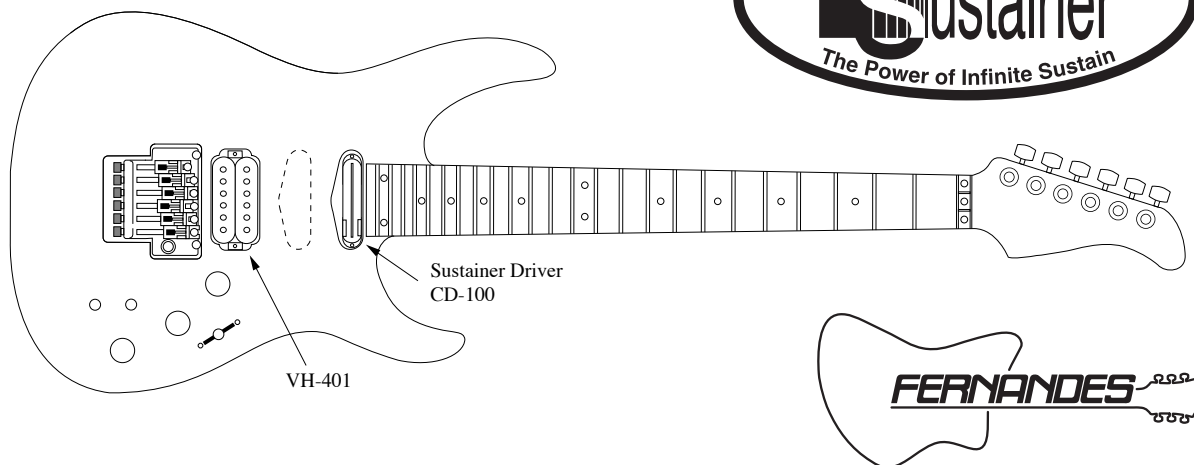


# Fernandes Sustainer Installation Manual

## For Sustainer FSK-401



**Fernandes Guitars International Inc.**  
8163 Lankershim Boulevard  
North Hollywood, CA 91605

www.fernandesguitars.com www.sustainer.com  
E-mail: info@fernandesguitars.com  
Phone: (818) 252-6799  
Fax: (818) 252-6790

THE POWER OF INFINITE SUSTAIN. TOTAL CONTROL OF SUSTAIN and HARMONIC FEEDBACK AT ANY VOLUME. ALL AT YOUR FINGERTIPS. THE FERNANDES SUSTAINER™!

Infinite Sustain at the flip of a switch you can hold any single note or chord as long as you want. The note doesn't die out or fade because the Fernandes Sustainer keeps the strings vibrating. Total Control of Harmonic Feedback at any volume, you can achieve the kind of feedback players only get at extreme volumes after the tedious and inconsistent process of finding the perfect angle and distance from their amplifier on stage. With a Fernandes Sustainer, all you have to do is switch your mode selector from Standard Sustain to Harmonic Sustain.

### Fernandes Sustainer User List:

Steve Vai	Riggs / Rob Zombie	Lee Ranaldo / Sonic Youth
Adrian Belew / King Crimson	Kerry King / Slayer	Steve Lukather / Toto
Robert Fripp / King Crimson	Andreas Kisser / Sepultura	Steve Hackett
The Edge / U2	Danny Lohner / Nine Inch Nails	Reeves Gabrels / David Bowie

### HOW THE FERNANDES SUSTAINER WORKS:

The patented Fernandes Sustainer is powered by a 9-volt alkaline battery, and works in conjunction with the Driver in the neck position, the bridge pickup and the Sustainer circuit board. To achieve infinite sustain the Driver projects magnetic pulses which continuously vibrate the strings of the guitar. The Harmonic mode: when the Harmonic mode is activated the Fernandes Sustainer alters the signal sent to the Driver causing the strings to vibrate the same way strings vibrate when they are hit by the sound waves of an amplifier played at extreme volumes. The result is controlled harmonic feedback without the need for excessive volume.

