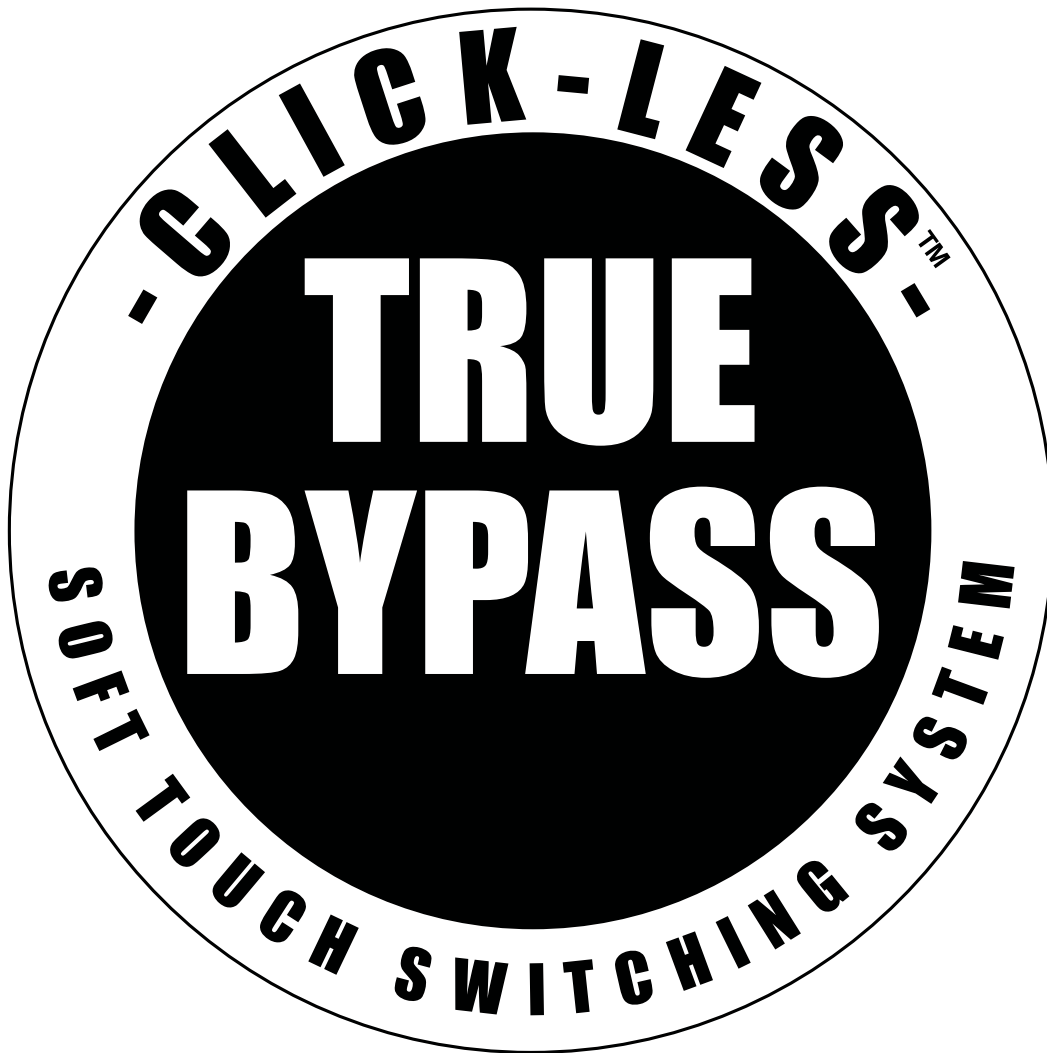


CLICK-LESS™ TRUE-BYPASS UNIVERSAL INSTALL GUIDE

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CLICKLESS TRUE-BYPASS INSTALLATION

This manual covers Click-Less True-Bypass installation for three common mechanical bypass circuits. It is recommended that you fully read this manual and become familiar with the installation procedure before beginning.

SECTION 1 installation for effects pedals using the mechanical bypass (latching stomp switches).

SECTION 2 installation for Ibanez 9 Series effects pedals.

SECTION 3 installation for BOSS effects pedals.

