

Epiphone

Systems Owner's Manual



nanoflex

eSONIC

nanomag





Epiphone eSonic Systems Users Manual

Thank you for choosing Epiphone and the new eSonic acoustic/electric guitar preamp system. Made exclusively for Epiphone by Shadow, the leader in acoustic amplification since 1971, the eSonic features studio-quality fidelity, unrivaled dynamics and greatly increased harmonic content resulting in uncompromised acoustic guitar realism. And, with a 5-year Unlimited Warranty, you can rest assured that it will keep working – performance after performance. Please be sure to visit www.Epiphone.com to register your new Epiphone guitar immediately. To register your eSonic system separately, please visit www.shadow-electronics.com today. By doing so, you will help to protect your investment for years to come.

COMMON CONTROLS AND FUNCTIONS

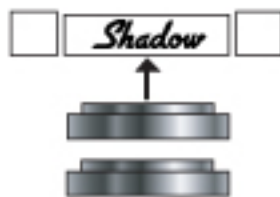
BATTERY – Both the eSonic and the eSonic2 use two (2) environmentally friendly and long-lasting 3 volt #2032 coin-type batteries. These are the same type of batteries commonly used in calculators, watches and cameras and can be found at most drug stores, camera shops and on-line.

When you insert a instrument cord into the output of your guitar, the eSonic preamp turns on. Although it uses a very small amount of power [1.2mA to 1.7mA], to prolong battery life unplug the cord from your guitar when not in use.

Both eSonic preamps are equipped with a green low-battery indicator. This will start to come on approximately 40 minutes before the battery level is considered too low to function properly. When this occurs it is best to change BOTH batteries immediately. Operating at low battery levels will result in malfunction and signal distortion.

To replace the batteries:

- IMPORTANT** - Unplug any cable from your guitar and make sure the tuner is turned OFF.
- Press down and slide up the battery compartment cover. *(Take care not to lose the cover. Put it in a safe place.)*
 - Note the orientation of the "Shadow" logo. Pinch the tabs on both sides of the holder and gently pull the battery hold up and out.



Positive DOWN on
BOTH batteries

- Remove the existing two batteries and discard them. Replace with two new batteries. The correct orientation of the batteries is shown at left.
- After replacing the batteries, insert the battery holder back into the battery slot and press in until it latches securely in place.
- Replace battery compartment cover.

TUNER – Both eSonic preamps are equipped with a very accurate, chromatic tuner. The tuner function is activated when the “tuner” button is depressed. Upon activation, the tuner LED’s will “scan” one time and the red LOW LED will remain on to let you know you are in tuner mode. When the tuner button is activated, there will be no signal output from the guitar.

The tuner has 7 blue LED’s that correspond with A – G notes. There is a green LED to indicate if the note is flat (b) or sharp (#).

There are 3 LED’s that indicate if the note is “in-tune.” The red “LO” LED means that the note is too low. The red “HI” LED means that the note is too high. When the green “TUNE” LED is on, the note is in-tune.

To tune your guitar:

- Pluck the low-E string and adjust until the “E” LED is lit. Adjust the string pitch (*up or down*) until only the green “TUNE” LED is on.
- Stop all string noise by dampening the strings

with your hand.

- Repeat above on each individual string until all strings are in-tune.

The tuner button can also be used as a "mute" function. By activating the tuner, you can avoid the loud "pops" when plugging and unplugging your guitar when an amplifier is connected and live.

PHASE – Both eSonic preamps are equipped with a phase button that inverts the output signal. This allows the eSonic to compensate for acoustic phase differences that can occur between instrument and speaker. This is very useful if you experience any "feedback." In general, if you start to hear feedback, depress the phase button to immediately "cancel" the signals.

About Phase:

When two objects vibrate, in this case a guitar and a speaker, there is a relationship between the vibrations. When a guitar and a speaker vibrate or oscillate at the same time, they are said to be "IN PHASE" as shown in figure 1 below.

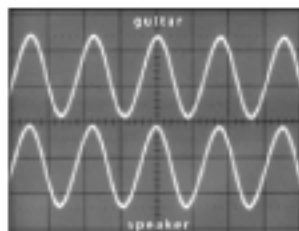


figure 1

As a result, the guitar and the speaker waves will combine causing more energy and often feedback. This is shown in figure 2 below.

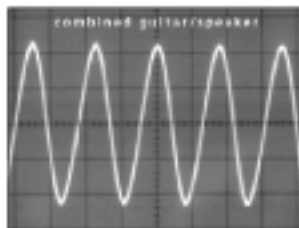


figure 2

By inverting the signal of the guitar with the PHASE switch, you can move the wavelength so that it is "OUT OF PHASE" as shown in figure 3 below.

