Acus Phantasma

Acoustic Guitar Pickup and Preamp

USER MANUAL

ACUS SOUND ENGINEERING SRL
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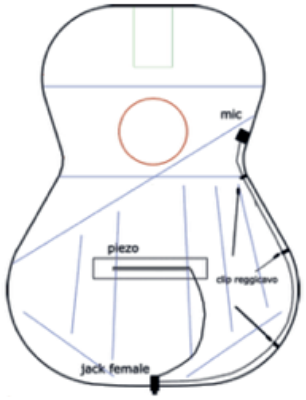
fig.4

insert the output jack from the inside through the 12mm hole (fig. 4)

fig.5

insert the piezo from the 2.5mm hole as shown below (fig. 5)



Use the supplied adhesive to install the microphone about 5mm from the soundboard on the treble side (fig. 6).

Since the microphone is adjustable, you can experiment with other alternative positions. After installation, close the self-adhesive clips of the microphone cable.

Phantasma On Board Kit

The "Phantasma On Board kit" allows you to properly control the Phantasma preamp.
It is composed of an under saddle high sensibility piezo of only 0.8mm of thickness and a high-quality microphone capsule both connected to a JFET preamplifier, that requires no battery and it is powered by the external preamp through a stereo output jack.
The Phantasma On Board Kit is shown in fig. 1.

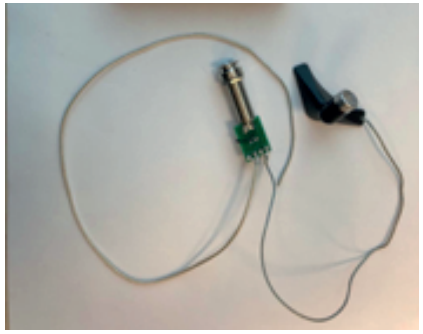


fig.1

Here are the assembly instructions:
drill a hole that will be 2.5mm in diameter for the piezo, just below the "E-first" on the treble side (fig. 2)

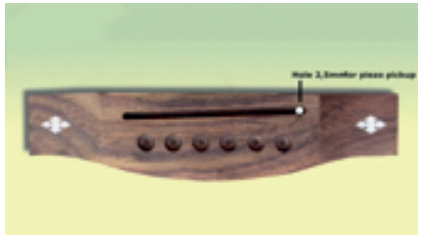


fig.2

for the output jack, drill 12mm hole.
To avoid splintering the wood, use a piece of painter's tape (fig. 3)


fig.3

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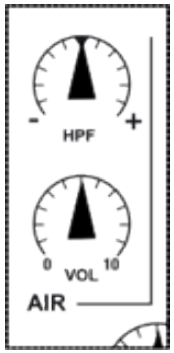
Acoustic Guitar Pickup and Preamp

The "Acus Phantasma" is designed to reproduce the sound of your guitar in the most natural way possible, including all of the harmonics of your instrument.
The final sound is obtained by selecting and mixing the frequencies produced by the two transducers (Microphone and Piezo) previously installed inside your guitar ("Phantasma On Board kit").

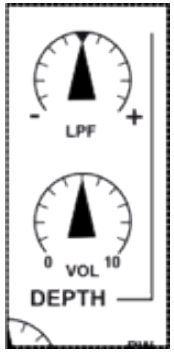
These controls include two sections: AIR and DEPTH.



section 1 AIR:

- Physical control of the microphone volume,
- HPF control (high-pass filter).

These two controls manage the frequencies produced by the microphone, allowing you to add natural harmonics to the sound, making it possible to limiting any feedback issues.

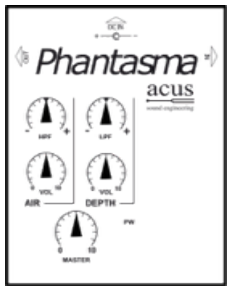


section 2 DEPTH:

- Physical control of the Piezo volume,
- LPF control (low-pass filter).

These two controls manage the frequencies produced by the Piezo, especially the LPF filter that eliminates the noise due to the release of the vibrating string (buzz) and improves the often cold and unnatural sound of the classic electric Piezo pickups, adding body and depth without compromising the attack.

Recommendations for use:
Below is a list of settings depending on the guitar you use:



Flat:
You should start with a flat basic regulation.
(The Master must be adjusted according to the input volume of the amplifier to which it is connected).
Starting from here you can adjust the preamp controls according to the characteristics of the connected guitar to get the best perception of your instrument.

We suggest the first two sets of adjustment based on the strings and the soundboard of your guitar:

Acoustic Guitar with steel strings:
This adjustment causes the strumming sound to be very natural with a good presence and projection of the low frequencies.
In Finger style you can try to reduce the LPF for greater intelligibility and dynamics in the arpeggios.

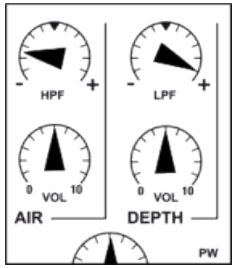
Classical Guitar with nylon strings:
In this adjustment we advise you to act on the HPF filter positioning it towards the "+" in order to cut the low frequencies of the Mic, while positioning the LPF as shown in the figure, you will return to an optimal percentage of mid-low frequencies particularly effective on arpeggios and harmonies.

Flamenco Guitar with nylon strings:
Flamenco guitars require a greater amount of microphone signal for a greater projection of the sound and a response to the touch from the soundboard (Golpe).
With the adjustment shown in the figure, the HPF cuts some sub-frequencies which are then returned by the piezo LPF making the sound clear, minimizing the possibility of feedback.

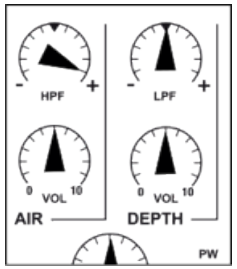
Variations of the setting based on the material of the soundboard:

Different soundboards generate different harmonics; here we offer you some setting examples resulting from extensive tests on different woods.

Usually, guitars with cedar tops (rosewood or mahogany back and sides) tend to give a round sound emphasizing the medium bass frequencies, while the guitars with spruce top (maple or sycamore back and sides) tend to be more clear particularly in the high harmonics.
In the "Phantasma" preamp the settings of the two HPF and LPF filters allow you to optimize the acoustic image based on the woods used on your guitar, either with steel or nylon strings.



Guitar with Spruce Top:
With the filter's settings shown in the figure to the left, the mic through HPF attenuates the mid-high frequencies while the piezo through LPF is gives a greater depth, optimizing projection and sound dynamics.



Guitar with Cedar Top:
This adjustment tends to give more definition and opening over the high harmonics of the cedar top, which provides warm and round sonority with emphasis on medium bass frequencies, to the advantage of musicality, although it provides a lower sound projection.

Note:
A. *When the output cable is inserted, the blue light confirms that the system is operating. If the blue light does not light up by connecting the output cable, check the battery or power supply. To prolong the life of the battery it is advisable to disconnect the output cable when not in use (the blue light will be off).*
B. *You must connect the instrument to the input jack only using the supplied stereo cable (the use of a mono cable will only activate the Piezo).*
The Acus Phantasma will allow you to gradually enhance your musical style and the best characteristics of your instrument. You will surely be able to customize the system's settings and shape them to your musical taste. We advise you to experiment and exploit the full potential of the system, to obtain complete timbre satisfaction and enhance your style.