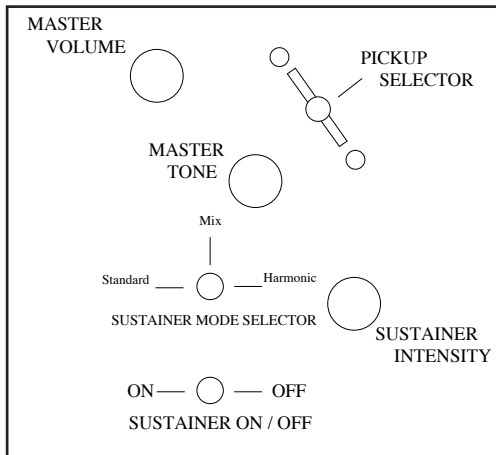
#### SUSTAINER MODES:

**Standard Mode:** In the Standard mode the Fernandes Sustainer will continuously vibrate the note.

**Harmonic Mode:** In the Harmonic mode the Fernandes Sustainer will create string vibration similar to the vibration that occurs when sound waves hit the strings at extreme volumes, generating the 5th harmonic of the note being played.

**Mix Mode:** The Mix mode is a blend of Standard and Harmonic sustain.

Hear the Fernandes Sustainer at [www.fernandesguitars.com](http://www.fernandesguitars.com)



## SUSTAINER CONTROLS:

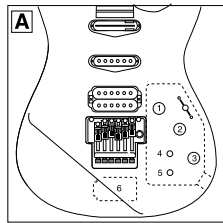
**ON/OFF switch:** (Black toggle switch)

The On position activates the Fernandes Sustainer and automatically selects the bridge pickup while deactivating the pickup selector and the neck pickup. The off position deactivates the Fernandes Sustainer, reactivates the pickup selector and allows the Sustainer driver to function as a normal neck pickup.

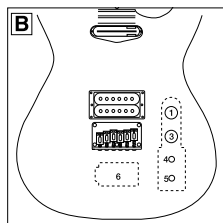
**Sustainer Mode Selector:**

**Toggle Switch:** On the 3-mode models, there are two mini toggle switches. The toggle switch nearest the Bridge Pickup is the mode selector. The UP position is the Standard mode, the MID position is the Mix mode, and the DOWN position is the Harmonic mode.

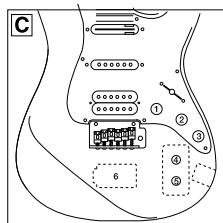
**Sustainer intensity Control:** The Sustainer Intensity Control knob, which looks like another volume knob, allows you to control the intensity of the sustainer. When the knob is at 0 there is no sustain while at 10 the Fernandes Sustainer is at the maximum setting with the fastest attack and longest sustain.



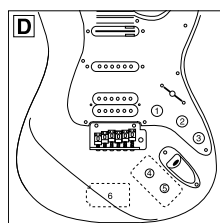
A. Modern style guitar with no pickguard.



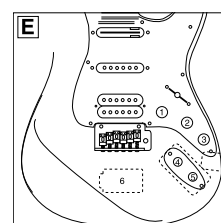
B. Vintage style guitar with no tone control.



C. Vintage style guitar with a side mount jack.



D. Vintage style guitar with a face mount jack (most common).



E. Vintage style guitar with the Sustainer controls mounted to a plate that replaces the jack.

Listing of Sustainer controls:

1. Master Volume.
2. Master Tone.
3. Sustainer Intensity.
4. Sustainer Mode Selector.
5. Sustainer On/Off Switch.
6. Battery Box

## Fernandes Sustainer Installation Requirements:

1. The Fernandes Sustainer should only be installed by a professional Luthier who has the following skills:
  - A. The ability to read a meter and follow signal paths.
  - B. The ability to use a soldering iron at a professional level
  - C. The ability to use a router