WHAT IS INCLUDED IN THE KIT

Click-Less True-Bypass PCB module



Click-Less Momentary Switch

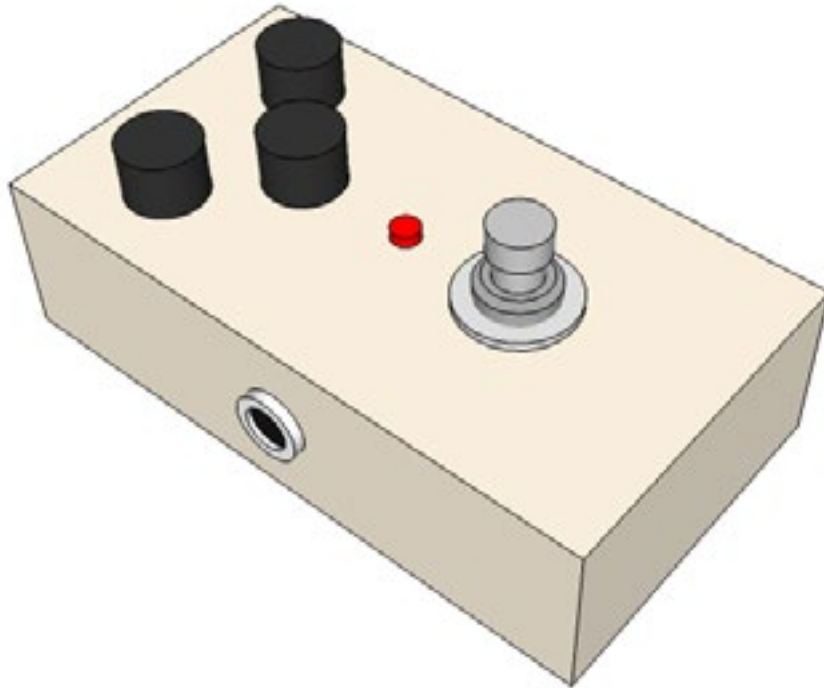


RECOMMENDED TOOL AND SUPPLY LIST

- Soldering Station
- Solder & Flux
- De-soldering Braid or Solder Sucker
- Wire Strippers
- Wire Cutters
- Philips Head Screwdriver
- Double-Stick Foam Tape

SECTION 1 : MECHANICAL BYPASS

installation instructions for effects pedals using the mechanical bypass (latching stomp switches)



1.1 : REMOVING THE STOMP SWITCH

(TRUE-BYPASS SWITCHING)

In order to install Click-Less True-Bypass, the original stomp switch must be replaced with a Click-Less switch and the signal path must be re-routed through the Click-Less PCB.

You will need to disconnect the following wires connected to the stomp switch in order to replace the original stomp switch with a Click-Less switch and re-route the signal flow through the Click-Less PCB :

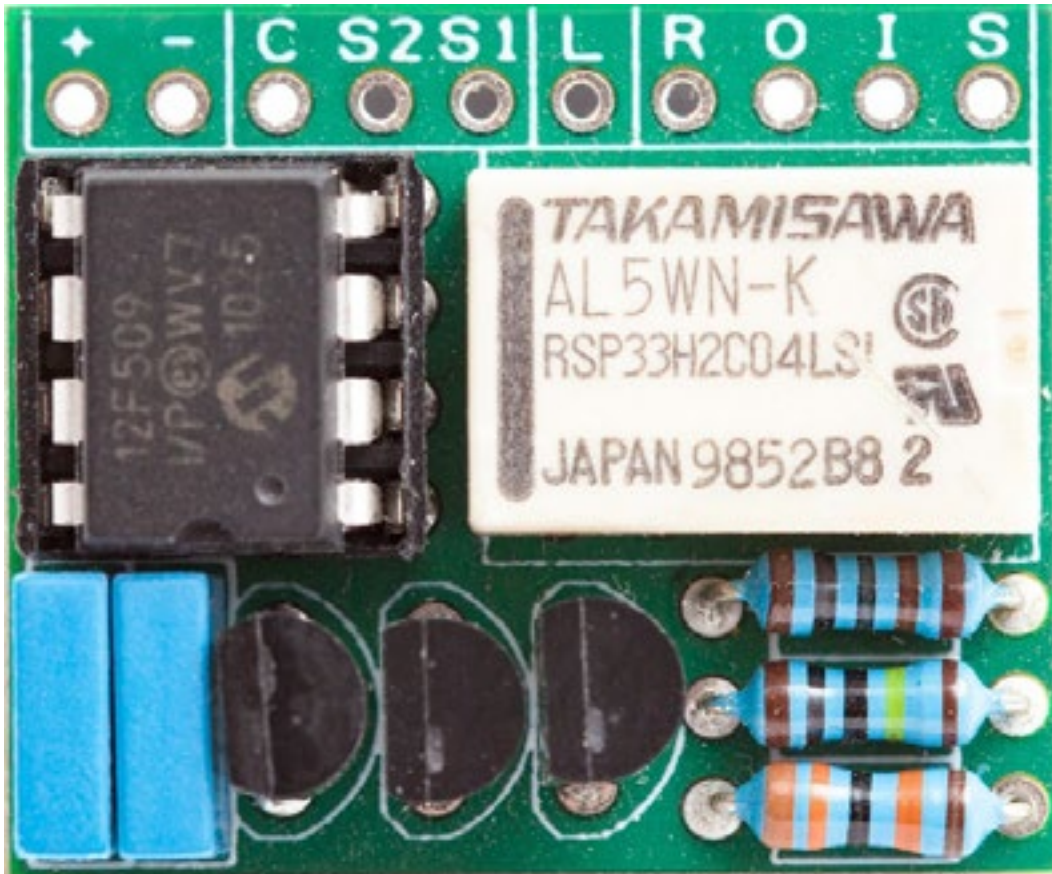
- The input jack wire
- The output jack wire
- The two LED leads
- The effect circuit send/input wire
- The effect circuit return/output wire
- Ground wire(s) at the stomp switch

De-solder the input jack wire from the stomp switch. Label the wire with a small piece of tape and repeat the procedure for the output jack wire, effect circuit send/input wire, effect circuit return/output wire, LED wires and ground wire(s) at the stomp switch.

