PROJECT NAME

ANDROMEDA DELUXE

aion DIY GUITAR EFFECTS

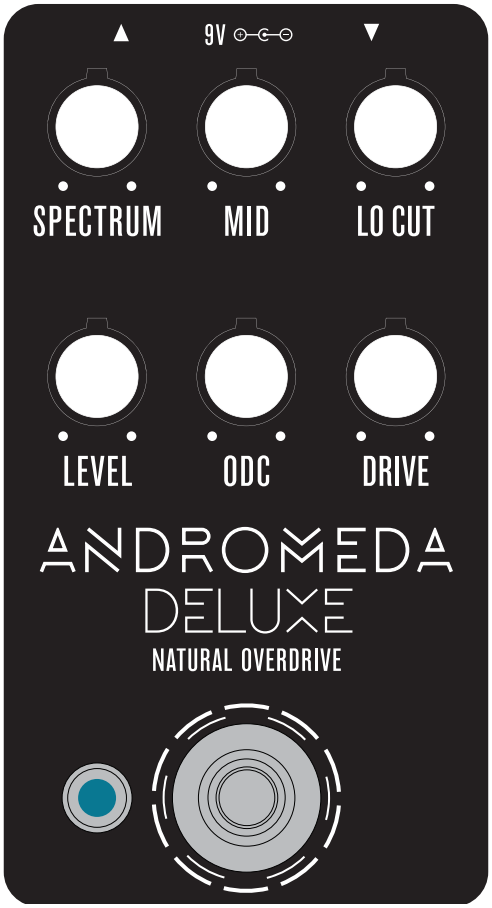
BASED ON
Nordland ODR-C

BUILD DIFFICULTY
Intermediate

EFFECT TYPE
Overdrive

DOCUMENT VERSION
1.0.0 (2025-08-30)

PROJECT SUMMARY
An updated version of the definitive Nashville overdrive, handmade by the original circuit designer, adding three new controls and a number of other small refinements.



IMPORTANT NOTE

This documentation is for the **kit** version of the project. If you purchased the PCB by itself, please use the PCB-only version of the documentation instead. The circuit is the same, but the instructions are completely different due to the specialized parts and assembly methods used in the kit.

Additionally, this is the **deluxe** version, which has two additional controls and is a more advanced build than the standard Andromeda. The part numbering is different between the two, so make sure you are using the correct documentation for your version of the kit.

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INTRODUCTION

If this is your first pedal, welcome to the hobby and thank you for choosing Aion FX. You've just joined a community of over 100,000 people around the world with a passion for building homemade noise machines using obsolete electronics technology, and we're glad to have you!

If you've done this before, it's great to see you again and we're confident you'll find this build experience an enjoyable one.

Aion FX kits are designed to empower anyone to build a high-quality pedal, no matter the skill level. The pedalbuilding hobby has traditionally had a steep learning curve, but don't be overwhelmed—we've done all the hard work for you. All you need to do is follow these instructions and you'll be on your way to transforming your tone.

There are a few things to go over before you get started.

- **You're going to have to get your hands dirty**—there's no way around it. Nothing here comes preassembled, and you'll have to learn the skills to put it all together. This document will walk you through everything you need, but be prepared to learn a few things along the way.
- **This will take time**. Plan on about two hours start to finish. It may take even longer if it's your first time building. Don't rush it. If you find yourself getting frustrated or overwhelmed, take a break and come back in a couple of hours or the next day.
- **No direct technical support is offered.** There are several DIY forums and Facebook groups with thousands of members who enjoy troubleshooting and teaching. But please be sensitive to the fact that the staff at Aion FX is minimal, and every minute spent helping individuals in private is time that can't be spent on new project development.
- **There is no implied guarantee of a final product.** Aion FX provides the ingredients and the recipe, but you are responsible for putting everything together to make it work. We've tried to make the process as clear and accessible as possible, but it must be expressly stated that purchasing the kit is not a guarantee that you will end up with a working pedal.

It's recommended to read through all of the instructions before you start, particularly if you've never built a pedal before. If you familiarize yourself with the entire process ahead of time and you know what the goal looks like, each step will make more sense.

Now, on to the fun stuff!

PACKING LIST

This is a list of all the parts that are included with the kit, grouped by value. For a list of all the parts based on their PCB part numbers, please see page 25.

If you find that any parts are missing or damaged, please fill out the Missing Parts form.

Film Capacitors

NAME	QTY
1n	2
2n7	2
4n7	1
8n2	2
22n (0.022)	2
27n (0.027)	1
68n (0.068)	2
82n (0.082)	3
100n (0.1)	2
220n (0.22)	2
1uF	5
2.2uF	2

Electrolytic Capacitors

NAME	QTY
47uF	2
220uF	1

MLCC Capacitors

NAME	QTY
150pF (marked “151”)	1
100n (marked “104”)	1

Transistors

NAME	QTY
J112	1
2N5088	2

Resistors

NAME	QTY
10R	3
100R	2
470R	1
820R	1
1k	1
1k2	4
1k5	1
2k2	2
2k7	1
3k3	3
4k7	1
5k1	2
10k	6
12k	2
13k	1
22k	2
33k	1
39k	1
43k	1
100k	1
150k	4
1M	1

Diodes

NAME	QTY
1N5817	1
1N914	4
LED, 3mm green	2

PACKING LIST (CONT.)

ICs

NAME	QTY
RC4558D	2
8-pin socket	2

Other

NAME	QTY
LED bezel	1
LED, blue	1
DC jack	1
Input/output jack	2
Mounting nut, jack, 0.54"	4
Outer washer, jack, 0.6"	2
Lock washer, jack, 0.5" (thin)	2
Enclosure	1
Enclosure screws	4
PCB, main circuit	1
PCB, footswitch	1
PCB, input/output/DC	1

Potentiometers

NAME	QTY
25kB	2
50kA	1
50kB	2
250kA	1
Dust cover	6
Knob	6
Mounting nut, potentiometer, 0.44"	6
Lock washer, potentiometer, 0.5"	6
Outer washer, potentiometer, 0.475"	6

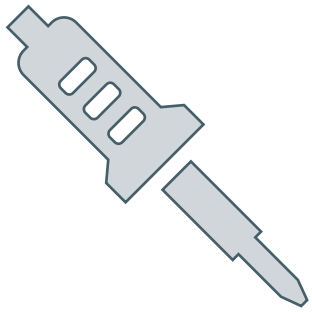
Switches

NAME	QTY
Stomp switch, 3PDT	1
Mounting nut, stomp switch, 0.6"	2
Lock washer, stomp switch, 0.6"	1
Dress nut, stomp switch, 0.77"	1

Wiring

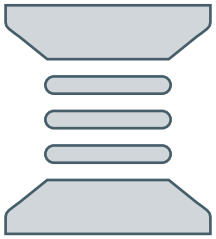
NAME	QTY
3-strand wire assembly, 70mm	2
4-strand wire assembly, 122mm	1
3-pin wire assembly header	2
4-pin wire assembly header	1

TOOLS NEEDED



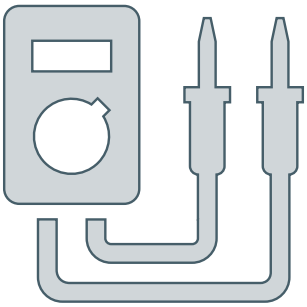
SOLDERING IRON

Temperature-adjustable is recommended. The optimum soldering temperature is 700-725° F (371-385° C) for leaded solder, or 750° F (400° C) for lead-free.



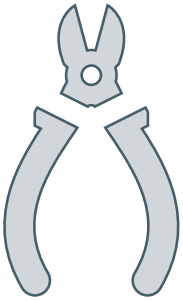
SOLDER

Preferably 63/37 or 60/40 leaded solder. Lead-free is more difficult to use, so if that's the only type you can get, it's best to watch tutorials that are specific to lead-free solder.



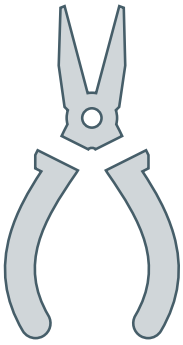
DIGITAL MULTIMETER (DMM)

Most cheap ones in the $10-30 range are fine for what we're doing. Make sure it has audible continuity testing (i.e. it beeps at the lowest resistance) and transistor hFE measurement.



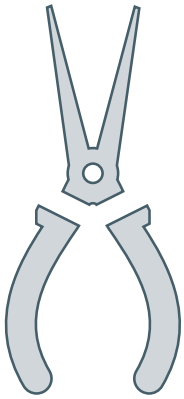
WIRE SNIPPERS

Also called nippers or wire cutters. The Hakko CHP-170 is the best you can get for less than $10.