## Fernandes Sustainer Installation Procedures:

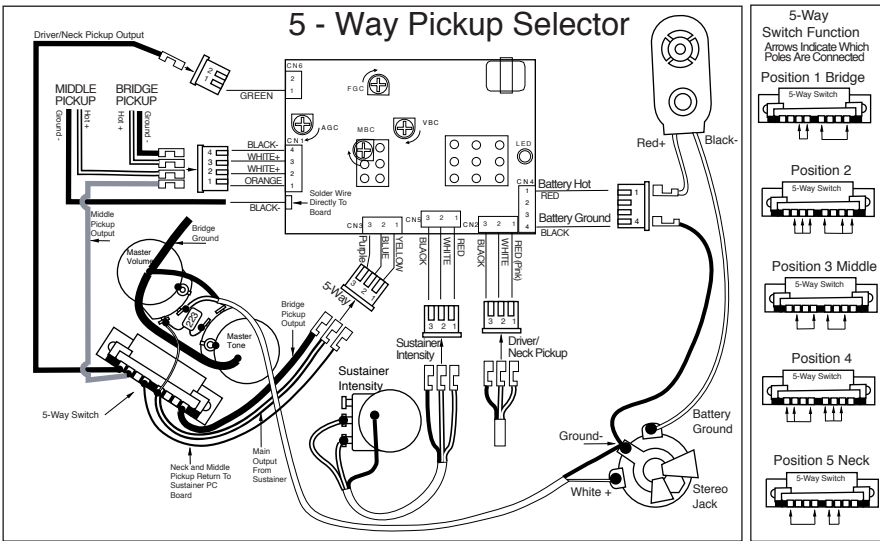
1. Select the location for the sustainer controls and battery box. Listed above are some possible locations for the Sustainer, these are just suggestions custom installations are also possible.

The Sustainer On / Off switch and the Sustainer Mode selector are attached to the Sustainer circuit board, this should be taken into account when selecting the location for these controls.

The Sustainer Intensity Control can replace the existing tone control or can be added to the existing controls of the instrument.

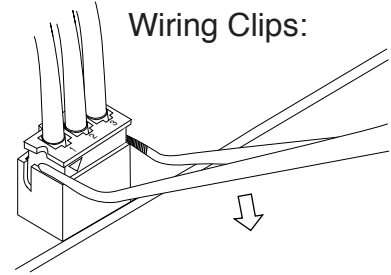
The Sustainer battery box position should be chosen last and should be placed in a location on the back of the guitar that will not interfere with the guitars function.

2. If the location you have chosen for the controls requires routing, disassemble the guitar and rout the cavity for the Sustainer.
3. Using the wiring diagram on the following page install the Sustainer in the guitar.
4. Follow the sustainer setup procedures on the following page to set up the Sustainer. The guitar the Sustainer is installed in must also be set up properly in order for the Sustainer to work properly.

