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**News:**  
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PRINT

Author

Topic: JHS Synth Drive Mod (Read 28282 times)

**rousejeremy**

Awesome!



Posts: 1781  
Total likes: 49  
Jeremy Rouse



**JHS Synth Drive Mod**

« on: February 21, 2014, 10:12:35 AM »

Not sure if there's already info out there about this, but I had one come in for repair when a co worker smashed a couple of the switches on his.

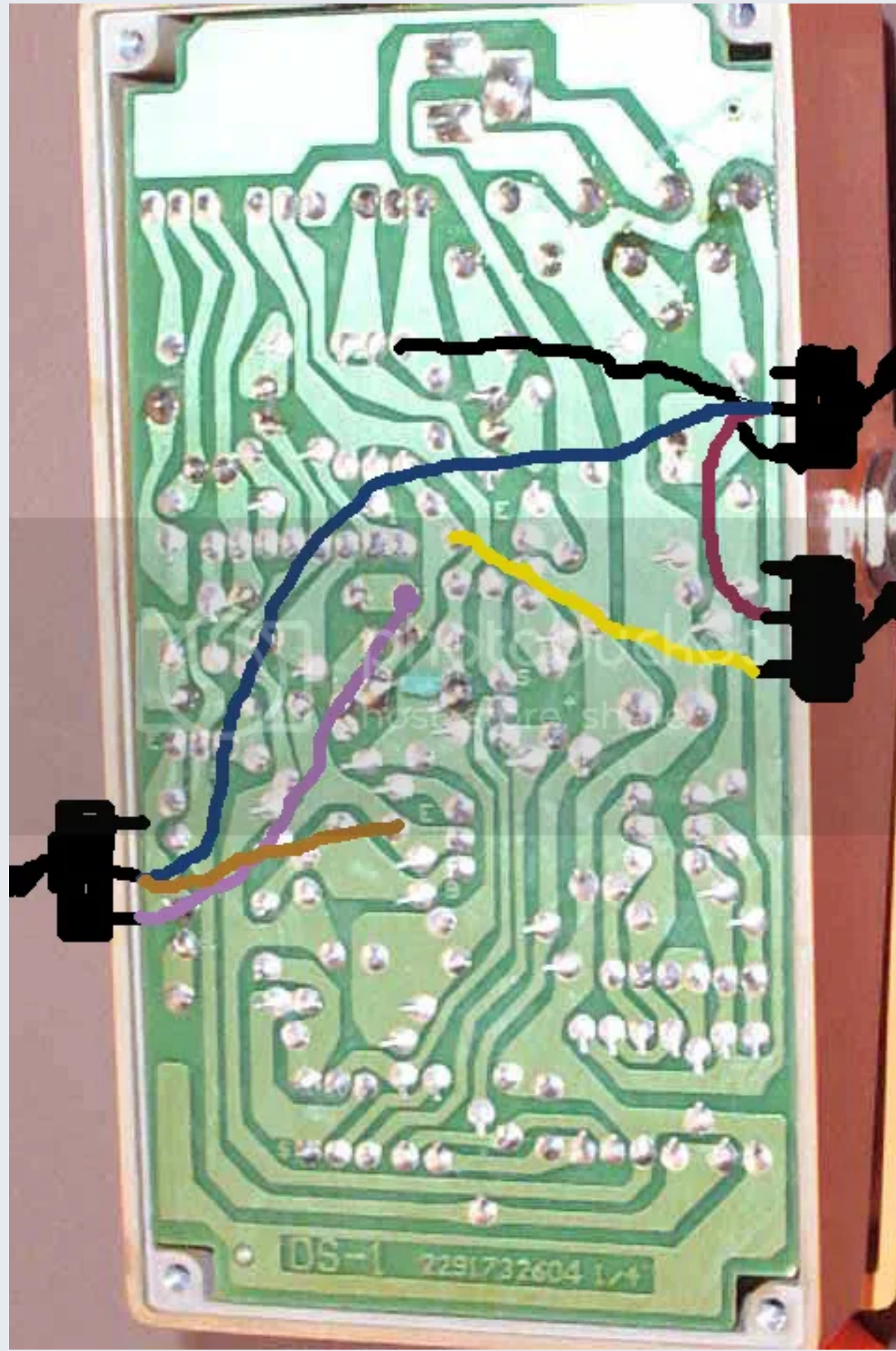
- C1- .1u
- C2- 1uF (NP)
- C3- .047u
- C5- .1u
- C8- 1uF (NP)
- C11- .047u
- C13- .1u
- C14- 1uF (NP)