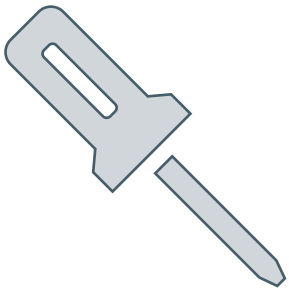
FLAT-NOSE PLIERS

Many general-purpose uses, but particularly tightening the nuts of pots, switches and jacks. Quicker than changing out sockets on a ratchet.



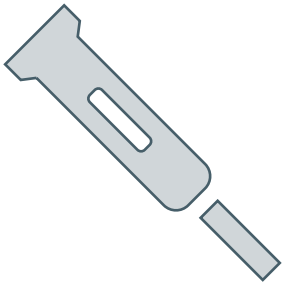
NEEDLE-NOSE PLIERS

These are used for bending leads on components and other general uses. Use the smaller type with a tip that's approximately 0.05" (1.25mm) wide.



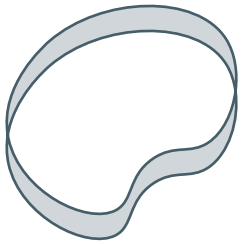
SCREWDRIVER (PHILLIPS)

Used for the enclosure screws. Get a powered driver if you'll be building a lot of pedals!



FLAT SCREWDRIVER (SMALL)

This is used for tightening the set screws on the knobs. The tip should be no more than 0.1" (2.5mm) wide.



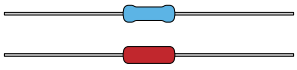
RUBBER BAND

Yes, a plain old rubber band. This is used to tighten the dress nut to avoid scratching or denting it (which can happen with metal tools).

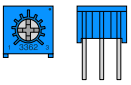
COMPONENT IDENTIFICATION

If you've never built a pedal before, you'll need to know what all the components are. These are shown actual size. (Not all of these types of components may be part of this kit.)

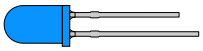
RESISTOR



TRIM POTENTIOMETER

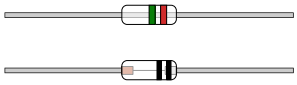


LED



SILICON DIODE

GERMANIUM DIODE



These are very fragile, so be careful when handling them.

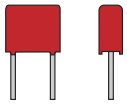
RECTIFIER DIODE

Some Schottky diodes also look like this.

SCHOTTKY DIODE

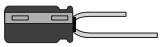
ZENER DIODE

FILM CAPACITOR



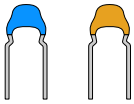
Not polarized. Color may vary by brand and type.

ELECTROLYTIC CAPACITOR



Polarized. The negative side is marked.

MLCC

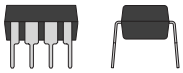


Not polarized. MLCC stands for "multi-layer ceramic capacitor."

TANTALUM CAPACITOR

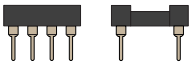
Polarized. The positive side is marked.

IC OR OP-AMP

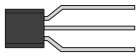


Charge pumps and delay chips also look like this. They may have more than 8 legs.

IC SOCKET

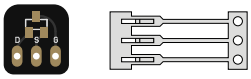


TRANSISTOR OR JFET



Some voltage regulators also look like this.

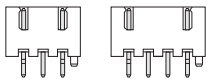
TRANSISTOR WITH ADAPTER



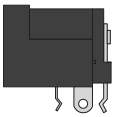
The pins will be soldered to the adapter during kit assembly.

WIRE ASSEMBLY

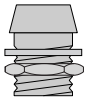
WIRE ASSEMBLY HEADER



DC JACK



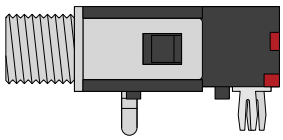
LED BEZEL



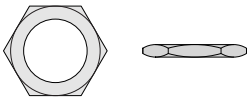
HARDWARE IDENTIFICATION

The hardware comes unassembled, so you'll need to sort & identify each of the pieces. The diagrams below are actual size, so you can set them against the printed page to identify them if needed.

I/O JACK

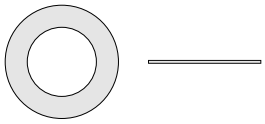


MOUNTING NUT



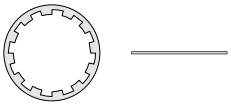
DIAMETER: 0.54" / 13.7mm

OUTER WASHER



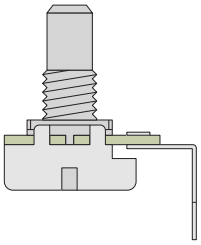
DIAMETER: 0.6" / 15.2mm

LOCK WASHER

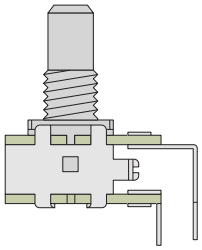


DIAMETER: 0.5" / 12.7mm

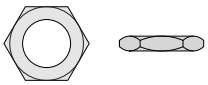
POTENTIOMETER (SINGLE)



POTENTIOMETER (DUAL)

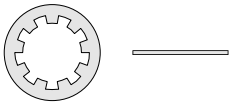


MOUNTING NUT



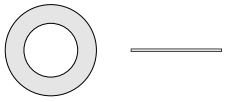
DIAMETER: 0.44" / 11.2mm

LOCK WASHER



DIAMETER: 0.5" / 12.7mm

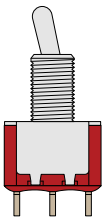
OUTER WASHER



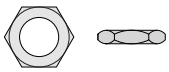
DIAMETER: 0.475" / 12mm

KNOB

TOGGLE SWITCH

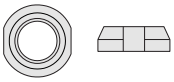


MOUNTING NUT



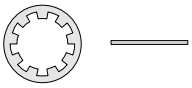
DIAMETER: 0.36" / 9.1mm

DRESS NUT



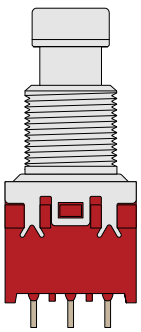
DIAMETER: 0.375" / 9.5mm

LOCK WASHER

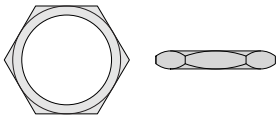


DIAMETER: 0.4" / 10.1mm

FOOTSWITCH

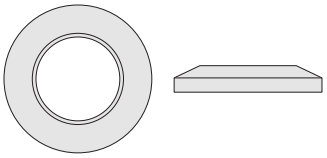


MOUNTING NUT



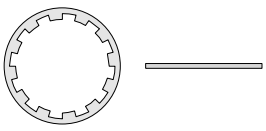
DIAMETER: 0.6" / 15.2mm

DRESS NUT



DIAMETER: 0.77" / 19.6mm

LOCK WASHER



DIAMETER: 0.6" / 15.2mm

PCB ASSEMBLY OVERVIEW

Now it's time to start building!

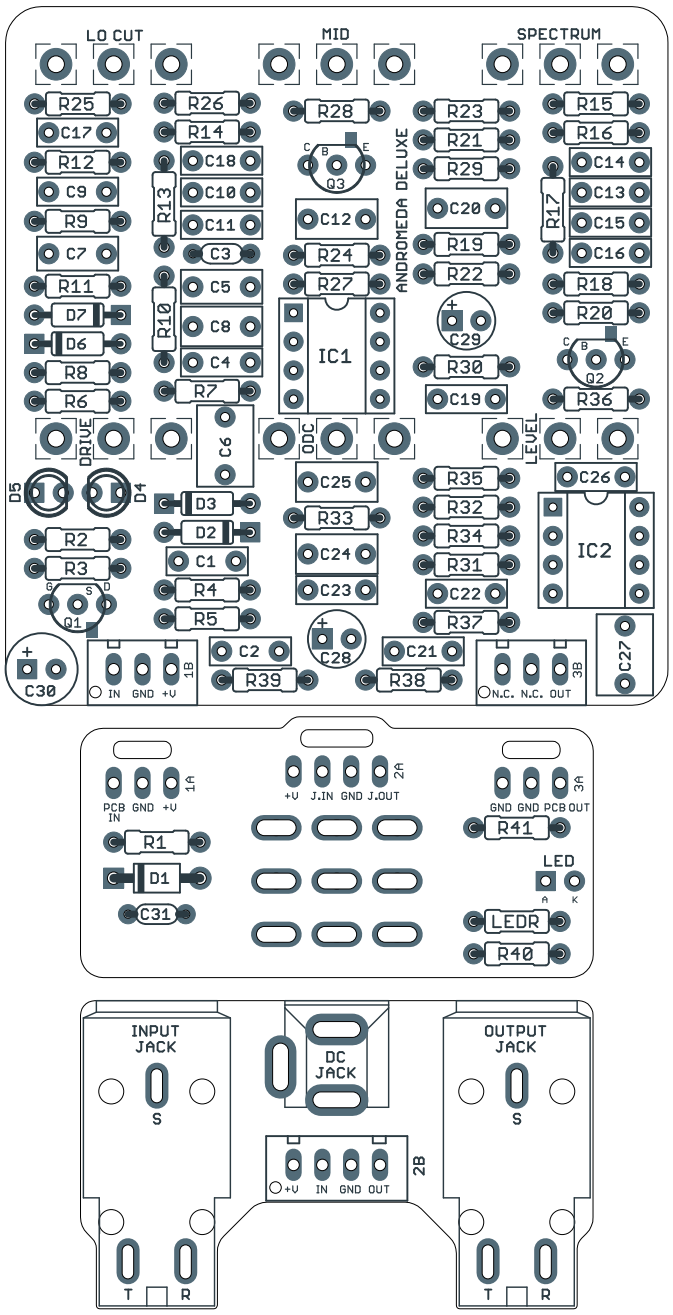
The first thing you need to do is snap apart the PCBs into 3 separate boards (if needed) and break off the tabs from each using needle-nose or flat-head pliers. You should be left with the PCBs shown to the right.

