedal or effects device(s).

Effects Loop Return Jack [21]
This is where the affected sound returns to the K4. Connect a regular guitar cable (or TRS balanced cable if using balanced effects) to this jack from the *output* of your volume pedal or last effect device(s).

PRE/POST EQ BUTTON **[22]**
This button determines the position of the **Effects Loop**. PRE means the effects loop comes before the EQ section on the front of your K4. POST means the effects loop will come after the EQ section. The PRE setting is best if you are using a compressor/limiter in the loop. POST is better if you are using chorus, delay or other modulation type effects.

BALANCED INPUTS
This is the input for your K4. It will accept a wide range of signals and levels, and it has been optimized for use with Taylor Expression System-equipped guitars. This jack will accept either an XLR or a TRS plug.

TRS Input (active sources) [23]
This is the preferred connection for your Active Taylor ES-equipped guitar (those with onboard controls). It's optimized for the low-impedance, wide dynamic range and high-gain levels the Taylor ES can produce. Be sure to use a high-quality balanced cable (TRS to TRS) from your Taylor ES guitar to the K4. This is also the input of choice when using any instrument with an active on-board preamp. (Remember to set your Taylor ES onboard controls to their start position.)

XLR Input (passive sources) [24]
This input is designed to accept low-gain levels from passive Taylor ES-equipped guitars, other passive pickup systems, or dynamic microphones. See Chapter 4 for more details on selecting the best input for the job.

CHAPTER 4: TIPS

DETERMINING WHICH INPUT TO USE

The dual function **Input** jack of the K4 allows you to plug in many different types of instruments and even some types of microphones. The TRS input **[23]** is optimized for high-gain input sources such as a Taylor guitar with the onboard Expression System preamp, or other preamp equipped guitars. When you plug in an XLR cable **[24]**, the preamp is optimized for low-gain input sources such as passive Taylor ES-equipped guitars, other passive pickup systems and dynamic microphones.

Careful attention must be used when choosing the XLR or TRS input to insure the best gain (level) matching. Here are a few common examples:

Use the TRS [23] (active) Input for:

- Active Taylor Expression System guitars – these are guitars with the onboard three-knob preamp and batteries.
- Guitars with other active preamps.
- Bass guitars with active electronics.
- Other instruments with active preamps or electronics.

Note: a standard 1/4" guitar cable may be used, but the system will become unbalanced.

Use the XLR [24] (passive) Input for:

- Passive Taylor Expression System guitars – these are guitars without an onboard preamp or batteries.
- Guitars with other passive pickup systems.

- Bass guitars with passive electronics.
- Dynamic microphones.

Note regarding microphones

Your K4 may be used as microphone preamp like those found in high-end recording studios. There are some limitations, however. Since the K4 was designed primarily for use with acoustic guitars, it does not offer the phantom power that is required for condenser mics. If you're feeling experimental, try plugging in a traditional dynamic microphone (like a Shure SM-57) and hear what the K4 can do for you.

USING THE EFFECTS LOOP

The Effects Loop of the K4 is a specially designed feature that allows you to integrate external effects and/or a volume pedal without degrading the pure analog signal path between your guitar and the K4. Here's how to get the best results when using the external effects loop.

Explanation

Gather the item(s) you will be using in the loop. (e.g. chorus, delay, compressor, volume pedal). Determine the position of the **Effects Loop** (**Pre** or **Post EQ** button **[22]**). The position of this button determines the position of the Effects Loop. *PRE* means the effects loop comes before the EQ section on the front of your K4. *POST* means the effects loop will come after the EQ section. The **PRE** setting is best if you are using a compressor/limiter in the loop. **POST** is better if you are using chorus, delay or other modulation type effects, as well as a volume pedal. Plug a cable from the **Effects Loop Send [20]** to the *input* of your first device. Continue patch-

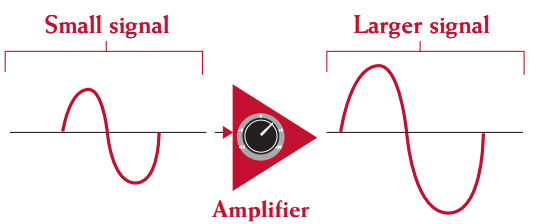
ing together your effects until the *output* of your last device is plugged into the **Effects Loop Return [21]**.

