# INSTALLATION GUIDE

# Air Trio

**Mi-Si Air Trio**
**Battery-Free MEMS Microphone System for Acoustic Guitar**

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- Battery-Free Endpin-Mounted Preamp with Independent Volume Controls
- Element Under-Saddle Pickup
- Power Charger

## OVERVIEW

The Mi-Si Air Trio is an active, battery-free MEMS microphone & Element under-saddle pickup system for acoustic guitar. Simply powering up for 60 seconds using the Mi-Si Power Charger will provide you with up to 8 hours of performance time.

**CAUTION:** WE RECOMMEND PROFESSIONAL INSTALLATION OF THIS SYSTEM. INSTALLATION INSTRUCTIONS SHOULD BE STUDIED CAREFULLY BEFORE PROCEEDING. MI-SI ELECTRONICS DESIGN, INC. WILL NOT BE RESPONSIBLE FOR ANY DAMAGE TO THE INSTRUMENT OR PERSONAL INJURY RESULTING FROM INSTALLATION, IMPROPER INSTALLATION OR ANY MISUSE OF THE PRODUCT.

**USE ONLY THE POWER CHARGER PROVIDED IN THIS PACKAGE TO POWER UP YOUR PRODUCT! UTILIZATION OF ANY OTHER POWER SUPPLY OR MODIFICATION TO AN EXISTING ONE MAY CAUSE PERMANENT DAMAGE TO THE SYSTEM AND WILL NOT BE COVERED UNDER WARRANTY!**

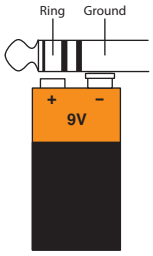
## CHARGING AND PLUGGING IN

To charge the Air Trio system, plug the Power Charger into a 120/220 V AC outlet. Then plug in the Power Charger 1/4" stereo plug into the Air Trio system's endpin jack and wait 60 seconds. Now your system is ready for 8 hours of performance time (actual playing time may vary depending on playing style). For best performance, increase the charging time up to 120 seconds for the initial 2-3 charging cycles.

You can plug your instrument into ANY input of ANY system or amplifier regardless of input impedance. In the same manner, you can use ANY type of shielded MONO cable - regardless of its capacitance. Your sound will not be altered. You can enjoy the benefits of an active amplified system without worrying about batteries.

## USEFUL TIP

Using the Power Charger to power up your preamp is truly remarkable. But what if you forgot or lost your Power Charger? Don't worry! Although we don't promote the use of batteries, in this case all you need to power up your system is any stereo cord and a common 9V battery.




Plug the stereo cord into your instrument. Hold the 9V battery so that the positive terminal is touching the Ring of the stereo plug and the negative terminal is touching the Ground. Hold it like this for 60 seconds and you are ready to play for 8 hours. The system will not be damaged by accidentally connecting the battery in the wrong direction.

## INSTALLATION

**Note:** For optimum pickup performance, the bridge slot must have a clean, flat surface free of any debris or over-spray from the finish. The slot must be a minimum of .125" (1/8") deep, but we suggest a depth of at least .187" (3/16") to avoid excessive saddle tilt.

**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; otherwise the balance and output of the pickup may suffer.

Inspect the inside of the guitar and note the position of the braces and the pickup in relation to the saddle slot. Drill at either end of the slot on the side that will enable you to avoid all braces as you penetrate the top, as shown in figure 4. Blow out the slot with compressed air and check for remaining debris.

**Important:** Round the inside of the hole where it meets the bottom of the slot with a small, sharp knife or small file to avoid pinching the pickup as the saddle lies on it.

Feed the pickup into the slot from inside the guitar with the BLACK DOT on the end of the pickup FACING UP toward the saddle. Inserting a toothpick or similar object through the hole from the outside is helpful in finding the location of the hole on the inside of the guitar.

**Important:** The fit of the saddle in the slot is the single most important factor in this installation. It is crucial that the bottom of the slot and the lower surface of the saddle be flat to make even contact with the pickup. The saddle should fit loosely enough in the slot that it can be pulled out with your fingertips. It will then have a slight forward lean when the strings are under tension. It is absolutely necessary to compensate for this slight lean by sanding a tilt in the bottom of the saddle so it still sits flat on the pickup when the strings are at tension (see figure 5). If the saddle is too tight, binds at all or is too loose, this will have a negative effect on the string balance and output. Set the saddle in the slot, noting how much material must be removed to compensate for the thickness of the pickup. Sand the bottom surface of

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the saddle on a belt sander until the scribe line is just above the bridge top. Finish sanding the bottom by hand. It is best to do this against a machined flat surface with fine sandpaper. Use a straightedge with a strong light source to inspect the flatness of your saddle.

Insert the pickup all the way into the slot, place the saddle on top of it, and temporarily secure it with a piece of tape. Secure the wire with a wire clip as close to the exit hole as is practical, with a one- to two-inch service loop.