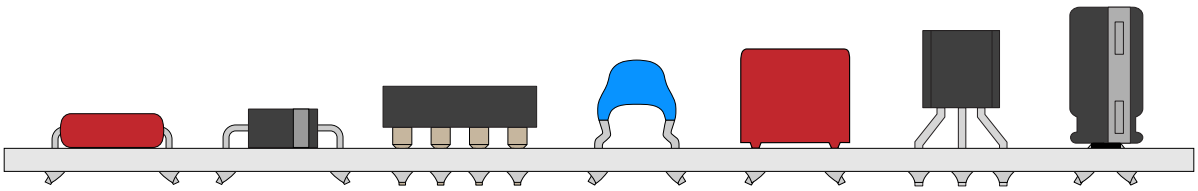
The general principle for PCB population is that you want to work in layers from shortest components (i.e. lowest-profile) to tallest so that when the PCB is upside-down, everything is making contact with the work surface and is held in place.

Generally speaking, you should populate the components in this order:

1. Resistors
2. Diodes
3. IC sockets
4. MLCC capacitors
5. Film capacitors
6. Transistors
7. Electrolytic capacitors

Not all of these component types are included in each kit, so skip them if they aren't applicable. Some types of film capacitors are taller than electrolytics, so those can be done last.





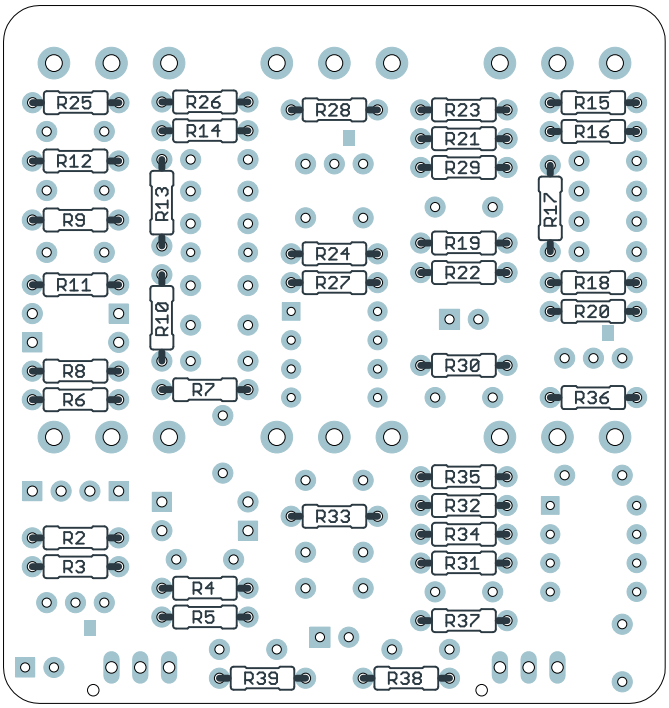
RESISTORS

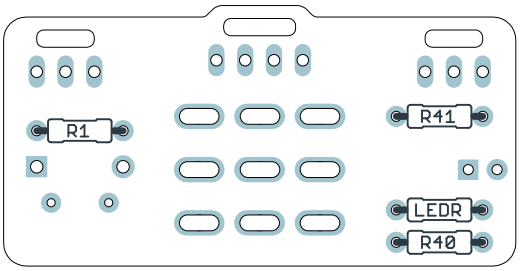
PART	VALUE
R1	33k
R2	1M
R3	3k3
R4	2k7
R5	10k
R6	1k2
R7	820R
R8	1k5
R9	2k2
R10	12k
R11	10R

PART	VALUE
R12	39k
R13	12k
R14	10k
R15	5k1
R16	10R
R17	10R
R18	2k2
R19	150k
R20	3k3
R21	1k2
R22	43k

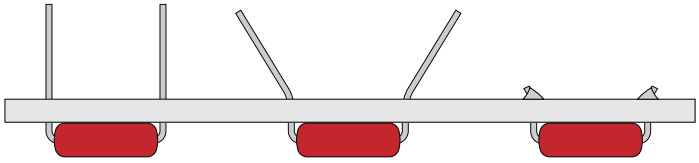
PART	VALUE
R23	3k3
R24	100R
R25	100R
R26	1k2
R27	100k
R28	10k
R29	10k
R30	22k
R31	4k7
R32	22k

PART	VALUE
R33	5k1
R34	1k
R35	1k2
R36	150k
R37	150k
R38	10k
R39	13k
R40	150k
R41	470R
LEDR	10k





Using the parts list above, populate the resistors by pushing them through the holes and bending the leads outward at an angle to hold them in place. Resistors are not polarized, so they will work in any direction. Turn the board upside-down to keep the components held in place while you solder.



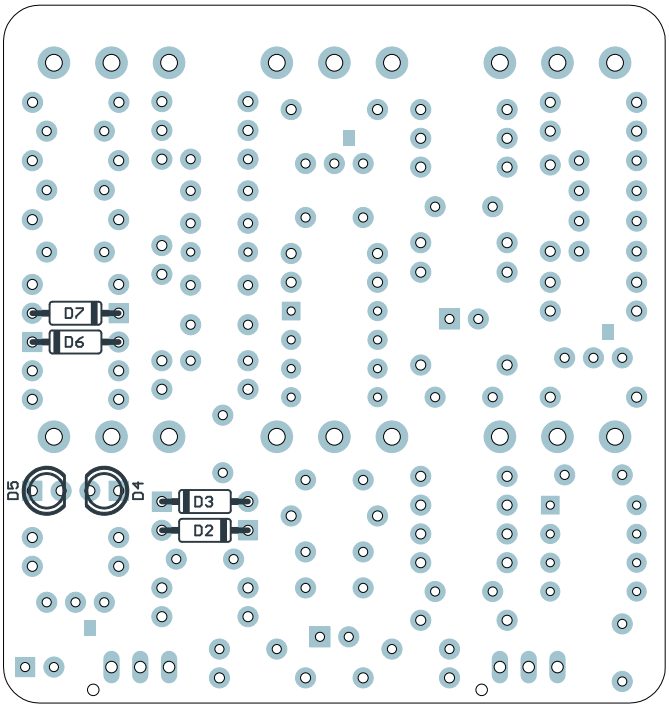
Don't try to do all of the resistors at once. You'll want to stop periodically flip the board and solder everything, then cut the leads using the wire snippers to make room for more.

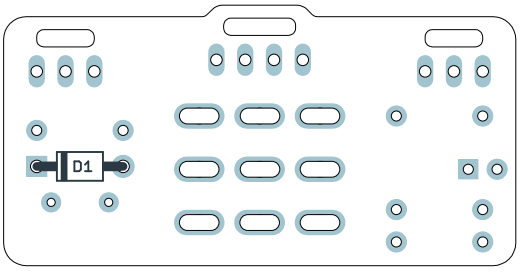
DIODES

PART	VALUE
D1	1N5817
D2	1N914
D3	1N914

PART	VALUE
D4	3mm green LED
D5	3mm green LED

PART	VALUE
D6	1N914
D7	1N914





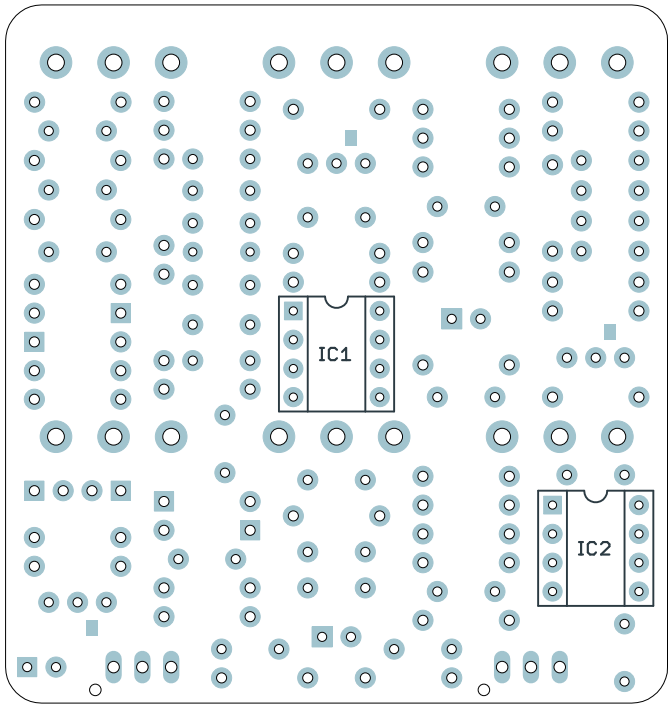
Next, you'll populate the diodes. Diodes are polarized, so make sure to identify the polarity band (which indicates the "cathode", or negative side) and match the band to the footprint on the PCB.