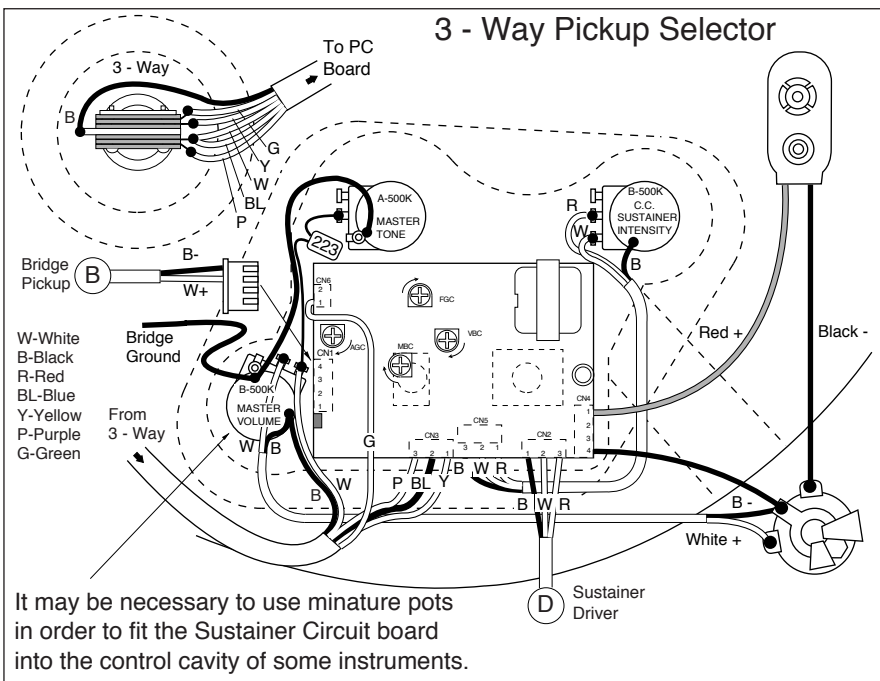


### Description of trim pot functions:

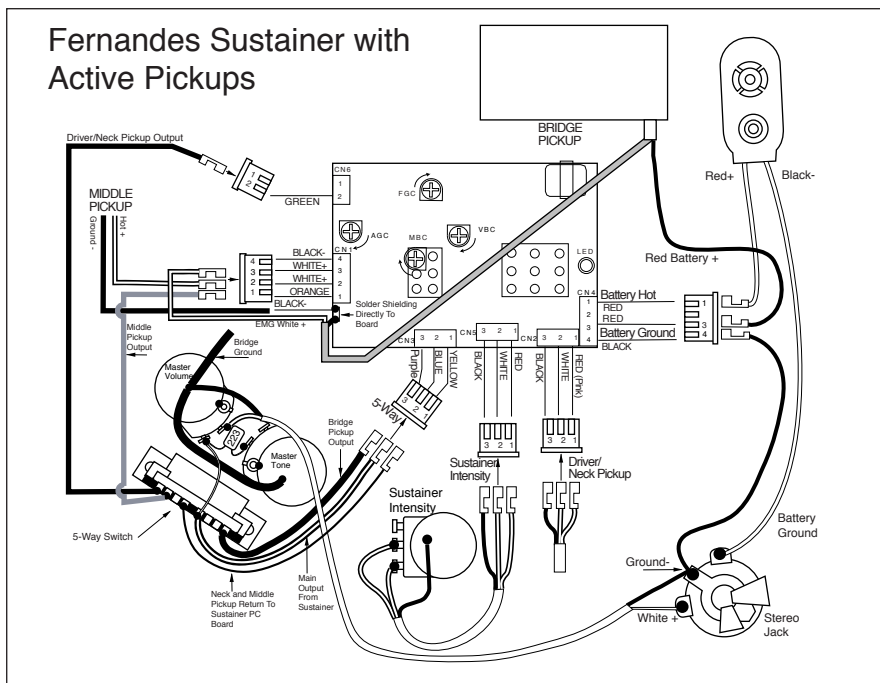
- Use a fine flat head screwdriver to adjust these pots
1. FGC-Output control for the neck pickup (driver). Set it to match the output of the middle or bridge pickup.
  2. VBC- (vibration control) Turn clockwise to increase the sustainers attack, this will also shorten battery life.
  3. AGC- Sustainer gain control. Set to 10 if possible, if you get feedback turn it counter-clockwise until the feedback stops.
  4. MBC-Balance control- usually set to 0. Balances the output between the standard and the harmonic mode.



**Wiring clips:** The wires for the Fernandes Sustainer are mounted to the PC board using wiring clips to make installation as quick and easy as possible. Installing and removing the clips must be done by grabbing the clip itself with either your fingers or a fine tool. Removing the clips by pulling the wires will damage the clips and the wires.



