

Element Active System

Installation Manual

PACKAGE CONTENTS

One Element Active System with undersaddle pickup, endpin preamp w/volume control attached.

One battery bag

Three self-stick wire clips

OVERVIEW AND CAUTIONS

The Element Active System combines the Element undersaddle pickup with a pre-contoured, all-discrete Class A endpin preamp. A soundhole mounted volume pot gives you additional control and versatility without requiring any other modifications to your instrument. The Element Active is designed to interface with just about anything you plug into, but best results will be realized through a high-quality, full-range PA. Plugging in and unplugging the cord from your guitar will turn the preamp on and off.

We recommend that this pickup system be installed by a professional dealer/installer. We do not provide installation advice or support for home or hobbyist installations.

Installers: Please read the instructions carefully before proceeding. We will not be responsible for any damage to the guitar or personal injury from installation, improper installation, use or misuse of the product.

STRAPJACK/PREAMP INSTALLATION

If your guitar already has a half inch hole in the tail block, proceed to the installation.

Drilling the strapjack hole: This jack requires a clean, half inch hole in the tail block of the instrument. The easiest way to drill this hole accurately and effectively is to use a half inch "step" drill-bit, available at any hardware store. Other options are to use a "Forstner Bit", or a "Brad-point bit".

CAUTION: DO NOT USE A SPADE BIT OR STANDARD DRILL BIT FOR THIS!

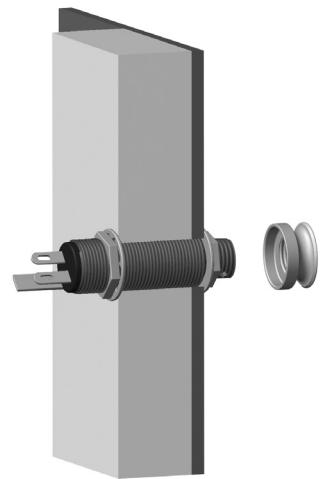
Begin by placing a piece of masking tape over the area to be drilled (generally, in the center of the tail block). This is to protect the guitar's finish. Drill a pilot hole approximately 3/16" dia. Now you can finish up using the step-drill. Place the tip of the step-drill in the pilot hole, line up the drill as straight as you can, and proceed to drill until you've gone all the way through the tail block.

Installing the strapjack: Remove the strap ring, retaining nut, and one washer from the end of the jack. There will still be one flat washer, one star-locking washer, and one nut remaining on the threaded barrel of the jack.

Adjust this nut and washers to a depth on the barrel that will allow approximately 90% of the smaller threaded portion of the jack to extend beyond the tail block outside the guitar. Bring the jack down through the soundhole into the guitar and insert it into the pre-drilled hole in the tail-block to check the adjustment. There should be a couple of threads remaining within the hole.

With the jack in place, lay the remaining washer over the threads and attach the external retaining nut until it's tight. Finish by attaching the strap ring.

Upon completion, the small threaded section of the jack should be flush or near flush with the end of the strap ring. If the threaded section is recessed too far, the plug will not make electrical contact with the jack! Therefore, be sure to adjust this until it is right.



Jack tip recessed inside of strap-ring



Jack tip flush with strap-ring

PICKUP INSTALLATION

Notes: For optimum performance of the Element pickup, the bridge slot must have a perfectly flat surface, free from high spots and loose debris. The slot depth should be $3/16"$ (.187") or deeper. The commonly known 50/50 rule applies: "The amount of saddle visible above the bridge surface (with pickup installed) should be no greater than the amount of saddle in the slot beneath the bridge surface".

The bottom surface of the saddle must also be perfectly flat to establish even contact along the pickup between the saddle and the slot! This can be accomplished by sanding against a machined surface using fine grit sandpaper.

Installation: Remove the strings from the guitar. For guitars having a pickup installed for the first time you will need to compensate for the thickness of the pickup by removing .030" from the overall saddle height. One simple method of accomplishing this is as follows: Using a freshly sharpened pencil, scribe a line along the front edge of the saddle where it extends above the bridge, see **Fig 1**.

This line will be used later as a guide when removing material from the bottom of the saddle. (Details to follow)

Now remove the saddle to drill a hole for the pickup. Use a drill bit that is the same size as the width of the saddle slot, generally between $3/32"$ and $1/8"$.

Just before you drill, inspect the underside of the bridge inside the guitar and note the position of the braces in relation to the saddle slot. It's helpful to use the bridge pin holes for visual reference. You may drill the hole at either end of the slot but be sure to position the hole at the extreme end of the slot and drill at an angle if possible, as seen in **Fig 3A**. Last, choose the side of the slot which allows you to drill without damaging a brace as you penetrate the top, then proceed to drill. Remove any splintering left from the bit with a small file or razor blade, then blow out the slot with compressed air and check for remaining debris.