Installing the LEDs

The D4 and D5 LEDs act as clipping diodes in this circuit. As with polarized capacitors, the long leg goes in the square pad and the short leg in the round pad. Each LED has a flat side which represents the cathode (negative side) and they should be installed so that the flat sides face each other. The orientation is shown on the PCB silkscreen if you look carefully, but it's partially obscured by the pads so it can be hard to make out.

SOCKETS & ICS

PART	VALUE
IC1	RC4558P
IC2	RC4558P



Next up are the IC sockets. You can't bend the leads of the sockets like you can with the other components, so they won't stay in on their own until they are soldered.

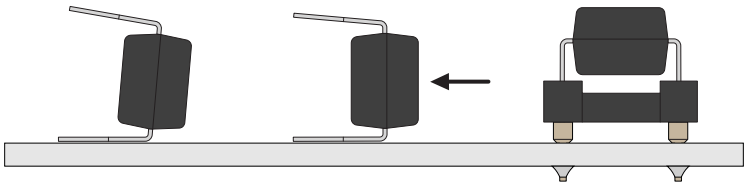
Again, it's much easier to do this with gravity holding it in place for you, so you'll want install the socket before you do any of the taller components.

Installing the IC

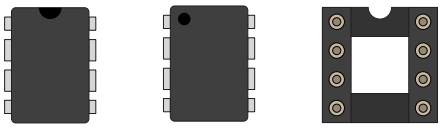
Don't insert the IC into the socket just yet. We will do this in a later step, after we've finished soldering the tallest components (the polarized capacitors). This information is just listed here for reference.

The legs of the IC are bent outward slightly during manufacturing, so they'll need to be bent back inward before they can be inserted into the sockets.

It's easiest to do this by laying the IC legs against the table and bending the body itself so all four legs on the side are straightened out at once. Then, flip it and do the other side.

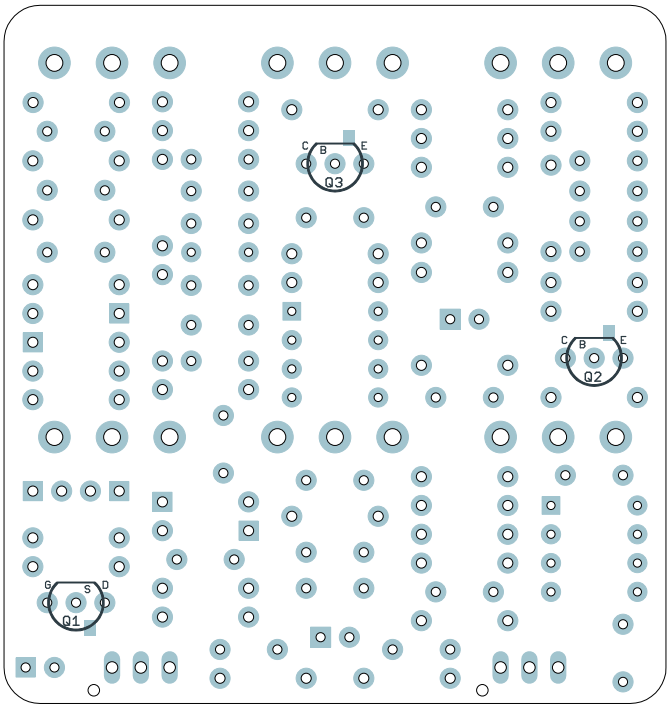


ICs may have two different orientation marks: either a dot in the upper-left or a half-circle notch in the middle of the top side. Some ICs have both marks. This shows which way the IC should be rotated when inserting it into a socket (the socket also has a half-circle notch).

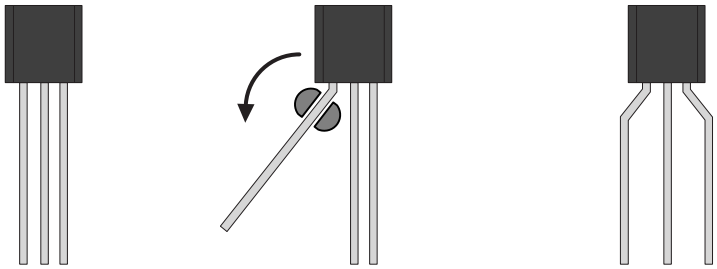


TRANSISTORS

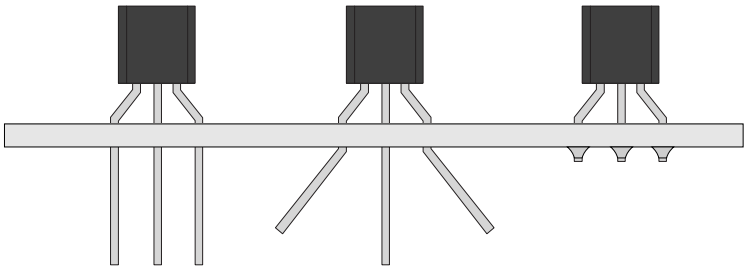
PART	VALUE
Q1	J112
Q2	2N5088
Q3	2N5088



Now we'll do the transistors. For each, if the legs are not already bent into 0.1" spacing, use your needle-nose pliers to bend the outer two legs as shown.



Once installed, bend the two outer legs to hold it in place on the board. Then, solder them in place and clip the leads.



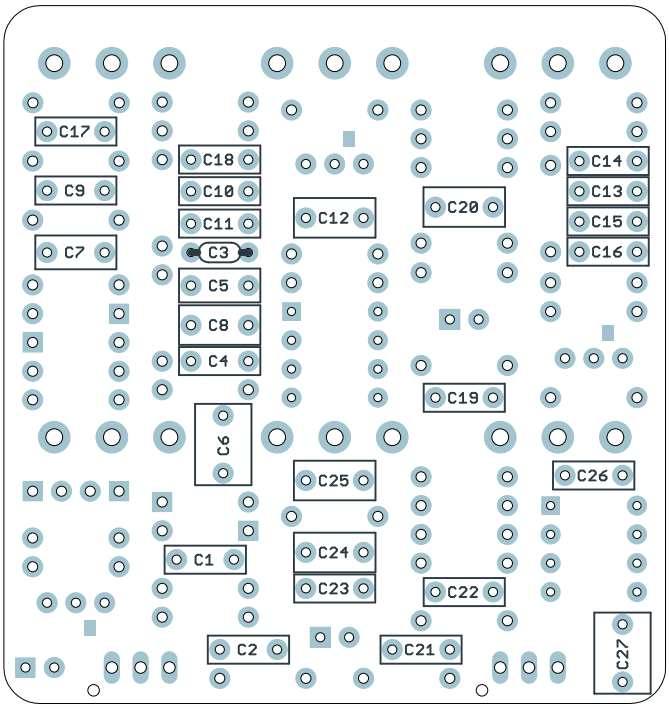
CAPACITORS (NON-POLARIZED)

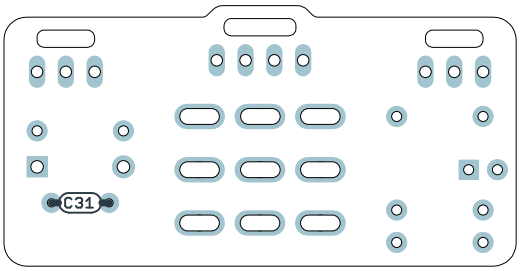
PART	VALUE
C1	68n (0.068)
C2	22n (0.022)
C3	150pF MLCC
C4	82n (0.082)
C5	220n (0.22)
C6	2.2uF
C7	220n (0.22)

PART	VALUE
C8	1uF
C9	2n7
C10	82n (0.082)
C11	1n
C12	1uF
C13	22n (0.022)
C14	27n (0.027)

PART	VALUE
C15	100n (0.1 or µ1)
C16	8n2
C17	68n (0.068)
C18	2n7
C19	1n
C20	1uF
C21	8n2

PART	VALUE
C22	4n7
C23	82n (0.082)
C24	1uF
C25	1uF
C26	100n (0.1 or µ1)
C27	2.2uF
C31	100n MLCC





Next up are the box film and MLCC capacitors. These are all several different heights, so it's recommended to do them shortest to tallest. Bend the leads at an angle to hold them in place.