R35-1.1k metal film

D4-1N4001

D5- 2 5mm red LED's in series, a hole is drilled through the "o" in tone and one LED is held via a holder so it's visible.

There are three SPDT on/on switches mounted on the sides of the enclosure, and they're wired like this.



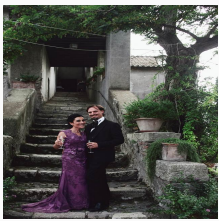
(4 people liked this)

Consistency is a worthy adversary


[www.jeremyrouse.weebly.com](http://www.jeremyrouse.weebly.com)

Renegadrian

Awesome!



Posts: 2537  
Total likes: 53  
Adriano - Rome Italy

 **Re: JHS Synth Drive Mod**  
« Reply #1 on: May 19, 2014, 02:57:16 PM »

just finished to perform this strange mod - it really gives you a better sound in the standard way, less gain but a tone that's usable and not screeching - and as bonus you have those switches to play with! Insane sounds!!!  
I'd perform this mod to others, without those switches, I really love the way it turned out!!!

 Logged

Done an' workin'=Too many to mention - Tube addict!

rousejeremy


Awesome!



Posts: 1781  
Total likes: 49  
Jeremy Rouse  


 **Re: JHS Synth Drive Mod**  
« Reply #2 on: May 24, 2014, 05:18:09 PM »

I built one myself and it wasn't doing exactly what the original was doing, but still pretty crazy.

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Consistency is a worthy adversary  
[www.jeremyrouse.weebly.com](http://www.jeremyrouse.weebly.com)

vigilante397


Awesome!



Posts: 4364  
Total likes: 2843  
Nathan S. - Chicagoland, USA  


 **Re: JHS Synth Drive Mod**  
« Reply #3 on: January 31, 2015, 06:59:07 PM »

I know this thread hasn't been touched in forever, but I performed the mods exactly as detailed above and it sounds exactly like the video 🤓 Absolutely thrilled with this mod, thanks to the OP 😊

 Logged

SUPPORTER

"Some people love music the way other people love chocolate. Some of us love music the way other people love oxygen."

[www.sushiboxfx.com](http://www.sushiboxfx.com)

rousejeremy

Awesome!



Posts: 1781  
Total likes: 49  
Jeremy Rouse  


 **Re: JHS Synth Drive Mod**  
« Reply #4 on: February 01, 2015, 12:27:39 PM »

Quote from: vigilante397 on January 31, 2015, 06:59:07 PM

“ I know this thread hasn't been touched in forever, but I performed the mods exactly as detailed above and it sounds exactly like the video 🤓 Absolutely thrilled with this mod, thanks to the OP 😊

I'm glad it worked out, and glad you bumped this thread. I completely forgot about it and have a couple DS1's laying around.



Consistency is a worthy adversary

[www.jeremyrouse.weebly.com](http://www.jeremyrouse.weebly.com)