Disengage the Effects Loop by using the **Loop** button **[8]** on the front of the K4. Listen to the output level and make a mental note of the volume. Push the **Loop** button **[8]** in to activate the Loop and then use the *output level controls* on your effects to match the level when the Loop is not active. This may take a few moments of tweaking, but it's very important to make sure these levels are in balance. The mix level of the effect should be set at this time as well.

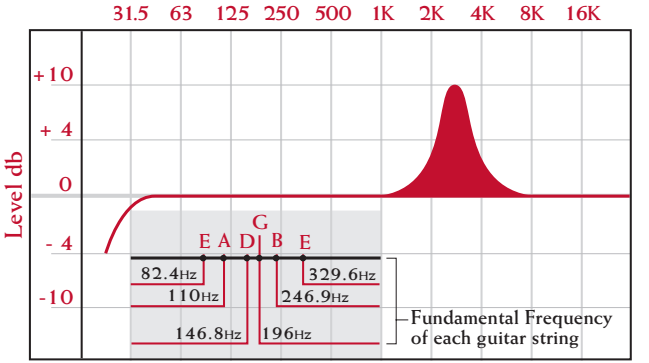
HOW TO USE A PARAMETRIC EQ — AN EQ PRIMER FOR GUITARISTS

During the development of the K4 we discovered many guitar players did not have a firm grasp of the terms and concepts of a parametric equalizer. With that in mind, we thought we'd take a few moments to share with you some of the basics of understanding and using this type of EQ.

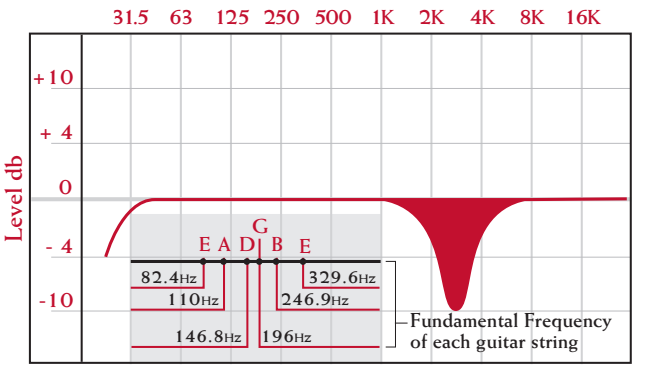
HELPFUL EQ ILLUSTRATIONS AND TERMS



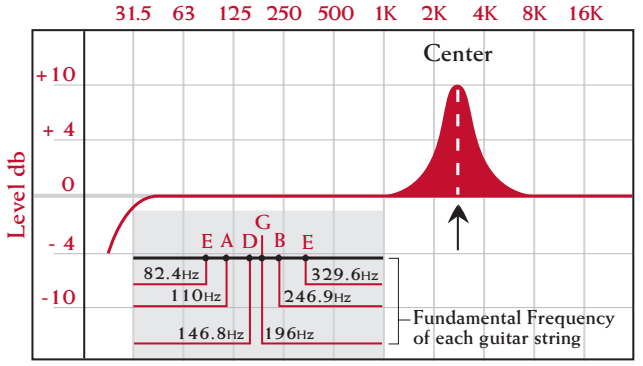
Gain — *the official term for volume (technically, volume added to input signal)*