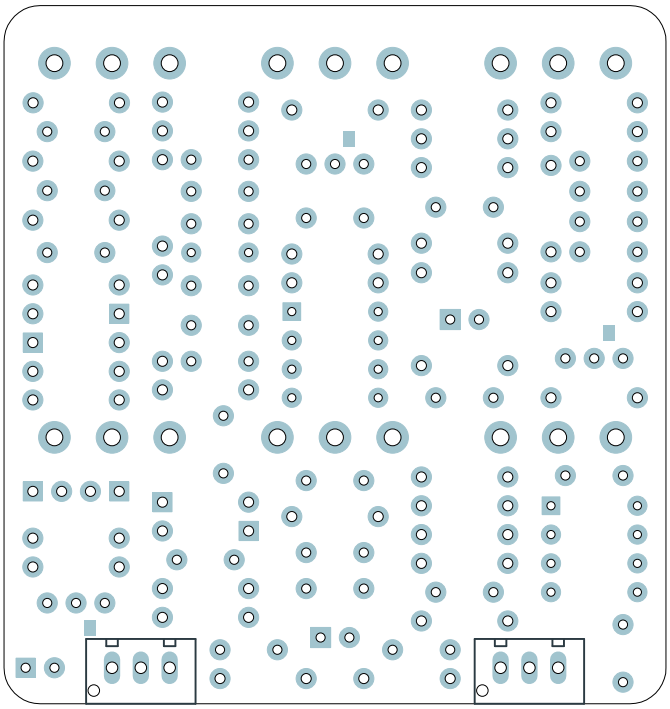
MLCCs and box capacitors are not polarized, so they will work in any direction, but to keep things neat, it's best to put them all facing the same way.

Note: Depending on the type, the box film capacitors may have their value printed on either the top or the side. Usually the red ones have it printed on the side while the blue or gray ones have it on the top.

C15 and C26 are usually red, but may read "µ1J100" on the top rather than the side.

C3 (150pF) is a blue MLCC capacitor taped to cardboard. C31 (100n) is yellow.

WIRE HEADERS

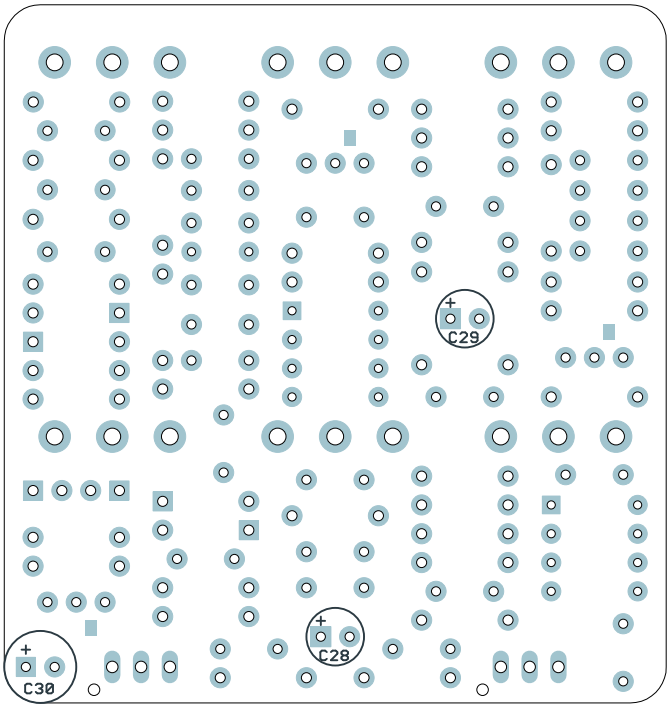


Install the two 3-pin headers (wire connectors) as shown above. These have a polarity pin, so as long as they are pressed all the way down, there's only one possible way to install them. They do fit pretty tightly in the holes, though, so press firmly.

There's also a 4-pin header on the I/O board that we will do in a later step.

CAPACITORS (POLARIZED)

PART	VALUE
C28	47uF
C29	47uF
C30	220uF

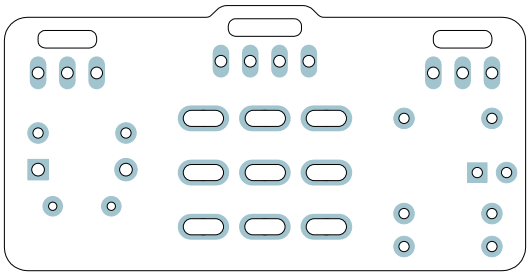


Populate the electrolytic capacitors. These are the tallest components so we save them for last. They are polarized (i.e. they will only work in one direction), so note the vertical mark that indicates the negative side. The longer leg is positive and fits in the square pad.

These are the last of the on-board components. Now is the time to go back to page 12 and insert the ICs into the sockets.

FOOTSWITCH PCB

PARTS
3-strand wire assembly (2)
4-strand wire assembly



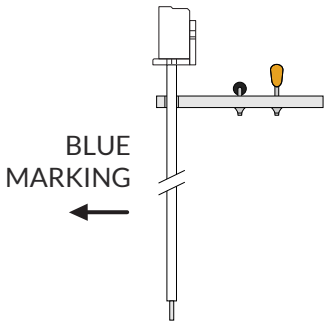
Next, it's time to finish up the footswitch board. You should have done most of the on-board components on this board in a previous step, but if not, go back and do those.

There will be one longer assembly with 4 wires and two shorter ones with 3 wires. The longer one goes in the middle and the shorter ones go on the left and right sides. The wire assemblies should then be soldered to the footswitch board as shown.

STEP 1

First, thread the wire through the strain-relief slots, with the blue side facing outward and the PCB's previously-installed components facing up.

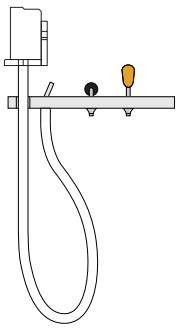
For now, pull it through as far as it can go.



STEP 2

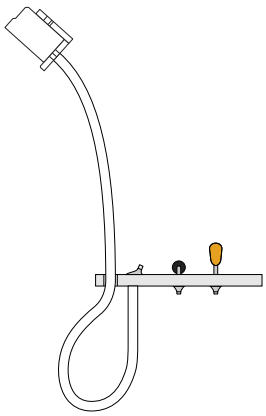
Next, bend the wires back upward and fit the ends of the wires into the solder pads.

On the top side of the PCB, bend the exposed wires backward so it holds the wire in place. Pull the header back up through the slot partway.



STEP 3

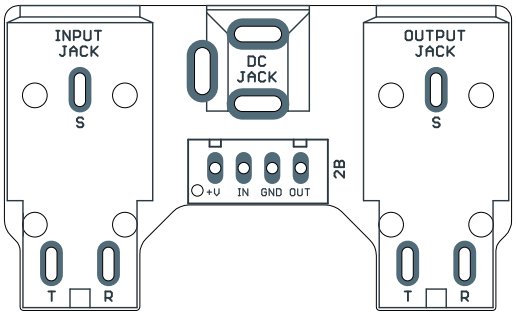
Then, solder the wires from the top. This is the trickiest part of the whole build. You want to solder the pads without touching the iron to the wires themselves and risking burning through the insulation. It helps to use a sharp or narrow tip on the soldering iron.



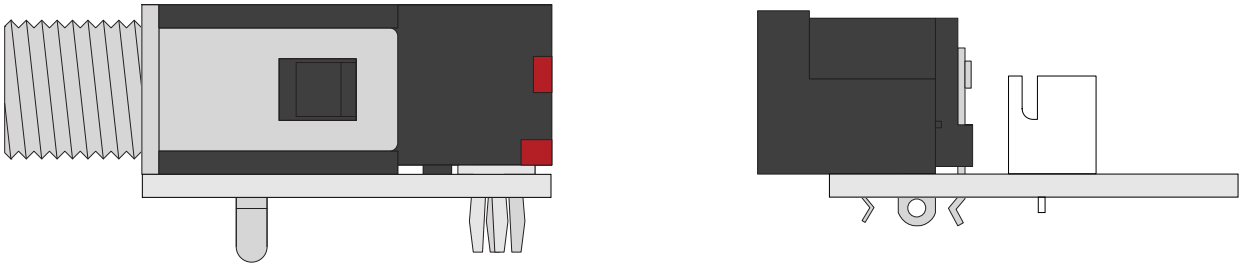
Once all three wire assemblies are soldered, set the footswitch PCB aside. We'll solder the actual footswitch and LED in a later step.