Once all the wires connected to the original stomp switch's terminals have been disconnected, remove the original stomp switch from the chassis.

1.2 : WIRING

We recommend using normal [24AWG hookup wire](#) for wiring to the Click-Less PCB. Depending on the effect pedal you are working on, you may be able to use some of the existing wires to connect to the Click-Less PCB.



- +
-
- C
- S2
- S1
- L
- R
- O
- I
- S

: wire to 9V source (from DC jack power lug)

: wire to ground source

: not used

: connect to lug of N/O SPST Click-Less switch

: connect to lug of N/O SPST Click-Less switch

: connect to anode (positive leg) of LED.

: connect to the effect circuit return/output wire

: connect to the output jack signal lug

: connect to the input jack signal lug

: connect to the effect circuit send/input wire

*NOTE: Cathode side (negative side) of LED needs to be connected to nearest available ground source.

1.3 : COMPLETING THE JOB

Install the Click-Less switch into the hole where the original stomp switch was.

Apply double stick foam tape to the back of the Click-Less PCB and secure it to the chassis in a location where it will not interfere with or touch any other components or parts of the circuit.

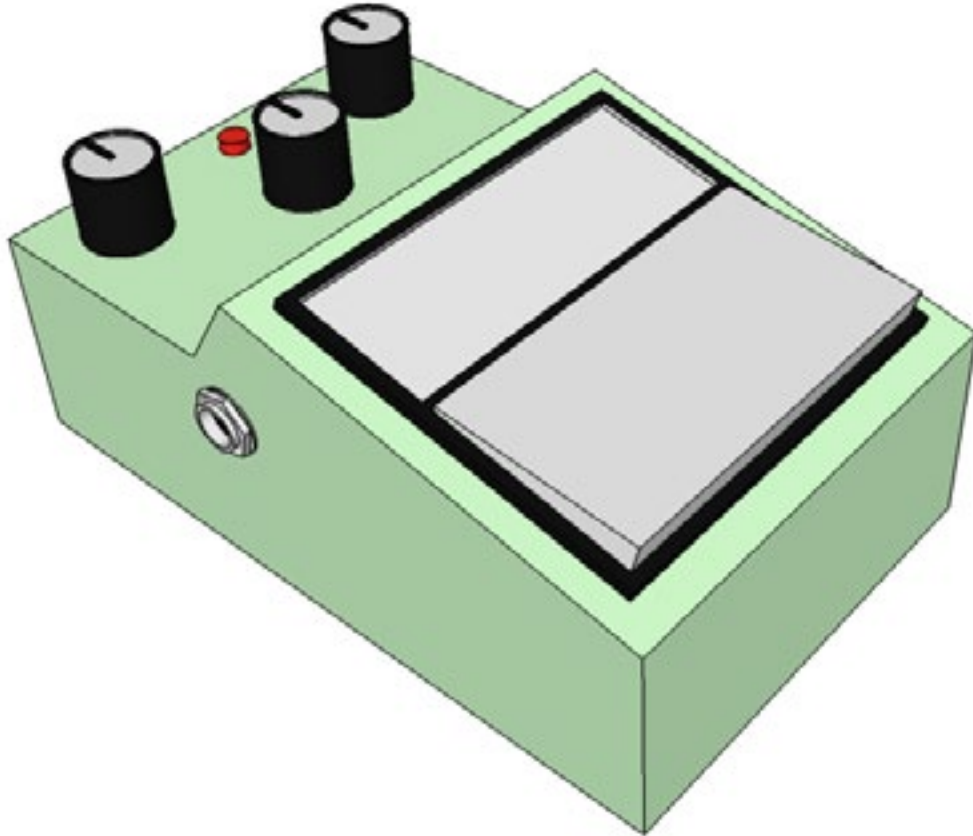
Take care to ensure that no leads are poking through the double stick tape - this will prevent short circuits.

CONGRATULATIONS!

Your pedal has been converted to Click-Less™ True-Bypass!

SECTION 2 : IBANEZ 9 SERIES

Installation instructions for Ibanez 9 Series Effects



OVERVIEW

Ibanez 9 Series analog effects employ buffered electronic switching comprised of four main circuit elements :