**Pickups:** The Fernandes Sustainer is guaranteed to work with the included Fernandes VH-401 pickup. The Sustainer will work with most pickups including Seymour Duncan, Dimarzio and EMG, however we can not guarantee it will work due to inconsistencies in pickup manufacturing. The Fernandes Sustainer requires that the Driver be in the neck position in order to function properly, it also requires that the bridge pickup be a humbucker. Full sized humbuckers work best, single coil sized humbuckers will also work but will not drive the strings with as much intensity as a full sized humbucker.



**Seymour Duncan Pickups:** To use the Fernandes Sustainer with Seymour Duncan pickups you will need to turn the Duncan pickup around 180 degrees or take the pickup apart and turn the magnet around 180 degrees. (See our web page for more details [www.SUSTAINER.com](http://www.SUSTAINER.com))

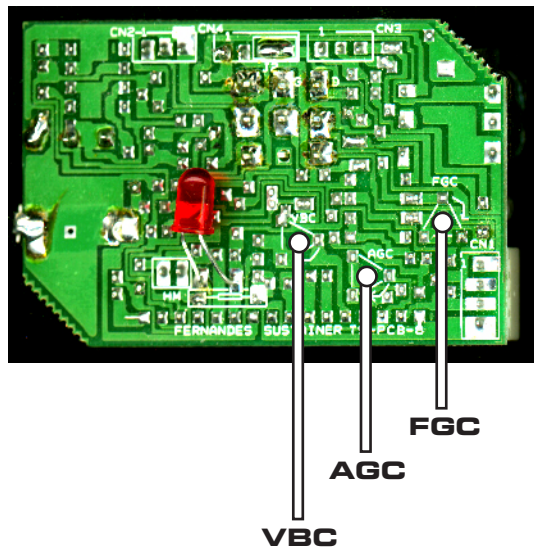
**Dimarzio Pickups:** To use the Fernandes Sustainer with Dimarzio pickups it is necessary to reverse the wiring as follows- Green hot, Red ground, connect the Black and White.

**EMG:** Follow the diagram to the left. Connect the Red battery wire to the board using the connector. Solder the ground wire directly to the board and connect the white wire to the board using the connector.

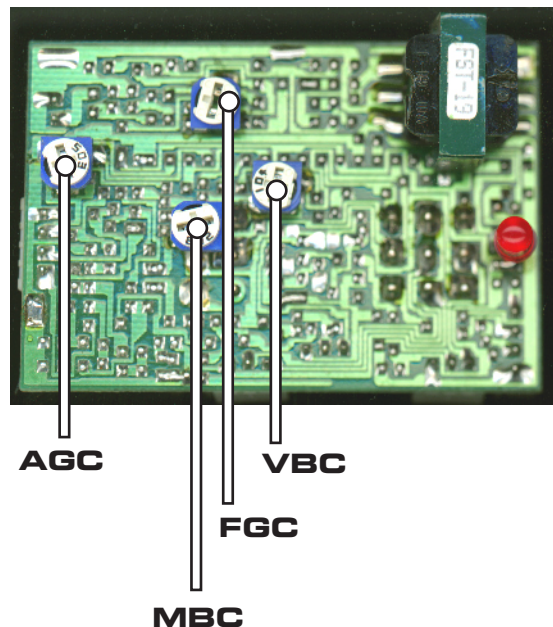
**[www.fernandesguitars.com](http://www.fernandesguitars.com)**

## FERNANDES SUSTAINER fine adjustments

**T**    **ype A**



**T**    **ype B**



**Use a fine flat head screwdriver to adjust these pots**

**FGC-Output control for the neck pickup (driver). Set it to match the output of the middle or bridge pickup.**

**VBC- (vibration control) Turn clockwise to increase the sustainers attack, this will also shorten battery life.**

**AGC- Sustainer gain control. Set to 10 if possible, if you get feedback turn it counterclockwise until the feedback stops.**

**MBC-Balance control- usually set to 0. Balances the output between the standard and the harmonic mode.**

[www.fernandesguitars.com](http://www.fernandesguitars.com)  
[info@fernandesguitars.com](mailto:info@fernandesguitars.com)

**Copyright 2000 Fernandes Guitars**