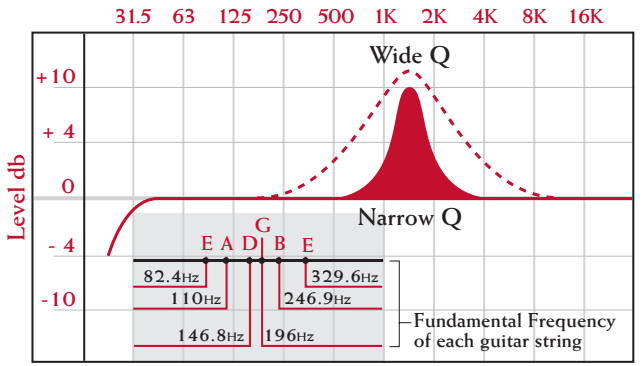
Boost — *adding gain at 3Khz*



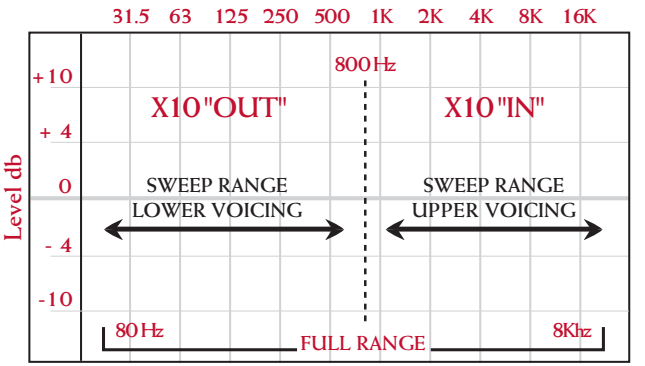
Cut — *subtracting gain at 3Khz*



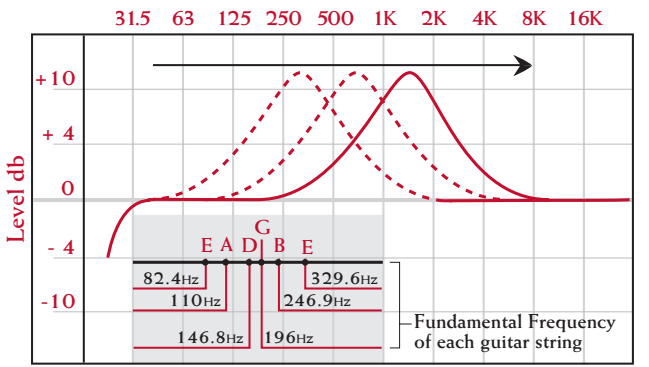
Center Frequency — *the frequency (pitch) where the boost/cut will have the most effect*



Shape/Q – *the Quality factor (Q) determines the shape of the resulting boost/cut*



Range — *determines where the center frequency will be voiced*



Sweep — *the act of moving the center frequency knob from fully-counterclockwise to fully clockwise*

Once you have a grip on these terms, using a parametric EQ is fairly easy. The Low EQ and High EQ of the K4 are shelving-type filters. Their upper knee frequencies are fixed at 125Hz (low) and 8Khz (high), respectively. The real power of your K4 lies with the sweepable Mid-band EQ controls. Because this band is fully parametric, you can boost or cut frequencies anywhere from below the Low EQ band all the way past the High EQ, and everywhere in between. Here's how to decide where (what frequency) you might want to use the Mid band.

Set the controls like this to start:

- Boost the **Mid EQ** volume knob **[4]** all the way up (turn fully clockwise)

- Grab the **Frequency** knob **[5]** and *sweep* it back and forth until you hear the note or string (frequency) you'd like more or less of…remember, use the **Range** button **[6]** to choose the lower or upper voicing.

- Now turn down the **Mid EQ** volume **[4]** (gain) until you're achieving the desired effect (boost or cut).

- Turn the **Shape/Q** control **[7]** to broaden or narrow the overall effect of your choice.

SAMPLE SETTINGS / PLACES TO START

We've included these sample settings as a helpful resource to give you a variety of different tones. Please remember, every player's guitar, hands and ears are unique. Settings that work for one player may need tweaking for the next. Do some experimenting and find the tones that are pleasing to you.

X10 Button out

Bass boost setting and its effect on the signal

X10 Button out

Mid cut setting and its effect on the signal

X10 Button in

Treble boost setting and its effect on the signal

CHAPTER 5: TROUBLESHOOTING AND MAINTENANCE

Please review the following information for solutions to many common issues.

No Sound

No power

- Make sure the **DC power supply** is connected to the K4 and to a functioning outlet.
- Make sure the K4's **Power** button is pushed in (ON position).

Dead batteries

- Install fresh "C" cell batteries – negative (flat side) first.

Cable issues

- Make sure your cables are plugged in securely throughout your entire signal chain. This includes inputs and outputs, the effects loop, your guitar, amp and/or mixer.
- Make sure you're plugged into something that produces sound (amp or PA mixer).

Mute button on

- Make sure the **Mute** button is not pushed in.

Effects loop circuit incomplete

- Check the cables connecting everything in the effects loop and make sure it makes a complete circuit.

Main volume control turned off

- Set the main **Volume** control to the center (detent) position.

Distorted Sound

- Weak batteries.
- Internal clipping (over-boosted EQ).
- Overdriving next device in signal chain.
- Overdriving a piece of gear in the effects loop.
- Using wrong input or output.

Low Output Level

- Weak batteries.
- Low **Volume** knob setting.
- Wrong input or output.
- External effects loop device not returning enough level.

Too Much Output Level

- Over-boosted EQ.
- Main **Volume** set too high.
- Wrong output (or input) jack.