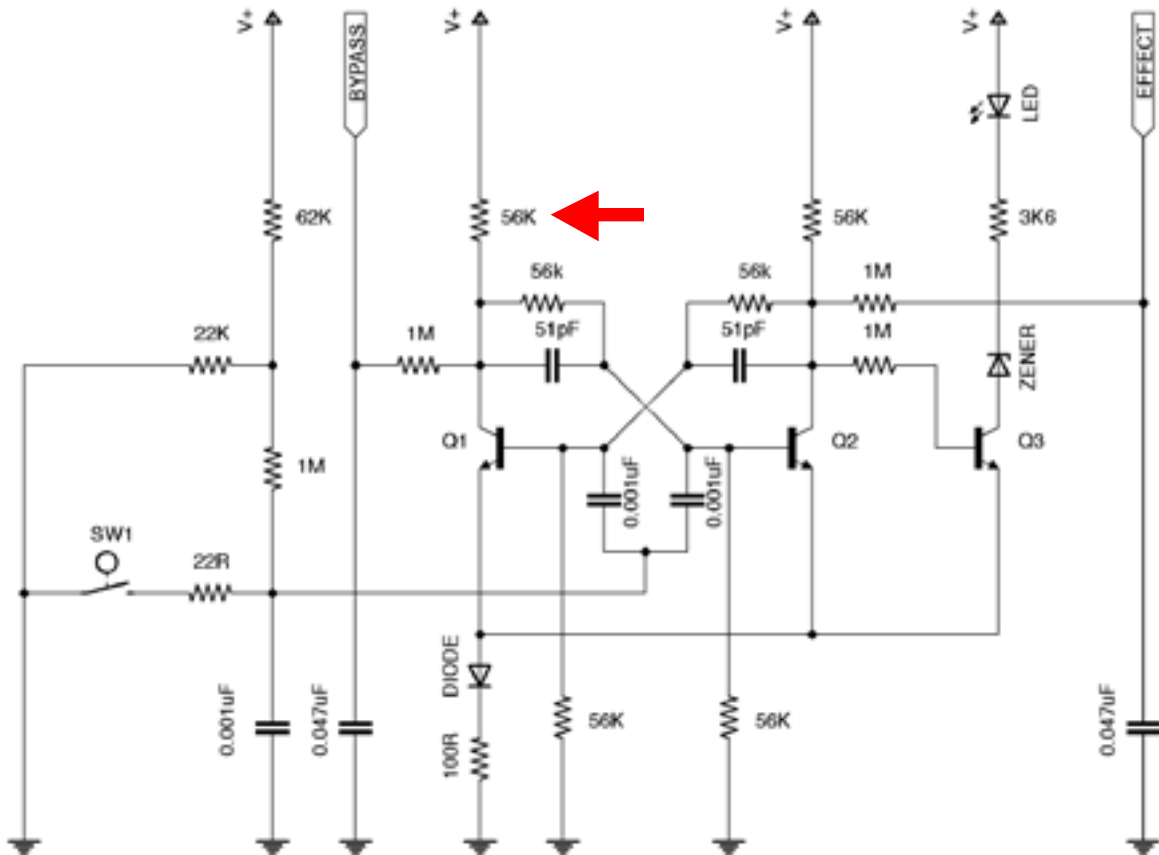
- 1 A buffer/driver circuit used to prevent loading of the signal path and to drive the electronic switching circuit
- 2 Two FETs (field effect transistors) used to block/permit signal flow through the bypass and effect circuits
- 3 A flip-flop circuit used to select which FET is ON/OFF (Bypass/Effect) and route the signal appropriately
- 4 A mechanical momentary contact switch used to control the flip-flop circuit

Installing the Click-Less True-Bypass requires circumvention of the electronic switching system and re-routing the signal patch through the Click-Less PCB.

This Manual will focus on the flip-flop circuit and signal routing.

2.1 : DEFEATING THE FLIP-FLOP

In order to install the Click-Less system, the flip-flop circuit must be forced into the Effect mode at all times, so that signal is flowing through the effect circuit when the pedal is activated. This can be accomplished quickly and easily by simply desoldering and removing one resistor :



Removing the 56K resistor indicated above (actual value may vary) insures Q2 will not turn on by preventing its base from ever receiving voltage. This forces the flip-flop circuit into permanently retaining the Effect mode state.

2.2 : RE-ROUTING SIGNAL FLOW

Now that the Flip-Flop circuit has been defeated, the pedal is locked in Effect mode. Signal must now be re-routed from the input and output jacks through the Click-Less PCB in order to accomplish Click-Less True-Bypass switching.