## TimVanBoening

member



Posts: 5

Total likes: 1



### Re: JHS Synth Drive Mod

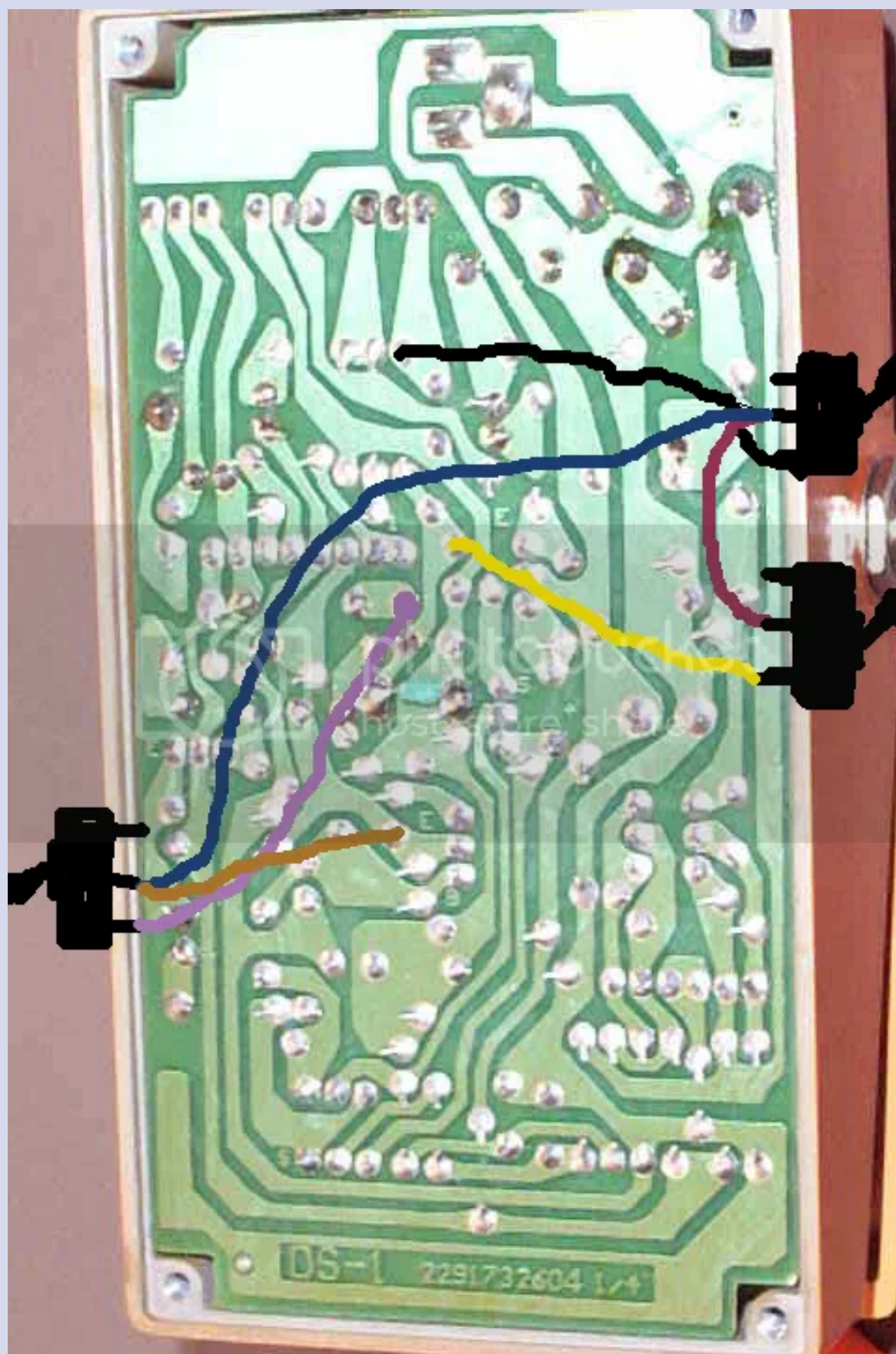
« Reply #5 on: June 21, 2015, 05:19:19 AM »

This is SO exciting!!! I have wanted to do this mod to my DS-1, but didn't want to plop down the \$90 to have JHS do it.