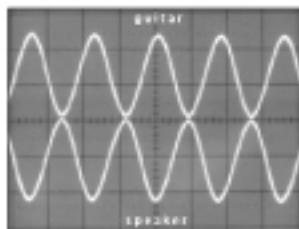


figure 3

In this way, the waves from the guitar "cancel" the waves of the speaker and the increased energy [and feedback] is eliminated as shown in figure 4.

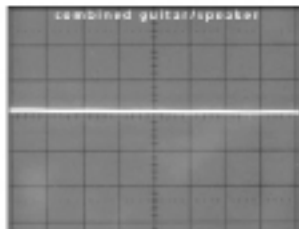


figure 4

So, the PHASE switch can be a powerful tool to control unwanted feedback. But remember, the phase relationship between the speaker and the guitar is affected by many factors including the distance they are from each other. As a result, by simply moving closer or further away from the speaker, you can also change the phase. By combining the PHASE switch with distance as well as volume, you can best control feedback.

Note that the actual sound of the preamp is NOT affected by whether the phase button is UP or DOWN. The best position for the phase button may change, depending on distance, volume, venue, etc. Therefore, you may find that you need to use the PHASE switch more than once during the course of your performance. The best position for the PHASE switch is always the one that doesn't feedback!

VOLUME – Both eSonic preamps are equipped with a master volume control. Use this to control the output level or “loudness” of your instrument. Counter-clockwise reduces volume while clockwise increases volume.

eSonic CONTROLS AND FUNCTIONS

EQ CONTROLS – The eSonic is equipped with 3 EQ controls that work together with each other to shape the overall “tone” of your instrument. The controls are:

- **Treble Knob**
- **Bass Knob**
- **Dynamics Slider**

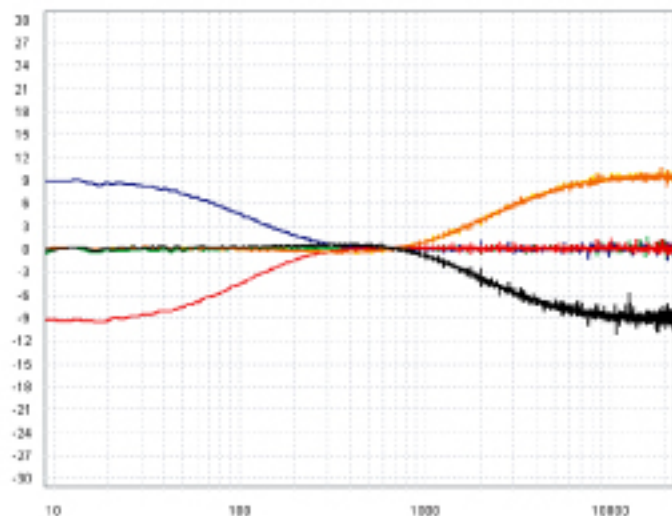
Each control has a center “detent” which can be considered a general purpose setting and a good place to start.

TREBLE – This controls the amount of treble or “highs.” Rotate clockwise to increase treble up to 9dB and counter clockwise to reduce treble up to 9dB.

BASS - This controls the amount of bass or “lows.” Rotate clockwise to increase bass up to 9dB and counter clockwise to reduce bass up to 9dB.

DYNAMICS – The dynamics slider reduces or increases the range of the treble and bass controls. Positioning the slider to the left reduces the amount of EQ dynamics while positioning the

slider to the right increases the amount of EQ dynamics. The dynamic control also alters the EQ shape allowing you to best tailor the sound of your guitar to fit your style of playing, the volume level and the venue.

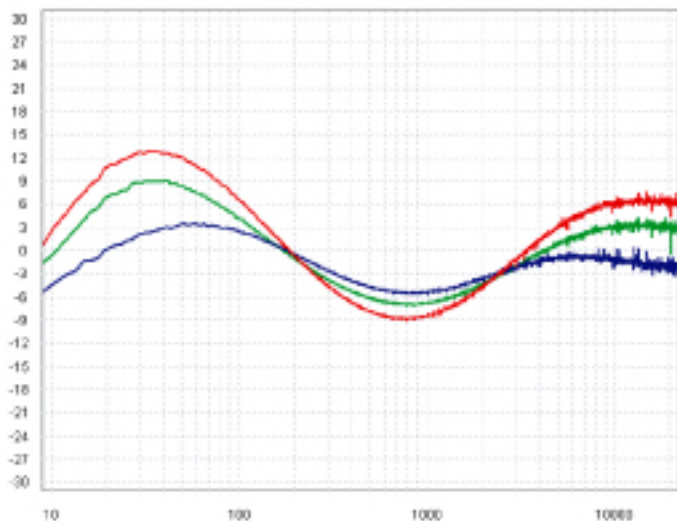


The above graph illustrate the Treble and Bass control function and frequencies.