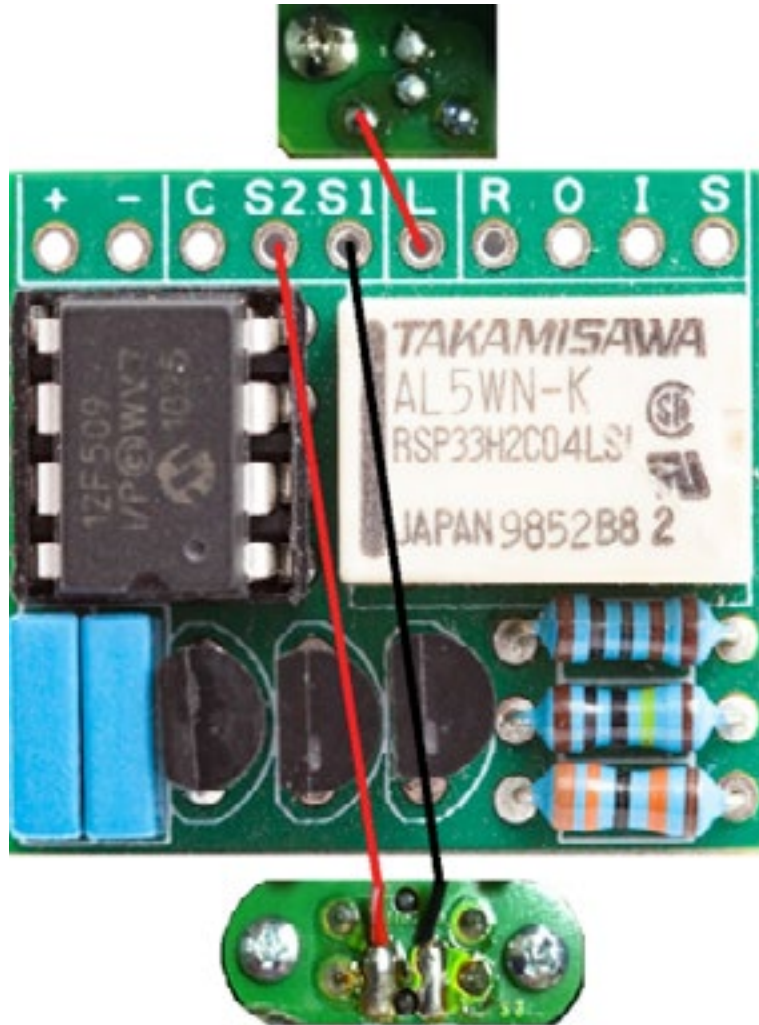
There are a total of 6 wires you will need to disconnect in order to re-route the signal flow through the Click-Less PCB.

- 1 the input jack wire on the pedal
- 2 the output Jack wire on the pedal
- 3-4 the two wires connected to the LED or the LED PCB
- 5-6 the two wires connected to the pedal's switch

De-solder the input jack wire from the effect PCB, clean any remaining solder from the pad and write down the reference number of the hole and associated function of the wire that was removed. Repeat this procedure for the output jack wire, LED PCB wire, and switch wires.

2.3 : WIRING

We recommend using normal [24 AWG hookup wire](#) for wiring to the Click-Less PCB. Depending on the effect pedal you are working on, you may be able to use some of the existing wires to connect to the Click-Less PCB.



- + : wire to 9V source (from DC jack power lug)
- : wire to ground source
- C : not used
- S2 : connect to Ibanez momentary switch (normally a red and white wire are already connected to the switch. Disconnect from Main PCB and connect to S2 pad, shown above)
- S1 : connect to Ibanez momentary switch (normally a black wire is already going from the momentary switch to the ground lug. Disconnect from ground lug side and connect to S1 pad, shown above)
- L : connect to anode (positive leg) of LED PCB (normally a red wire on the small LED PCB)
- R : connect to the effect circuit return/output wire (going from PCB to Output jack)
- O : connect to the output jack signal lug
- I : connect to the input jack signal lug
- S : connect to the effect circuit send/input wire (going from PCB to Input jack)

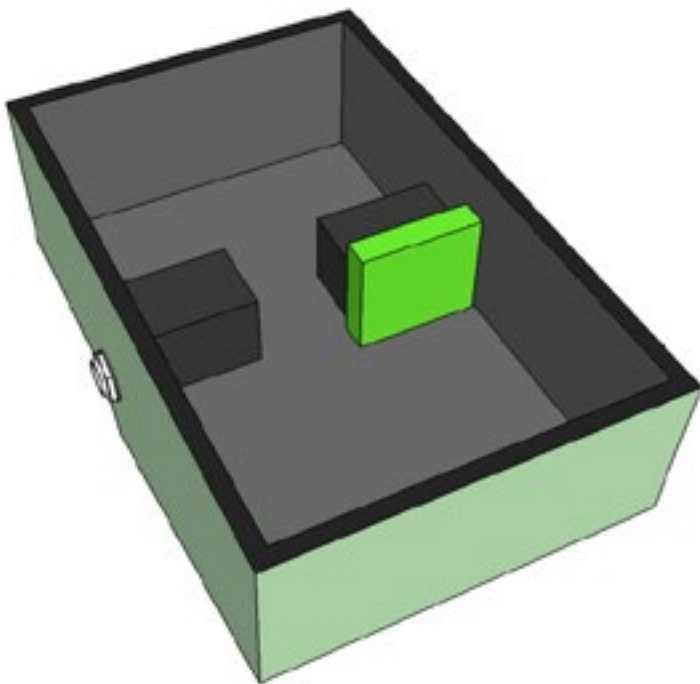
*NOTE: Cathode side (negative side) of LED needs to be connected to nearest available ground source.

2.4 : COMPLETING THE JOB

Installation is nearly complete.

All that remains to be completed is securing the Click-Less PCB and putting the pedal back together.