Quote from: rousejeremy on February 21, 2014, 10:12:35 AM



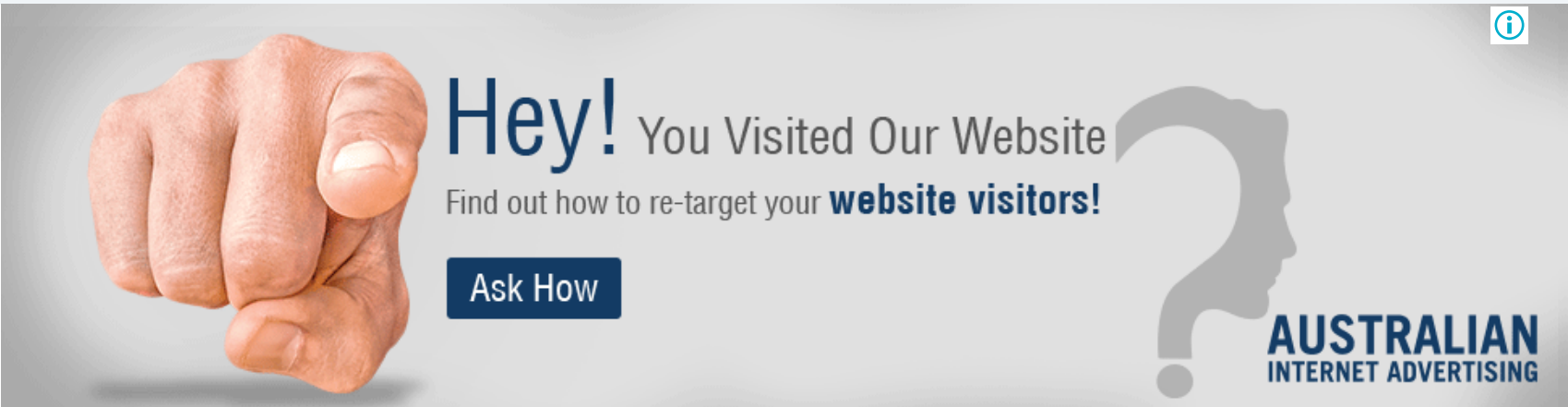
There are three SPDT on/on switches mounted on the sides of the enclosure, and they're wired like this.



Thanks for posting this, man! I do have a question: since the SPDT switches are mounted above the board, how would you go about getting the wires down and around to solder to the board as shown in the pic? Long wires coming from each corner near the screw holes?

Thanks!

Amateur guitar and effect pedal builder, tabletop wargamer.



**TimVanBoening**

member



Posts: 5

Total likes: 1



**Re: JHS Synth Drive Mod**

« Reply #6 on: June 21, 2015, 01:44:10 PM »

Also, do you have a pic of the modified board? I want to make sure I buy the correct caps and doodads.

Another question! Does the additional LED, installed in the O of Tone, provide any other use besides pulsing with the signal going through it? Is it a required aspect of the mod? How are the leads soldered to D5?

« Last Edit: June 21, 2015, 06:28:00 PM by TimVanBoening »

Amateur guitar and effect pedal builder, tabletop wargamer.

**vigilante397**

Awesome!



Posts: 4364

Total likes: 2843

Nathan S. - Chicagoland,  
USA



**Re: JHS Synth Drive Mod**

« Reply #7 on: June 21, 2015, 06:29:49 PM »

**Quote from: TimVanBoening on June 21, 2015, 01:44:10 PM**

“ Also, do you have a pic of the modified board? I want to make sure I buy the correct caps and doodads.

Another question! Does the additional LED, installed in the O of Tone, provide any other use besides pulsing with the signal going through it? Is it a required aspect of the mod?

I can take a picture of my modded board if you like, but it won't be until tomorrow since I left the pedal at work 😊

If I remember right the additional LED is used as a clipping diode, though in mine I kept the original 1N4148s because I think switching the caps makes it sound perfect then switching the clipping diodes takes it a step backwards. Just my opinion.



SUPPORTER

(1 person liked this)

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[www.sushiboxfx.com](http://www.sushiboxfx.com)

**vigilante397**

Awesome!