Ground Loop noise

- What's connected?
- General Grounding Note: If after hooking up your system it exhibits excessive hum or buzzing, there is an incompatibility in the grounding between the units somewhere. Here are some things to try:

▼ Try combinations of lifting grounds on units that are supplied with ground lift switches.

- If your equipment is in a rack, verify that all chassis are tied to a good earth ground, either through the line cord grounding pin, the rack screws, or to another chassis.

- Units with outboard power supplies do not ground their chassis through the line cord. Make sure that these units are grounded either to another chassis which is earth grounded (such as an amplifier), or directly to the ground screw on an AC outlet cover.

MAINTENANCE

Cleaning Instructions

All electronic devices are sensitive to moisture. See Safety Suggestion 7 in the Warning section inside the front cover of this User Guide.

To clean the K4 we recommend that you use a slightly damp, soft cotton cloth to remove any smudges or dirt, then wipe dry with a soft cotton cloth. To remove difficult smudges, use a diluted mild detergent such as dish soap applied to a soft cotton cloth. Then wipe dry. Do not use any harsh abrasives or chemicals, as they can damage the finish.

CHAPTER 6: REFERENCE AND WARRANTY

GLOSSARY

Active – typically refers to a circuit that requires power from batteries or another external source.

Balanced – a cable or circuit that uses two specifically configured signals and/or conductors to maximize audio quality and performance.

Band – a defined or limited range of frequencies.

Boost – to add gain (volume) to a selected frequency or range of frequencies.

Cable(s) – the professional name for "cord." A variety of different types of cables may be used to transfer signals between two or more pieces of audio gear, i.e. a TRS/TRS cable or a standard guitar cable.

Clip (clipping) – the technical term for distortion. Specifically defining the moment when a signal peaks too high inside a device and is clipped off, resulting in unwanted distortion.

Conductor – a wire or strand of wires that carry a signal. Standard guitar cables have two conductors, one for the signal and one for the shield (ground). Balanced cables have three conductors – one for signal positive, one for signal negative, and one for shield (ground). Stereo cables have three conductors, too. One for the left channel signal, one for the right channel signal, and one common shield.

Connector(s) – the generic name for both plugs and jacks.

Cut – to subtract gain (volume) from a selected frequency or range of frequencies.

Direct Box – a simple device that converts high-impedance signals to low-impedance.

Direct Interface – the Taylor K4. More than just a simple direct box, a direct interface features EQ, multiple input and output options, and other features that make it the control center for your performance.

Distortion – the unwanted result of clipping, or overdriving an input.

EQ – short for equalizer or equalization. Also a synonym for tone controls.

Filter – a name for a circuit that boosts, cuts or otherwise allows selected frequencies to be controlled and reshaped.

Frequency (ies) – the mathematical name for the pitch (notes) of all sound.

Typically defined as the number of beats (cycles) per second, i.e. 440 Hz.

Gain – making a signal larger.

Input – where signal enters a device or circuit.

Jack – the name for the connector where you plug something in. Jacks come in various sizes and configurations. Typical jacks include 1/4", TRS and XLR.

Level – an amount of signal usually described in decibels (db).

Output – where signal exits a device or circuit.

Overdrive – the act of over driving or sending too much level into the input of a device and causing clipping (distortion).

Parametric – a type of EQ that features complete parameter control over frequency selection, gain level (boost/cut) and shape/Q.

Passive – a circuit that does not require power to work.

Plug – the name for the metal piece (connector) at the end of your cable. A plug mates into a jack to complete a circuit.

Preamp – a specially designed circuit that amplifies a low gain (level) signal. Preamps may also include EQ and other useful features.

Range – the measure or distance between two defined frequency points.

Shape/Q – represents the definition of the width of a specified filter. Typically defined as narrow (notched or spiked) and wide (broad or scooped).

Signal – the voltage in an electronic circuit that is produced from outside the circuit by a device such as a guitar or microphone.

Sweep (ing) – the act of moving through a range of frequencies.

TRS – short for Tip/Ring/Sleeve. A TRS plug or jack has three conductors and is typically 1/4" in diameter.

Unbalanced – a cable or circuit that uses only two conductors (signal and shield/ground).

Unity – an unchanged signal, nothing added or subtracted.

XLR – the name of the three conductor connector (plug or jack) typically used for balanced cables and microphones/mixers.