The recommended placement for most ibanez 9-Series compact analog effect pedals is on the inside of the chassis on the side of the output jack. See illustration below:

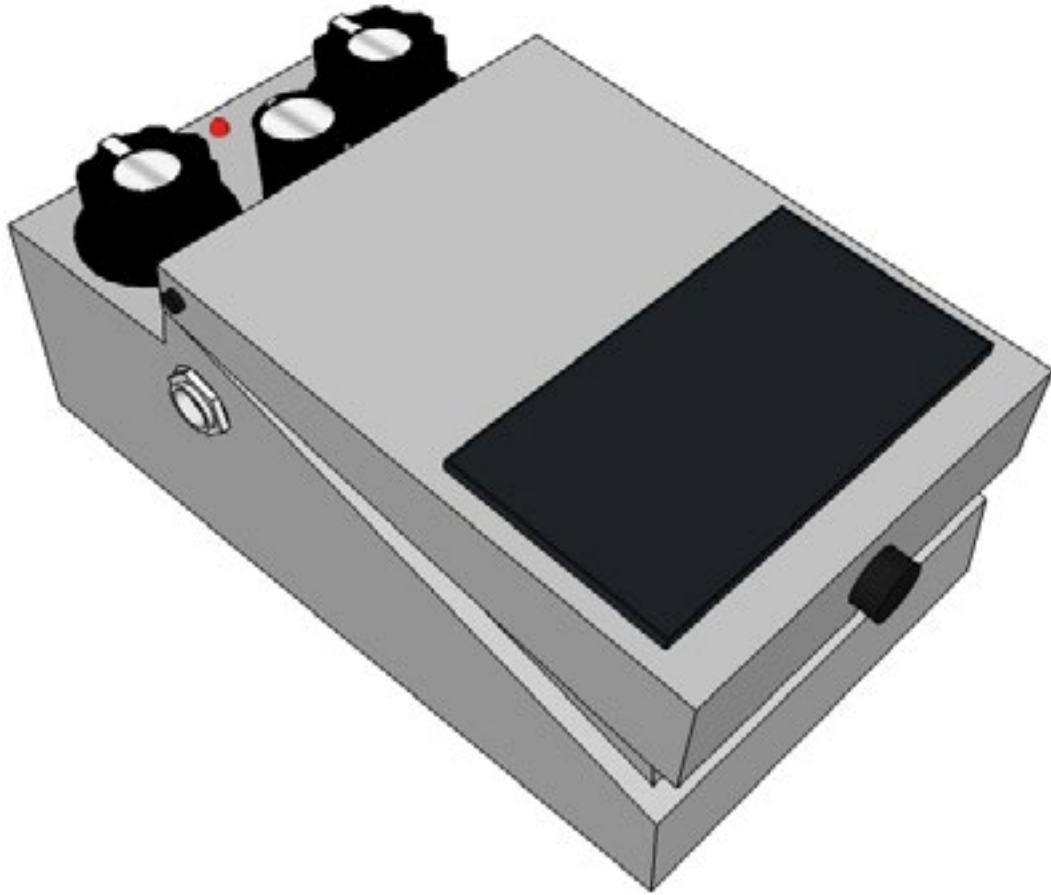


Apply double stick tape to the back of the Click-Less PCB and secure it to the chassis in the desired location, taking care to insure that no leads are poking through the tape. This will prevent the board from shorting to the chassis.

Congratulations! Your Ibanez 9-series pedal has been converted to Click-Less True-Bypass.

SECTION 3 : BOSS EFFECTS

Installation instructions for Boss Effects pedals



OVERVIEW

BOSS analog effects employ buffered electronic switching comprised of four main circuit elements :