Posts: 4364

Total likes: 2843

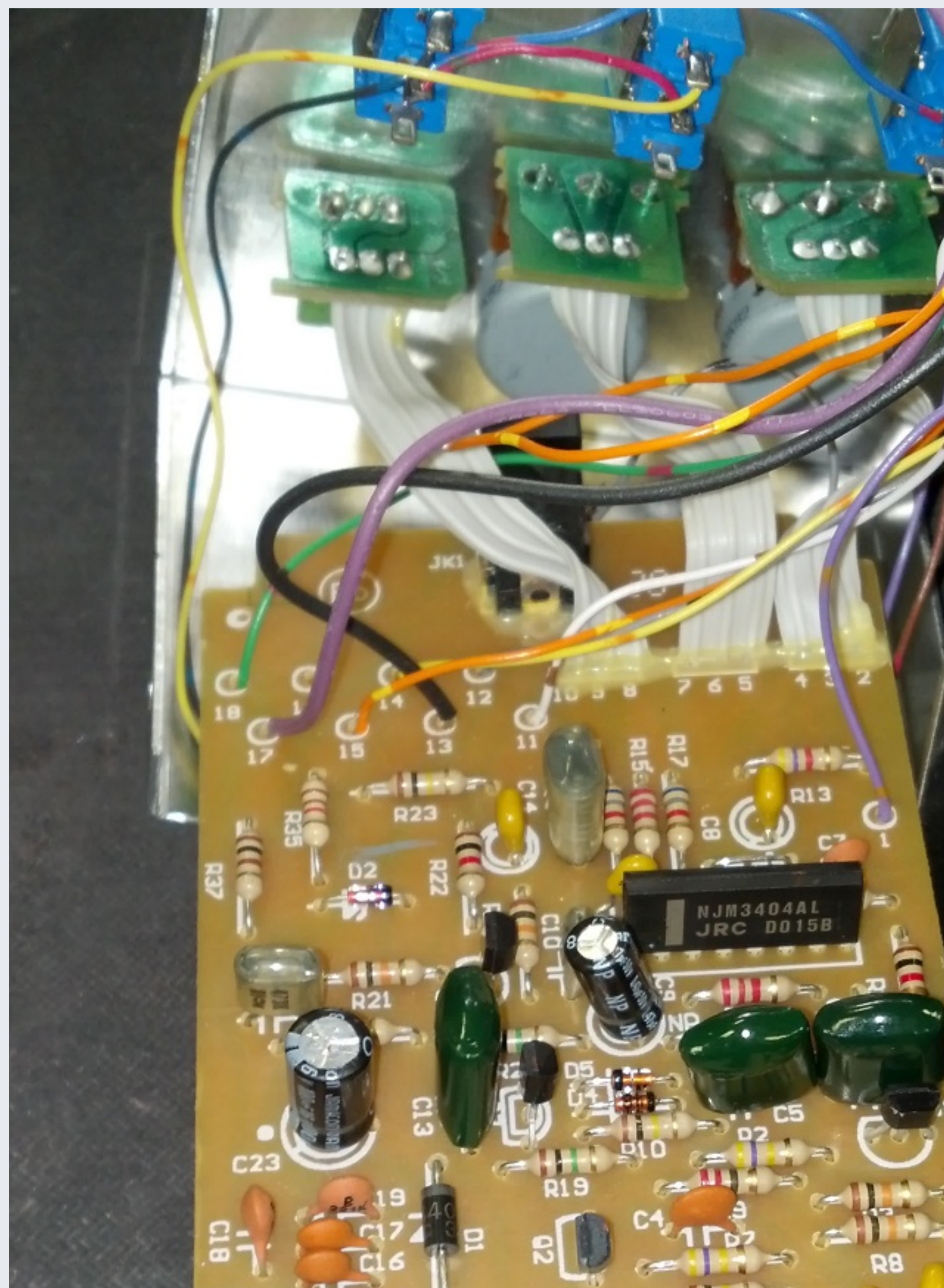
Nathan S. - Chicagoland,  
USA



**Re: JHS Synth Drive Mod**

« Reply #8 on: June 27, 2015, 01:38:07 PM »

Sorry I took forever to do this, but I seem to have forgotten, then for some reason I remembered today. It looks like I used film caps for a few and monolithic ceramic caps for the rest. And I left the diodes stock because I thought they sounded better that way. Hope this helps, let me know if you have any other questions.