Failure to secure the wire may produce boominess and feedback. Now restring the guitar, and plug into your amp or PA. Confirm that the EQ controls are at their default positions and test the Element, paying careful attention to string balance. If the sound is satisfactory, proceed to the next section. If not, read on.

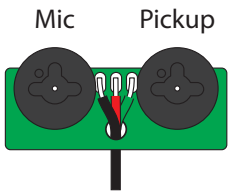
String balance problems are almost always the result of an uneven interface between the bottom of the saddle and the saddle slot. If the string balance is uneven, check these surfaces to ensure that they are both completely flat.

Tip: A segmented packaging knife blade is a useful tool in determining the flatness of the saddle slot. Break off enough blade segments so as much of the blade fits into the slot as possible. Briefly use a back-and-forth scraping motion to see if the slot bottom scrapes evenly. Any high or low spots will be readily apparent. A minor low spot in the slot may be compensated for by shims under the pickup; however, for gaps over .005" or multiple gaps, we recommend rerouting the slot.

The endpin jack can be permanently mounted as shown.

## VOLUME CONTROLS

The Mi-Si Air Trio comes equipped with independent volume controls for the onboard microphone and under-saddle pickup. Simply mount the module behind the soundhole of your guitar with the included adhesive-backed velcro pads - either above the low E or below the high E - wherever you prefer. This will allow you not only to control your overall output level, but also the balance between the microphone and pickup signals.




## LIMITED WARRANTY

The warranty period is one (1) year from the date of purchase. During this time, Mi-Si Electronics Design, Inc. will replace a faulty unit at their discretion. This warranty does not cover any consequential damages or damage to the unit due to misuse, accident or neglect. Mi-Si Electronics Design, Inc. retains the right to make such determination based on results of inspection performed at the factory. Products returned to Mi-Si Electronics Design, Inc. for repair or replacement must be shipped in accordance to Return Policy, as follows:

**Return Policy**

Mi-Si Electronics Design, Inc. will accept returns for products purchased within 30 days from receiving the goods. To return products to Mi-Si Electronics Design, Inc. you must do the following:

1. Email Mi-Si Electronics Design, Inc. at sales@mi-si.com describing the reason for the return.
2. Enclose a copy of the original Bill of Sale with the product in its original undamaged packaging. The package must be returned in damage resistant packaging stuffed with appropriate amounts of cushion.
3. Warranty repairs or replacements will be sent automatically free of charge.
4. The customer will not be refunded shipping or insurance costs. Additionally, return shipping charges, including insurance, are the sole responsibility of the customer unless the return or replacement is determined to be the fault of a Mi-Si Electronics Design, Inc.

Figure 1

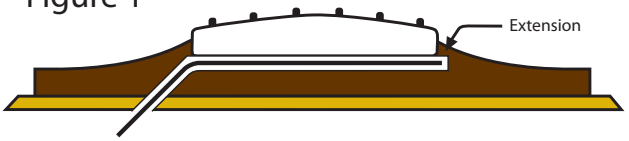



Figure 2

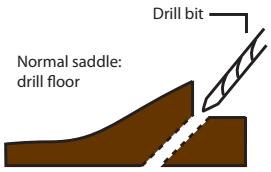



Figure 3

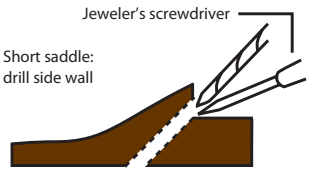



Figure 4

*This view depicts the bridge at an angle that is level with the guitar top and perpendicular to the saddle slot. Note the rounded edge where the hole has been drilled.*

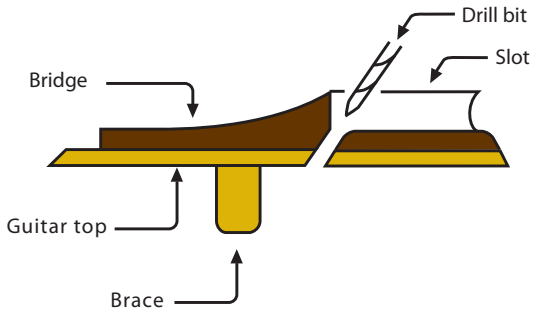
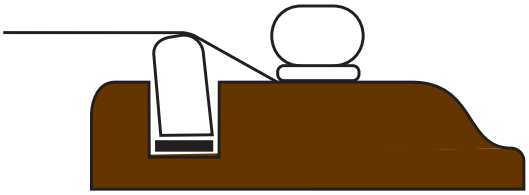
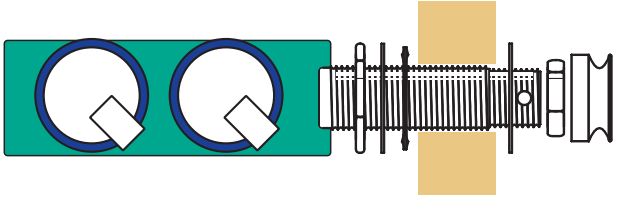



Figure 5



Proper saddle-pickup contact
***(saddle lean exaggerated)***

Mount the Endpin Jack

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