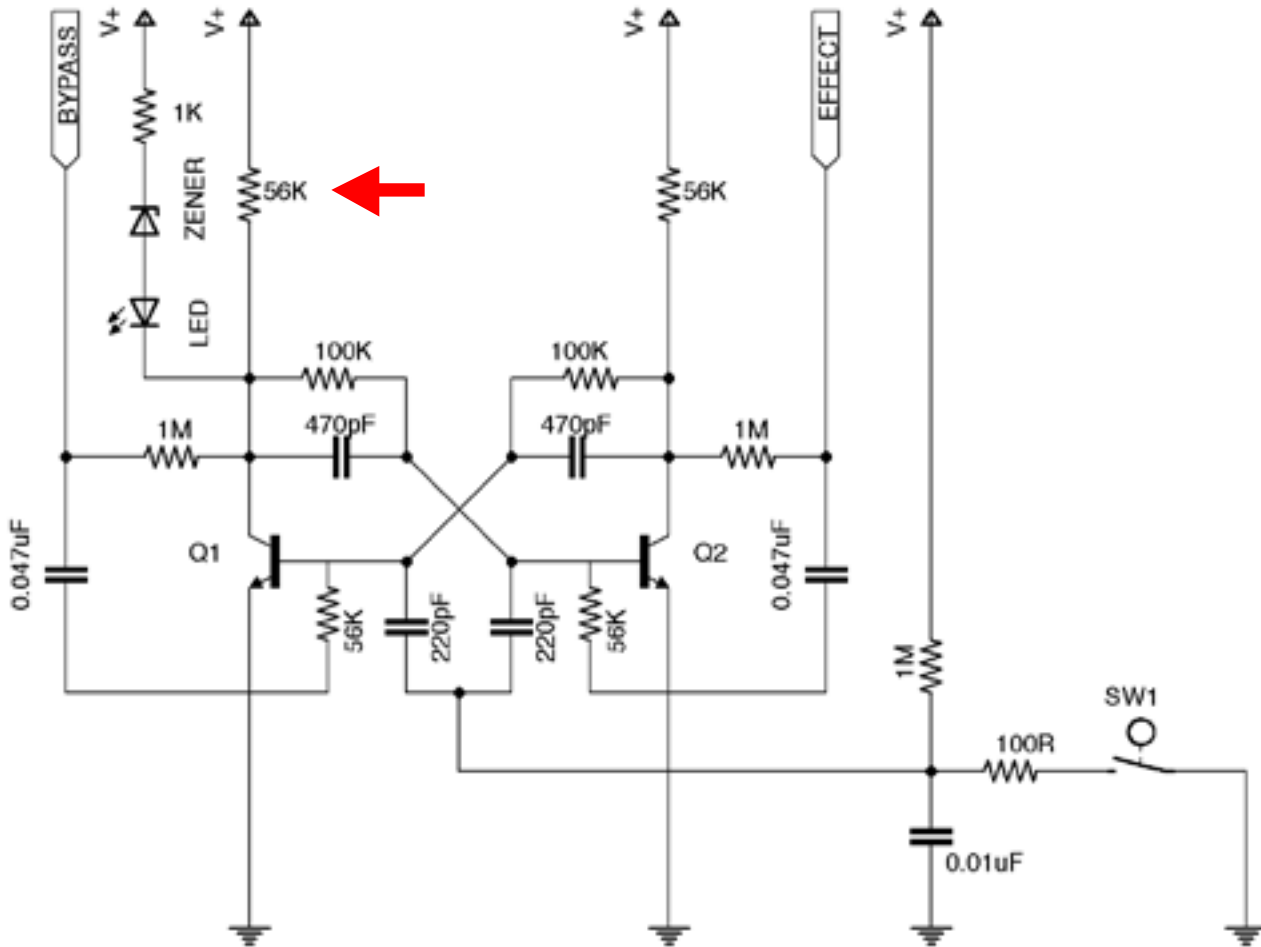
- 1 A buffer/driver circuit used to prevent loading of the signal path and to drive the electronic switching circuit
- 2 Two FETs (field effect transistors) used to block/permit signal flow through the bypass and effect circuits
- 3 A flip-flop circuit used to select which FET is ON/OFF (Bypass/Effect) and route the signal appropriately
- 4 A mechanical momentary contact switch used to control the flip-flop circuit

Installing the Click-Less True-Bypass requires circumvention of the electronic switching system and re-routing the signal patch through the Click-Less PCB.

This Manual will focus on the flip-flop circuit and signal routing.

3.1 : DEFEATING THE FLIP-FLOP

In order to install the Click-Less system, the flip-flop circuit must be forced into the Effect mode at all times, so that signal is flowing through the effect circuit when the pedal is activated. This can be accomplished quickly and easily by simply desoldering and removing one resistor :



Removing the 56K resistor indicated above (actual value may vary) insures Q2 will not turn on by preventing its base from ever receiving voltage. This forces the flip-flop circuit into permanently retaining the Effect mode state.

*Technical Note :

The Flip-Flop retains the ability to toggle states until the LED node is disconnected from the circuit.

3.2 : RE-ROUTING SIGNAL FLOW

Now that the Flip-Flop circuit has been defeated, the pedal is locked in Effect mode. Signal must now be re-routed from the input and output jacks through the Click-Less PCB in order to accomplish Click-Less True-Bypass switching. The Click-Less system has been designed to allow you to perform these actions quickly, easily, and effectively.

There are a total of 5 wires you will need to disconnect in order to re-route the signal flow through the Click-Less PCB.