INPUT/OUTPUT PCB

PARTS
Input & output jacks
DC jack
Wire header



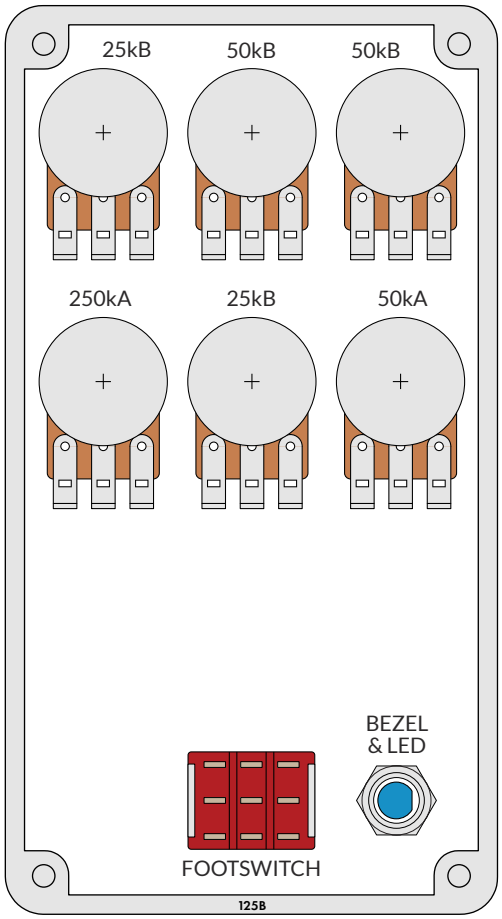
Almost done! Get the two input/output jacks, the DC jack and the wire header and snap them in place. The PCB is designed for them to fit securely, so you can do them all at once before flipping and soldering.



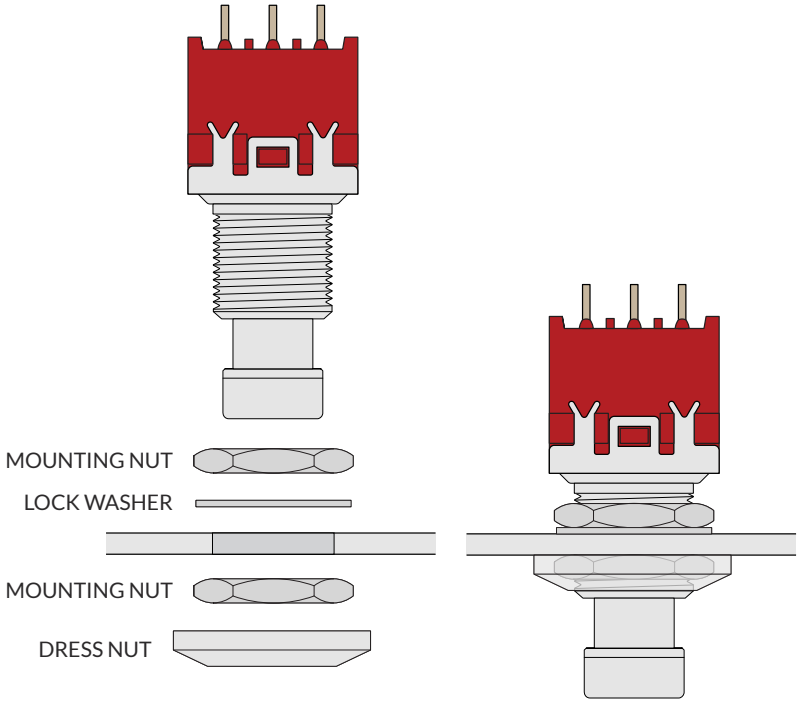
After you've soldered everything, make sure to **snip the leads on the I/O jacks as close as possible to the PCB**. There's not a lot of clearance between the bottom of this board and the top of the main PCB once everything is in place, and you don't want the pins to short against anything on accident.

ENCLOSURE LAYOUT: PANEL MOUNTS

Attach the hardware to the enclosure as shown. (The I/O board is done in a later step.)

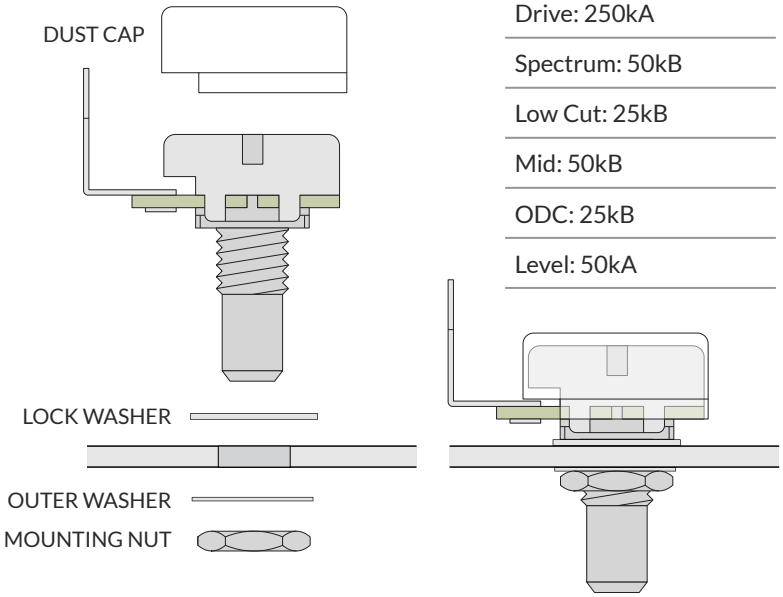


FOOTSWITCH



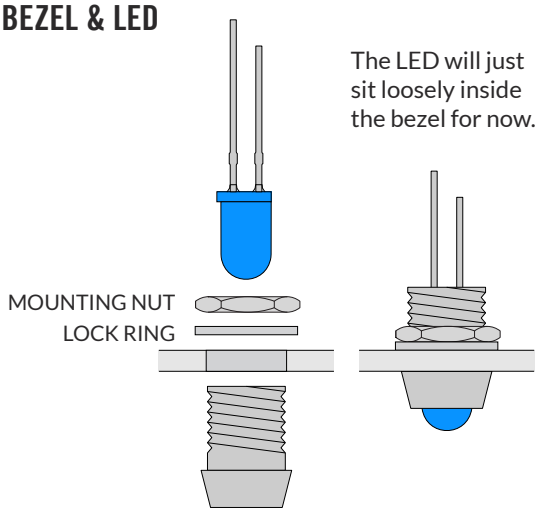
The dress nut fits over the top of the mounting nut and is for aesthetic purposes only. Wrap a rubber band around it to use as a grip when tightening. Avoid using metal tools on it or you run the risk of scratching or denting it.

POTENTIOMETERS



Drive: 250kA
Spectrum: 50kB
Low Cut: 25kB
Mid: 50kB
ODC: 25kB
Level: 50kA

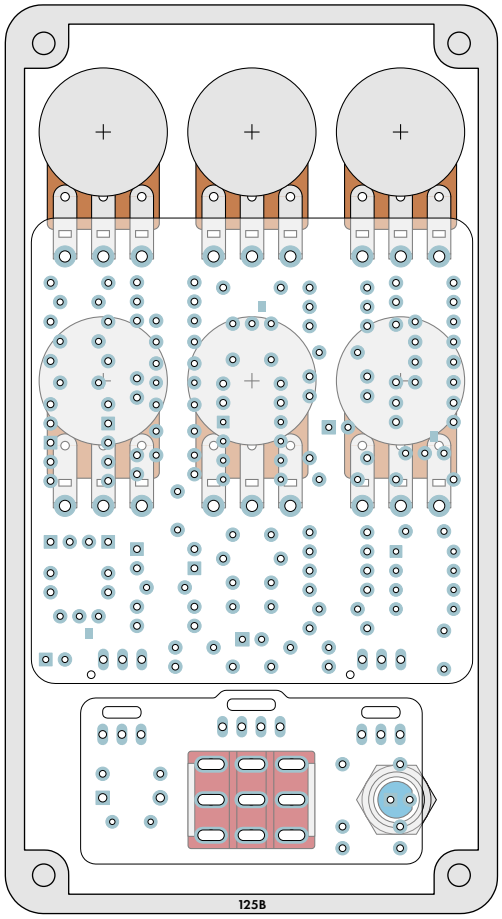
BEZEL & LED



The LED will just sit loosely inside the bezel for now.