Gold/Black = Boost/Cut Treble;

Blue/Red = Boost/Cut Bass;

Center Lines = Flat/Center Detent



The above graph illustrates the Dynamics function that works in combination with the Treble and Bass controls.

Green = Center Position;

Blue = Far Left Position;

Red = Far Right Position

eSonic² CONTROLS AND FUNCTIONS

EQ CONTROLS – The eSonic² is equipped with individual EQ controls for each pickup. They are:

- **Mag EQ** (*Nanomag*)
- **Flex EQ** (*Nanoflex*)

Each control has a center “detent” which can be considered a general purpose setting and a good place to start. Each control operates in the same way by increasing Treble up to 9dB when turned clockwise and increasing Bass up to 9dB when turned counter-clockwise. However, these controls are not linear in that other frequencies (*in particular mid-ranges*) are adjusted as well. This “variable” EQ control allows you to better “shape” the sound.

BLEND – The blend control is your “mixer” between the Nanoflex and the Nanomag pickups. Use it to control the overall tone of the instrument as well as control the signals coming out of the Stereo outputs. By using it in combination with the EQ controls, you can really tailor the sound of the guitar to fit your playing style, venue and volume level.

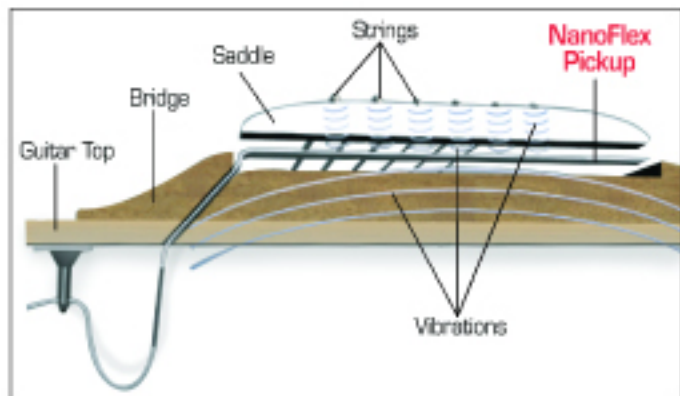
GENERAL SPECIFICATIONS

GENERAL	eSonic	eSonic ²
Signal	Mono	Mono or Stereo
Pickup	NanoFlex (low impedance)	NanoFlex NanoMag (both - low impedance)
Output Jack	Endpin-1/4"	Endpin-1/4" Jack-1/4"
CONTROLS	eSonic	eSonic ²
Tuner	Chromatic Noiseless On/Off Switch On "mutes" signal	Chromatic Noiseless On/Off Switch On "mutes" signal
Blend	n/a	NanoFlex to NanoMag
Dynamics	Left to Right increases dynamic range of EQ controls	n/a
Battery	LED [green]	LED [green]
Indicator	40 min before low	40 min before low
Phase	Inverts phase for feedback control	Inverts phase for feedback control
Bass	+/-6dB	n/a
Treble	+/-6dB	n/a
Mag EQ	n/a	+9dB treble/-2dB bass (clockwise) +9dB bass/-2dB treble (counter clockwise) with variable MidRange
Flex EQ	n/a	+9dB treble/-2dB bass (clockwise) +9dB bass/-2dB treble (counter clockwise) with variable MidRange

TECHNICAL SPECIFICATIONS	eSonic	eSonic [®]
Nominal Input Level	- 20dBu	- 20dBu
Input Impedance	4.7 K Ohm	4.7 K Ohm
Input Overload Level	>10 dB	>10 Db
Output Impedance	600 Ohm	600 Ohm
Nominal Output Level	- 16dBu	- 16dBu
THD	Less than 0.02%	Less than 0.02%
Signal to Noise Ratio	90 dB	90 dB
Battery	#2032 Lithium Cell (2)	#2032 Lithium Coin Cell (2)
Battery Life	120 Hours	100 Hours
Current Draw	1.2 mA	1.7mA
Weight <i>(incl. batteries)</i>	2.19 oz (62g)	2.33 oz (66g)
Warranty	Worldwide Unlimited 5-Year <i>(see warranty for details)</i>	Worldwide Unlimited 5-Year <i>(see warranty for details)</i>