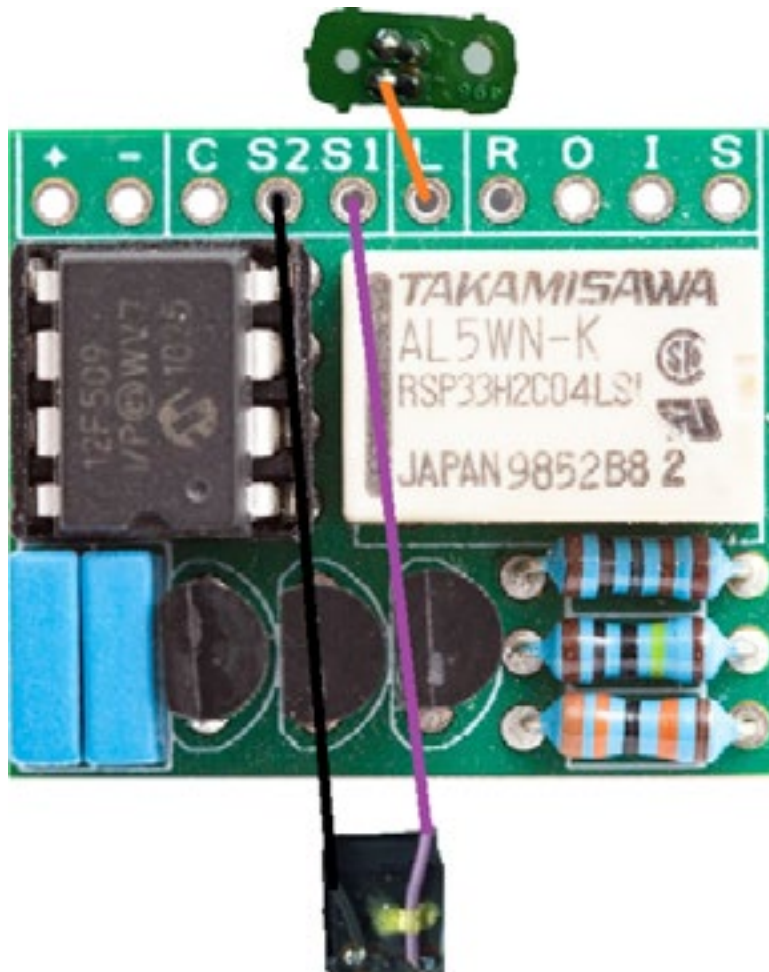
- 1 the input jack wire on the pedal
- 2 the output Jack wire on the pedal
- 3-4 the two wires connected to the LED or the LED PCB (usually Orange)
- 5-6 the two wires connected to the pedal's switch

Disconnect the input jack wire from the effect PCB and write down the hole that the wire was connected to.

Repeat this procedure for the output jack wire, LED PCB wires, and switch wires.

3.3 : WIRING

We recommend using normal [24 AWG hookup wire](#) for wiring to the Click-Less PCB. Depending on the effect pedal you are working on, you may be able to use some of the existing wires to connect to the Click-Less PCB.



- +
 -
 - C
 - S2
 - S1
 - L
 - R
 - O
 - I
 - S
- : wire to 9V source (from DC jack power lug)
- : wire to ground source
- : not used
- : connect to Ibanez momentary switch (normally a black wire already connected to the switch. Disconnect from Main PCB and connect to S2 pad, shown above)
- : connect to BOSS momentary switch (normally a purple already going from the momentary switch to the ground lug. Disconnect from ground lug side and connect to S1 pad, shown above)
- : connect to anode (positive leg) of LED PCB (normally a red wire on the small LED PCB)
- : connect to the effect circuit return/output wire (going from PCB to Output jack)
- : connect to the output jack signal lug
- : connect to the input jack signal lug
- : connect to the effect circuit send/input wire (going from PCB to Input jack)

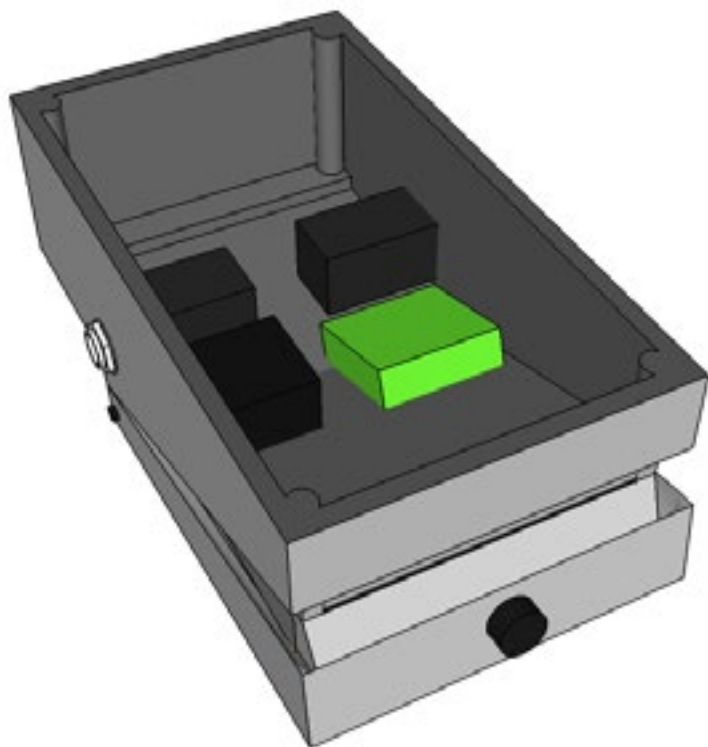
*NOTE: Cathode side (negative side) of LED needs to be connected to nearest available ground source.

3.4 : COMPLETING THE JOB

Installation is nearly complete.

All that remains to be completed is securing the Click-Less PCB and putting the pedal back together.

The recommended placement for most ibanez BOSS compact analog effect pedals is on the inside of the chassis just below the output jack. See illustration below:



Apply double stick tape to the back of the Click-Less PCB and secure it to the chassis in the desired location, taking care to insure that no leads are poking through the tape. This will prevent the board from shorting to the chassis.

Congratulations! Your BOSS pedal has been converted to Click-Less True-Bypass.