You'll need to hold the bezel in place when tightening the nut. Be aware that the bezel is fairly sharp. Try using a rubber band for grip instead of just pressing your finger against the bottom.

ENCLOSURE LAYOUT: MAIN & FOOTSWITCH PCBS



After all the components are affixed to the enclosure as shown on the previous page, place the main PCB on top of the potentiometers as in the diagram to the left.

You may need to adjust the position of the potentiometers slightly if they are not aligned straight.

Once all of the pins are through and the PCB is laying flat, solder each of the pins from the top, being careful not to touch any of the surrounding components with the soldering iron.

After you've finished soldering the pots, **clip the leads as close as you can to the main PCB**. This is important because the input/output PCB overlaps them and you need to avoid any of the components shorting.

Next, do the same thing with the footswitch board—the 3PDT footswitch and the LED.

Before soldering, double-check to **make sure the flat side of the LED is facing to the right**, as shown in the diagram, and that the short leg is coming through the pad on the right. It won't work if it's turned the other way.

Why solder everything inside the enclosure before testing it?

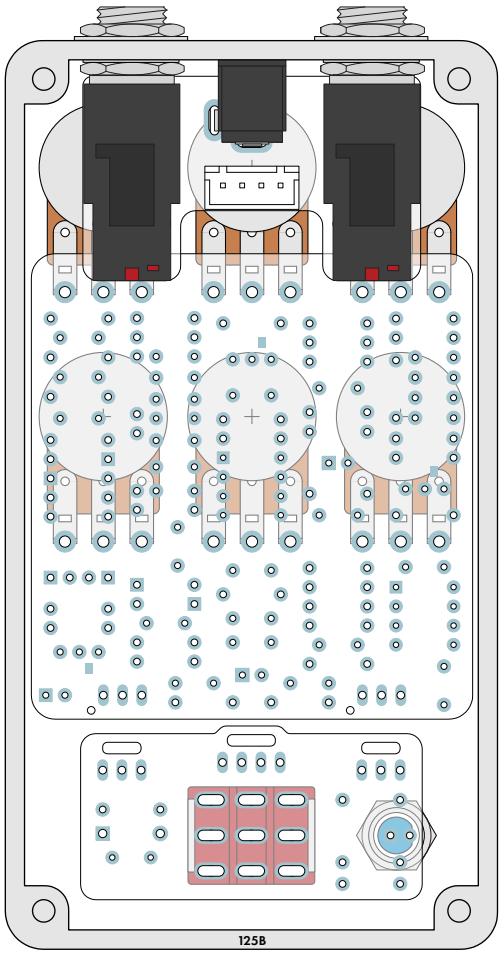
"Rock it before you box it" is conventional wisdom in pedalbuilding, and you'll often hear it recommended that builders should test the circuit before putting everything inside the enclosure. However, Aion FX projects are designed to be extremely easy to remove from the enclosure for troubleshooting, with no desoldering required—so with these kits, it's actually much easier to "box it before you rock it".

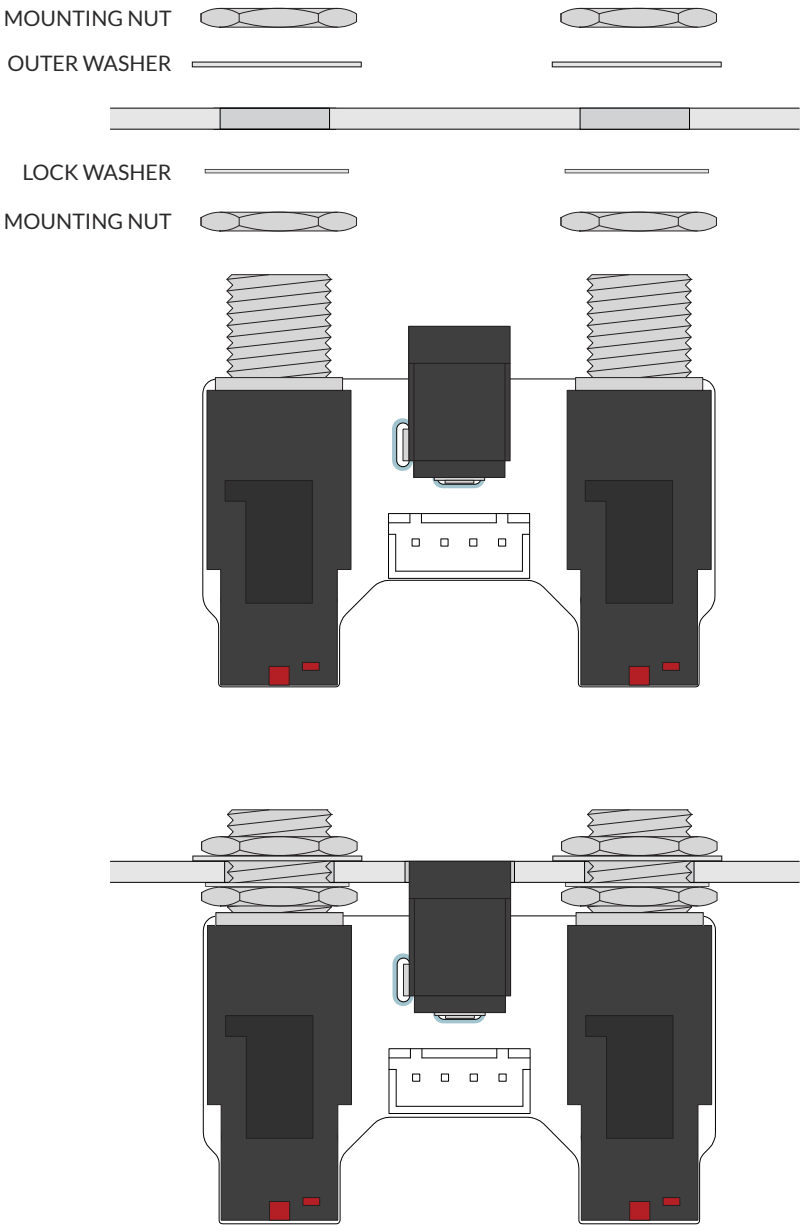
If you've read the documentation carefully and followed all the instructions, there's a good chance you will get it right the first time!

ENCLOSURE LAYOUT: INPUT/OUTPUT PCB

Affix the input/output PCB to the north-facing panel of the enclosure as shown.

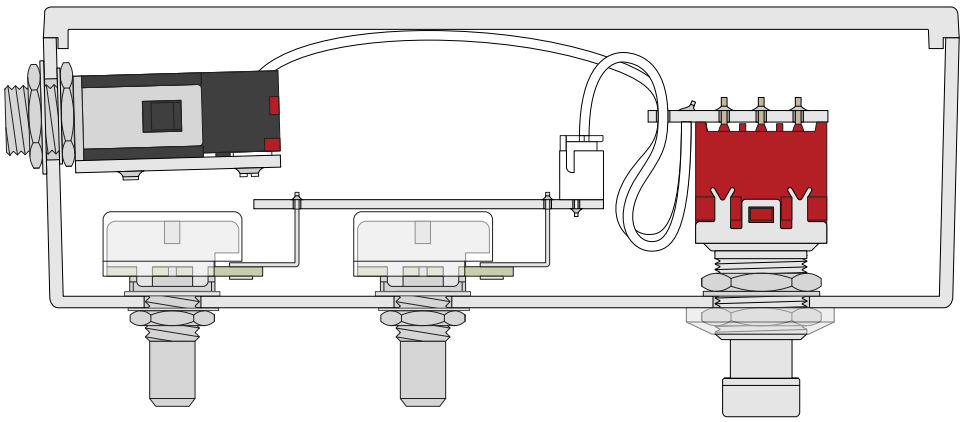
Note the use of two mounting nuts on each of the jacks, one inside and one outside. The inner nut acts as a spacer to set the DC jack flush with the outside of the enclosure. The inner nuts should be threaded as far down as they can go.





FINAL TESTING & ASSEMBLY

After everything is in place, just plug the 3 wire assemblies into their respective headers and make sure they're secure. Here is a cross-section of the inside of the completed pedal.



At this point, you have completed the full circuit as far as the electrons are concerned. Plug in a 9-volt supply and test it out with a guitar and an amplifier.