ABOUT THE eSonic SYSTEMS

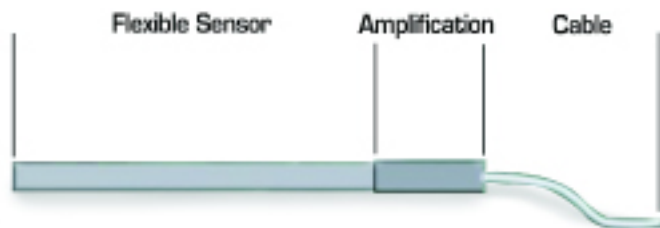
NanoFlex™ Pickup – The invention of the Nanoflex pickup technology is the latest and by far the most important step in pickup technology since the first guy wrapped wire around a magnet to produce an electromagnetic field. The term "Nanoflex" refers to its ultra thin (nano-like) profile and its flexibility that allows it to conform to any surface shape. This assures complete guitar-to-pickup-to-saddle contact.



Nanoflex reads each individual string vibration and the vibrations of the guitar.

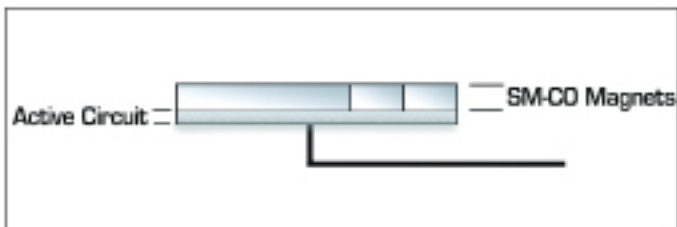
Unlike other under-saddle pickups, the Nanoflex design utilizes 7 highly-sensitive and ultra-responsive layers of sensor material to not only sense the vibrations of the strings but the vibrations of the guitar body as well. This produces results equivalent to a condenser-microphone mixed with an under-saddle pickup.

The Nanoflex is the first pickup to incorporate active amplification directly at the pickup. As a result, the signal does not pass through even a single millimeter of the wire and therefore, the signal quality is uncompromised. Combined with its 100% shielding, the Nanoflex is absolutely and completely noise free. This is different from all other acoustic pickup technology.



On-board active electronics and amplification make Nanoflex the FIRST low-impedance pickup of its kind.

Nanomag™ Pickup – Ordinary magnetic pickups have been used successfully to amplify electric guitars for years but when used to amplify acoustic guitars, they fail to deliver desirable acoustic response. That's because magnetic pickups have a very narrow bandwidth with an over-emphasis on mid-range frequencies.

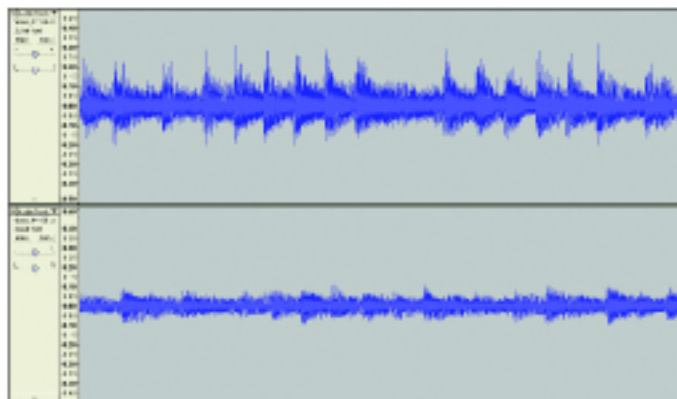


The patent pending low-impedance Nanomag design features active electronics and powerful Samarium-Cobalt magnets.

The Nanomag, referring to its small size and its composition, is a completely new kind of magnetic pickup that combines 3 Samarium-Cobalt magnets with on-board, active electronics to produce a low-impedance pickup with absolute linear response and an uncharacteristically wide frequency range.

One of the single-most important qualities that make an instrument sound the way it does is harmonics. Because ordinary under-saddle or transducer pickups fail to capture the very high and very low harmonic content, the true acoustic character of the instrument is lost. The Nanomag is able to capture all the harmonics - from the lowest to the highest - with incredible accuracy. All with ZERO noise or artificial coloration. This again is different from all other acoustic pickup technology.

Nanoflex/Nanomag Combination - While each pickup individually outperforms all others, the combination of the two is extraordinary. The Nanoflex captures string and body vibrations while the Nanomag, mounted at the harmonic-rich end of the fingerboard, captures all the string energy and lush harmonic content. Now, the acoustic guitar has never sounded so real and alive with all its subtle nuances and distinct characteristics.



The above image compares the Epiphone eSonic2 system (top) with a leading competitor.

Note the incredible difference in signal harmonics, dynamics and range.

If you'd like to read more about the eSonic Systems, please visit www.Epiphone.com.

Once again, thank you for choosing Epiphone and please remember to register your guitar on-line.

Epiphone

performance is our passion

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