PERFORMANCE SPECIFICATIONS

GAIN

Measured with all EQs set flat (zero detent position).
Volume control at line-up (center detent). With - 2 dbu at 1.0 Khz applied to the TRS/ACTIVE Input or -34 dbu applied to the XLRF/PASSIVE input, the following outputs levels are obtained: MAIN TRS/LINE LEVEL output and EFFECTS LOOP SEND, + 6 dbu. +/- 1 db When the VOLUME control is at MAX position, the MAIN TRS/LINE LEVEL is increased by 10 db to: +16 dbu +/- 1 db. The EFFECTS LOOP send is not affected by the volume control.

INPUT IMPEDANCE and HEADROOM

TRS/ACTIVE Input	15k ohms ± 20%
Headroom	>20 db
XLR/PASSIVE Input	500 ohms ± 20%
Headroom	>20 db +/- 1 db
Effects Loop Return	20k ohms ± 20%
Headroom	>20 dbu +/- 1 db

OUTPUTS

Main TRS output

Maximum load impedance	600 ohms.
Maximum output, no load	+22 dbu +/- 1 db
Maximum output, loaded 600 ohms	+20 dbu. +/- 1 db
Source Impedance (balanced and floating)	110 ohms +/- 20%

XLRM Output

This output is paralleled off the main transformer and padded in order to feed low level to a console or other equipment that normally only accepts microphone levels.

Maximum load impedance	600 ohms
Maximum output, no load	-17 dbu +/- 1 db
Maximum output into 600 ohms load	-18 dbu +/- 1 db
Source Impedance balanced and floating	260 ohms +/- 20%

Effects Loop Send

Maximum load impedance	600 ohms
Maximum output, no load	+22 dbu +/- 1 db
Maximum output, loaded 600 ohms	+19 dbu +/- 1 db
Source Impedance balanced, non-floating	16 ohms +/- 10%

Output level is reduced by 6 db when used unbalanced.

Tuner Output

Unbalanced (tip-sleeve) connection

Maximum load impedance	10k ohms
Maximum output, no load	+10 dbu +/- 2 db
Maximum output, loaded 10k ohms	+7 dbu +/- 1 db
Source Impedance	4500 ohms +/- 10%

Headphone Output

≤100 ohms nominal impedance

+16 dbu maximum output for Left and Right monaural feed for studio quality headphones

Headphone volume control is independent of main gain control

Mute Switch

Mutes both XLR and TRS Main outputs

Headphone output, effects loop and tuner outputs are unaffected

Frequency Response

Measured with all EQs set flat (zero detent position)
VOLUME control at line-up (center detent). With -2 dbu applied to the TRS/ACTIVE Input at any frequency between 35 Hz and 20 Khz.
Response at Main Outputs: + 6 dbu. +/- 2 db

Harmonic Distortion, Main Outputs

Measured at 1 Khz, +15 dbu output: Less than 0.006 %*

**Total Harmonic Distortion + Noise*

Equivalent Input Noise, measured at main outputs, EQ flat.

XLR Input terminated with 150 ohms, 22Hz – 22 Khz,
Better than –86 dbu
TRS Input terminated with 40 ohms, 22Hz – 22 Khz,
Better than –125 dbu

EQ SPECIFICATIONS

Built-in High Pass Filter eliminates low frequency handling noise
30 Hz cut-off @ 18 db per octave.

Low EQ	Frequencies below 450 Hz lift or cut 10 db +/- 1.5 db
Hi EQ	Frequencies above 1600 Hz lift or cut 10 db +/- 1.5 db
Mid EQ	Continuously variable from 80-800 Hz or 800-8,000 Hz lift or cut 10 db +/- 1.5 db
X10 switch	Changes the 80-800 Hz range to 800-8,000 Hz.
Shape/Q	Broad or Narrow: A low "Q" raises or lowers the fundamental frequency over a broad range of frequencies. A high "Q" (narrow shape) raises or lowers the fundamental frequency over a narrow band of frequencies.
Pre/Post EQ Switch	Places the Effects Loop input jacks pre or post EQ.

POWER SUPPLY SPECIFICATIONS

Primary power source:
The K4 may be powered from any DC source from 3 volts to 15 volts. Tip (center) is positive. The lower the supply voltage, the higher the current needed by the K4. Choose a power source that will meet the current requirements below.

Example:

Voltage	*Minimum Current Rating*	*Typical Wall Transformer Ratings*
3 volt	400 mA	500 mA
5 volt	230 mA	300 mA
9 volt	130 mA	200 mA
12 volt	100 mA	100 mA
15 volt	80 mA	100 mA

Battery Power: When AC power is not available, 2 "C" size batteries will provide a limited time of backup power. Battery life will depend on the quality and current rating of the battery chosen (see above table). The internal batteries are disconnected when an external DC power supply is plugged into the rear power jack.