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[www.sushiboxfx.com](http://www.sushiboxfx.com)

**TimVanBoening**

member



Posts: 5

Total likes: 1



**Re: JHS Synth Drive Mod**

« Reply #9 on: June 29, 2015, 08:34:53 PM »

That does help, thank you!

I tried the LED as the clipping diode, and I am not too much of a fan of it. I feel the distortion stays the same until you get to 9 o'clock, then it starts getting more crazy.

I accidentally threw the original diode away, so I guess I'll have to buy another to replace it. Now I'll have an LED wired to nothing.

Logged

vigilante397

Awesome!



Posts: 4364

Total likes: 2843

Nathan S. - Chicagoland,  
USA



Re: JHS Synth Drive Mod

« Reply #10 on: June 30, 2015, 05:26:02 PM »

Quote from: TimVanBoening on June 29, 2015, 08:34:53 PM

“ That does help, thank you!

I tried the LED as the clipping diode, and I am not too much of a fan of it. I feel the distortion stays the same until you get to 9 o'clock, then it starts getting more crazy.

I accidentally threw the original diode away, so I guess I'll have to buy another to replace it. Now I'll have an LED wired to nothing.

There are a couple circuits I like LEDs as clipping diodes for, but no more than a couple, and this is not one. I would definitely recommend sticking with the 1N914 (or 1N4148).

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SUPPORTER

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[www.sushiboxfx.com](http://www.sushiboxfx.com)

TimVanBoening

member



Posts: 5

Total likes: 1



Re: JHS Synth Drive Mod

« Reply #11 on: July 01, 2015, 09:02:45 PM »

Quote from: vigilante397 on June 30, 2015, 05:26:02 PM

“ Quote from: TimVanBoening on June 29, 2015, 08:34:53 PM

“ That does help, thank you!

I tried the LED as the clipping diode, and I am not too much of a fan of it. I feel the distortion stays the same until you get to 9 o'clock, then it starts getting more crazy.

I accidentally threw the original diode away, so I guess I'll have to buy another to replace it. Now I'll have an LED wired to nothing.

There are a couple circuits I like LEDs as clipping diodes for, but no more than a couple, and this is not one. I would definitely recommend sticking with the 1N914 (or 1N4148).

Thanks! Yeah, I am not digging it. I will need to buy the part again and the LED will just be an odd addition to the pedal and not be wired.



(1 person liked this)

Amateur guitar and effect pedal builder, tabletop wargamer.

## TimVanBoening

member



Posts: 5

Total likes: 1



### Re: JHS Synth Drive Mod

« Reply #12 on: August 16, 2015, 10:45:37 PM »

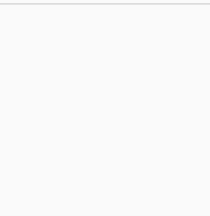
Hey all! So I did the mod, and it doesn't seem to be working. Can you guys see if I did something wrong? Something as simple as putting a part in backwards? Thank you all for your patience and help!




Amateur guitar and effect pedal builder, tabletop wargamer.

Cozybuilder

Awesome!



Posts: 1216  
Total likes: 448  
Russ - Florence, AL

 **Re: JHS Synth Drive Mod**  
« Reply #13 on: August 17, 2015, 08:57:37 AM »

Is this the photo you meant to post? This is from a Boss DS-1 distortion.

Edit: never mind, I should have read the thread before posting 😞

« Last Edit: August 17, 2015, 09:40:13 AM by Cozybuilder »  Logged

Some people drink from the fountain of knowledge, others just gargle.

mth5044


Awesome!



Posts: 2968  
Total likes: 225  
Matt

 **Re: JHS Synth Drive Mod**  
« Reply #14 on: August 17, 2015, 08:59:01 AM »

The mod is for the DS1. Check out he other pics

 Logged

vigilante397

Awesome!