Feed the pickup into the slot from inside the guitar. Inserting a toothpick into the hole from the outside of the guitar helps with finding the hole on the inside. There is a black dot on the end of the Element pickup, which should be facing up when the pickup is laid in place.

Important: The fit of the saddle is among the most crucial factors of this installation. The saddle should fit loosely enough in the slot that it can be pulled out easily (using only your fingertips) with just the slightest amount of drag. If the saddle binds at all in the slot, sand it down just a bit against a flat surface with 220 to 320 grit sandpaper until it goes in and out with ease. A saddle that binds on the walls of the slot won't be able to make thorough contact with the pickup and will cause the pickup to malfunction. A saddle which is excessively loose will lean forward under pressure, creating uneven contact on the pickup, **Fig 2A**, which will most likely result in poor performance.

The best remedy for a very loose saddle is to make a new properly fitting saddle, **Fig 2B**. However, you can also shim the saddle thickness with tape until it fits correctly or even sand an intentional tilt into the saddle's bottom surface so that when it leans forward it makes even contact on the pickup, **Fig 2C**.

Compensating for the thickness of the pickup: Lay the saddle over the pickup in the slot and observe the scribed line from **Fig 1**. The distance between the bridge top and the line is the amount of material you'll need to remove from the bottom of the saddle. Sand the bottom surface of the saddle on a belt sander until the scribed line is just above the bridge top.

A belt sander is not capable of creating a truly flat surface; therefore, it is necessary to complete sanding the bottom of the saddle by hand. It is best to do this against a machined flat surface with fine sandpaper. Use a straight edge with a strong light source to inspect the flatness of your saddle.

When finished, make sure the pickup extends all the way to the far end of the slot, place the saddle on top of it and temporarily secure it with a piece of tape. Secure the pickup wire with a wire clip (provided) about $1\ 1/2"$ from the exit hole on the edge of the bridge plate, with a 1 to 2 inch service loop, **Fig 3A & 3B**.



Fig. 1

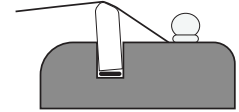


Fig. 2A

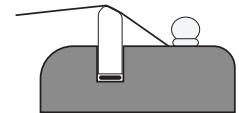


Fig. 2B

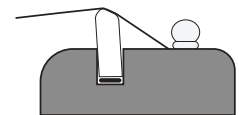


Fig. 2C



Before



After

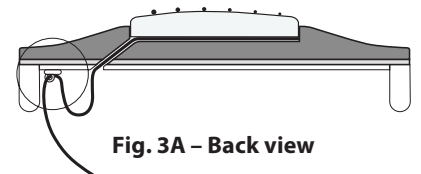


Fig. 3A - Back view

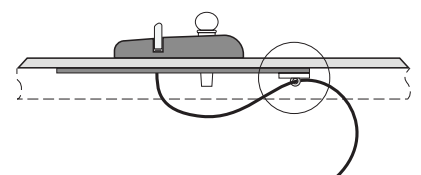


Fig. 3B - Side view

Secure the other loose wires with the rest of the wire clips provided. Now re-string the guitar, plug into your amp or PA, and test the pickup. Pay close attention to string balance.

String balance issues are unfortunately somewhat common among undersaddle pickups. They are frustrating for both installer and player and can be caused by a variety of things ranging from saddle fit, saddle material, particular guitar resonances, saddle slot inconsistencies, bridge problems, among others.

Concurrently, the fix to string balance issues is also various and not always what you would expect. If you have completed the installation according to these instructions and are experiencing string balance issues, our best recommendation is for you to contact our customer service department for assistance.

FINISHING THE INSTALLATION

Volume wheel placement: Stick the double-sided adhesive to an easily accessible spot along the inside of the soundhole. It is most commonly positioned at the top of the soundhole, above the strings when playing.

Battery bag placement: The battery bag can be located in a number of areas. We recommend sticking it to the neck block if it is accessible, as it is the most able to handle the weight of the battery, as well as offering easy access for quick battery changes. If you choose another location, we recommend you find an area on the side or back near a brace for stability and ease of access.

OTHER APPLICATIONS

Passive auxiliary channel: The Element Active provides an option on its circuit board for adding a second passive pickup to your signal in a stereo configuration. Magnetic pickups work best for this scenario. We recommend you do not use high impedance pickups for this application.

Soldering a second pickup: Solder the hot lead to positive and the ground lead to negative of the auxiliary passive input. See diagram.

You'll need to run your signal down a stereo cable to a stereo input or use a stereo "Y" cable to two separate inputs. The 2nd pickup will be on the "ring" contact of the stereo plug.

Adding a mini-mic: It is possible to add a mini-mic in the same way the second pickup is connected. Keep in mind, however, that it is a passive channel and you will need to provide phantom power for the mic. The mic will be on the "ring" contact of the stereo plug.