Power L.E.D.: The front panel light will remain green when the power is switched on and connected to an external power supply or internal batteries. When the internal battery voltage drops from 3 volts (new batteries) to 2.1 volts, the front panel L.E.D. will change from green to red, reminding you that the batteries need to be changed as soon as possible. Actual battery life will depend on the battery manufacture's specifications.

Ground Lift switch: 3-position switch disconnects the ground pin from either the TRS/LINE LEVEL output (sleeve/shield) or MIC LEVEL output (pin 1 on XLR) to reduce possible grounding problems when connected to other equipment. The center ("NONE") position is the default setting.

LIMITED WARRANTY

Taylor Guitars (TAYLOR) provides warranty coverage of the Taylor Guitars K4 Equalizer (Taylor K4) for a period of one (1) year from date of purchase. Should you experience any issues with your Taylor K4 or are in need of application information, please contact Customer Service at (800) 943-6782.

Register today
Please register your Taylor K4 by returning the enclosed registration card or register online at www.taylorguitars.com. Registering your Taylor K4 will help ensure that service issues are resolved quickly.

1) Terms and Conditions
TAYLOR warrants solely to the original purchaser of this Taylor K4 that it will be free from defects in materials and workmanship under normal use for the period of one (1) year from date of purchase.

This Limited Warranty does not apply:
(a) to normal wear and tear; (b) to asserted defects caused by the modification, misuse, abuse or improper maintenance of the Taylor K4; (c) to asserted defects involving subjective personal likes or judgements; (d) to asserted defects caused by accident; (e) to defects asserted by any purchaser who did not purchase the Taylor K4 from an authorized TAYLOR dealer, or (f) to a Taylor K4 owned by non-U.S. or non-Canadian residents.
TAYLOR K4s PURCHASED OUTSIDE OF THE UNITED STATES/CANADA ARE NOT WARRANTED BY TAYLOR. WARRANTIES, IF ANY, ARE PROVIDED BY THE AUTHORIZED DISTRIBUTOR OR DEALER IMPORTING TAYLOR PRODUCTS.

2) Limitation on Obligations
The obligations of TAYLOR hereunder are limited to repair or replacement of parts of the device found to be defective under this Limited Warranty. In no event shall TAYLOR be liable for any indirect, incidental or consequential damages, including but not limited to time, wages or lost profits, of any nature or kind or for damages to or loss of personal property.
THIS LIMITED WARRANTY IS THE SOLE WARRANTY OF TAYLOR GUITARS WITH REGARD TO THE TAYLOR GUITAR K4 EQUALIZER AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE.

3) No Other Warranties
The Limited Warranty set forth herein constitutes the entire warranty and representation of TAYLOR with regard to its Taylor K4 only. This Limited Warranty shall be controlling over any conflicting terms and conditions of any purchase orders, contracts or invoices which may be executed in connection with the purchase of the Taylor K4. NO representation or warranty made by any TAYLOR salesperson, dealer, agent, representative, or employee shall be binding upon TAYLOR other than as set forth herein.

4) Claim Procedure
Unless purchaser is notified in writing that repairs and service under this Limited Warranty may be made by an authorized TAYLOR dealer or authorized TAYLOR repair center, claims for warranty performance and service shall be made by sending the Taylor K4, shipping and insurance prepaid by the purchaser, to TAYLOR, together with (a) evidence confirming the original purchase by purchaser (such as a copy of the sales invoice or receipt, a credit card slip, or the like); (b) a brief description of the nature of the asserted defect, and (c) the name, address and phone number of the original purchaser to whom the Taylor K4 is to be returned.

Contact Customer Service at (800) 943-6782
prior to shipping your Taylor K4 for service.

TAYLOR shall review the description of the asserted defect, examine the instrument, and make service, repairs and replacements as appropriate under this Limited Warranty. Upon completion of the service, the Taylor K4 shall be returned by TAYLOR to the original purchaser, shipping and insurance to be paid by the purchaser. In the event it is determined that the asserted defect is not covered by or is excluded from this Limited Warranty, the Taylor K4 shall be returned without repairs or replacement, shipping and insurance to be paid by the purchaser.

5) Legal Remedies
Depending upon the state in which you reside, you may have additional legal remedies available under the applicable Commercial Code or Consumer Warranty laws.


QUALITY
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