Posts: 4364  
Total likes: 2843  
Nathan S. - Chicagoland,  
USA  


 **Re: JHS Synth Drive Mod**  
« Reply #15 on: August 23, 2015, 04:30:11 PM »

Quote from: TimVanBoening on August 16, 2015, 10:45:37 PM

Hey all! So I did the mod, and it doesn't seem to be working. Can you guys see if I did something wrong? Something as simple as putting a part in backwards? Thank you all for your patience and help!

Sorry to take so long to respond. My first question will always be:

1) Did the DS-1 work before the mods? If not, see general debugging instructions. If so, continue to next step.

- 2) Double check to see if you accidentally split any of the offboard wires (there are quite a few) during the modding. I have done this more times than I care to admit.
- 3) Are you sure your caps are oriented right? The directions call for non-polarized (NP) caps and these are what I use specifically so I wouldn't have to worry about.
- 4) Are you sure you got all the wires for the switches to connected to the right pads and not shorting to anywhere else on the board? This is always an important part of circuit bending, and I messed it up a couple times before I got it right.





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5) Have you tested it outside the box? With all the wires running everywhere and an extra few switches the stock Boss box gets a little crowded and the chance of something shorting to the enclosure gets pretty high, so check this.

Let me know if you've checked all of these, everything seems right and it still doesn't work. I promise I'll be faster to respond next time 😊 I still have mine so if needs be I can crack it open and check voltages.

Hope this helps at least a little 😊

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[www.sushiboxfx.com](http://www.sushiboxfx.com)

**vigilante397**

Awesome!



Posts: 4364

Total likes: 2843

Nathan S. - Chicagoland,  
USA



**Re: JHS Synth Drive Mod**

« Reply #16 on: January 12, 2016, 11:36:35 AM

Welcome to the forum 😊 What do you still have questions about? For this mod you need the following:

- 3 - .1uF (aka 100nF) capacitors
- 3 - 1uF nonpolarized capacitors
- 2 - .047uF (aka 47nF) capacitors
- 1 - 1.1k ohm resistor
- 1 - 1N4001 diode
- 2 - 5mm red LED's
- 3 - mini DPDT switches

soldering iron  
solder  
de-solder pump or solder wick (not essential but very helpful)  
wire  
stock Boss DS-1

More than happy to answer any specific questions you have about this mod. It's a relatively simple one and makes a HUGE difference in the sound, even without the circuit-bending switches it turns it into a legitimately useful distortion. 😎

Good luck! 😊

Logged

SUPPORTER

(1 person liked this)

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[www.sushiboxfx.com](http://www.sushiboxfx.com)

**vigilante397**

Awesome!



**Re: JHS Synth Drive Mod**

« Reply #17 on: January 13, 2016, 12:55:11 AM

I shop with Tayda most of the time. They are very inexpensive, they have an excellent selection of components, and they ship to anywhere in the world. 😊

<http://www.taydaelectronics.com/>



Posts: 4364  
Total likes: 2843  
Nathan S. - Chicagoland,  
USA



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SUPPORTER

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[www.sushiboxfx.com](http://www.sushiboxfx.com)

**bluebunny**

more  
Awesome!



Posts: 7041  
Total likes: 4611

Marc B. (UK)



Logged

**Re: JHS Synth Drive Mod**  
« Reply #18 on: January 13, 2016, 02:56:26 AM

...and they regularly post a handy discount coupon on Facebook the minute after Nathan has placed an order. Isn't that right, "Whipping Boy"? 😊

P.S. The other place to check out is [Smallbear](#), of course.

SUPPORTER

(1 person liked this)

Ohm's Law - much like Coles Law, but with less cabbage...

**vigilante397**

Awesome!



Posts: 4364  
Total likes: 2843

Nathan S. - Chicagoland,  
USA



Logged

**Re: JHS Synth Drive Mod**  
« Reply #19 on: January 13, 2016, 10:10:49 AM

**Quote from: bluebunny on January 13, 2016, 02:56:26 AM**

“  
...and they regularly post a handy discount coupon on Facebook the minute after Nathan has placed an order. Isn't that right, "Whipping Boy"? 😊  
”

Of course, there is that as well 😊

SUPPORTER

(1 person liked this)

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