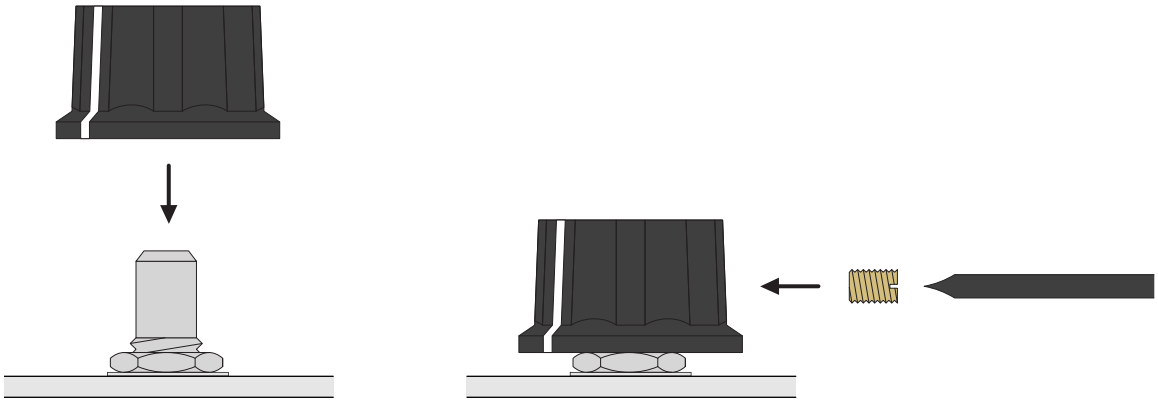
Test the bypass switch a few times, then start turning the knobs and see if everything sounds OK. If it works, great! If not, don't be discouraged. See page 26 for troubleshooting info.

Finishing touches

Now, just a couple of things for the final assembly. Turn the shafts all fully counter-clockwise, then put on the knob and rotate until the indicator line is aligned with the dot on the enclosure that shows the zero point. Affix the knobs to each of the potentiometer shafts as shown in the diagram below.

Using a small flat-head screwdriver (no more than 0.1" / 2.5mm in diameter), firmly tighten the set screw until it presses against the shaft of the potentiometer and holds the knob in place.

Be careful not to over-tighten or you may damage the set screw. But if it's not tight enough, the knob will be more likely to fall off or lose its alignment with the markings on the enclosure.



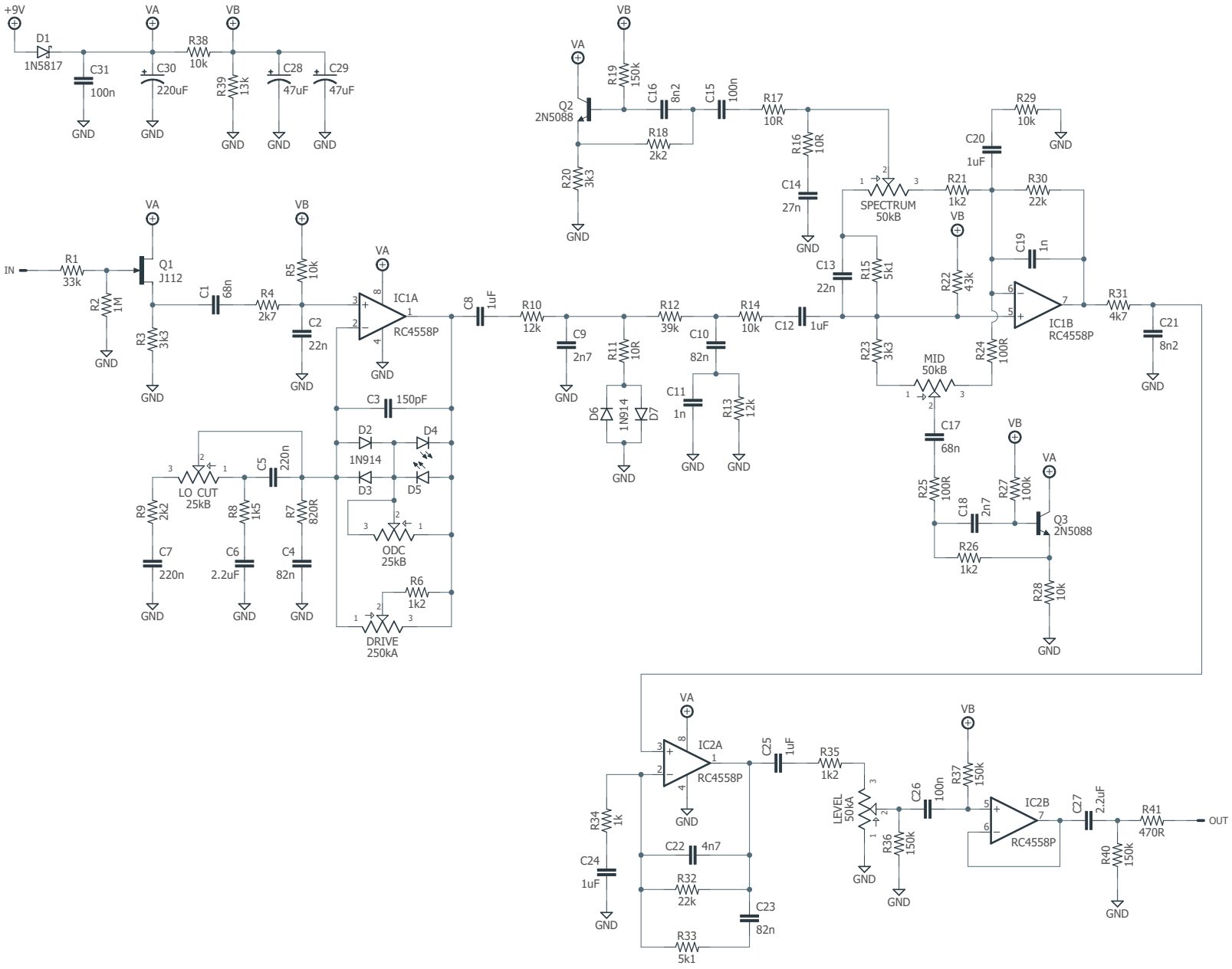
Last, just close the panel on the back using the four screws. That's it!

USAGE

The Andromeda Deluxe has six controls:

- **Gain** controls the amount of gain from the op-amp that is fed through the feedback clipping diodes.
- **ODC** (Overdrive De-Compress) blends in higher-threshold LEDs in the feedback clipping section.
- **Spectrum** pans between a 700 Hz lowpass filter and a 5 KHz high-pass filter, which is mixed with a fixed 2.1 KHz frequency boost (upper mids).
- **Low Cut** blends between two different bass filters to reduce the low-end that is characteristic of the original ODR-1.
- **Mid Boost** boosts or cuts frequencies at around 1kHz, with a flat response in the 12:00 position.
- **Level** sets the overall output of the effect.

SCHEMATIC


+9V
D1
1N5817
C31
100n
VA
C30
220uF
R38
10k
VB
R39
13k
C28
47uF
C29
47uF
GND
IN
R1
33k
R2
1M
Q1
J112
C1
68n
R4
2k7
R5
10k
C2
22n
IC1A
RC4558P
C3
150pF
D2
D4
1N914
D3
D5
LO CUT
25kB
C5
220n
R9
2k2
R8
1k5
R7
820R
C7
220n
C6
2.2uF
C4
82n
ODC
25kB
R6
1k2
DRIVE
250kA
C8
1uF
R10
12k
C9
2n7
R11
10R
D6
1N914
D7
R12
39k
C10
82n
C11
1n
R13
12k
R14
10k
C12
1uF
Q2
2N5088
R19
150k
C16
8n2
C15
100n
R18
2k2
R17
10R
R16
10R
R20
3k3
C14
27n
SPECTRUM
50kB
C13
22n
R15
5k1
R21
1k2
R29
10k
C20
1uF
R30
22k
C19
1n
R22
43k
IC1B
RC4558P
R31
4k7
C21
8n2
R23
3k3
MID
50kB
R24
100R
C17
68n
R25
100R
R27
100k
C18
2n7
Q3
2N5088
R26
1k2
R28
10k
IC2A
RC4558P
C25
1uF
R35
1k2
R34
1k
C24
1uF
C22
4n7
R32
22k
C23
82n
R33
5k1
LEVEL
50kA
C26
100n
R36
150k
R37
150k
IC2B
RC4558P
C27
2.2uF
R41
470R
OUT
R40
150k

FULL PARTS LIST

Resistors

PART	VALUE
R1	33k
R2	1M
R3	3k3
R4	2k7
R5	10k
R6	1k2
R7	820R
R8	1k5
R9	2k2
R10	12k
R11	10R

PART	VALUE
R12	39k
R13	12k
R14	10k
R15	5k1
R16	10R
R17	10R
R18	2k2
R19	150k
R20	3k3
R21	1k2
R22	43k

PART	VALUE
R23	3k3
R24	100R
R25	100R
R26	1k2
R27	100k
R28	10k
R29	10k
R30	22k
R31	4k7
R32	22k

PART	VALUE
R33	5k1
R34	1k
R35	1k2
R36	150k
R37	150k
R38	10k
R39	13k
R40	150k
R41	470R
LEDR	10k

Capacitors

PART	VALUE
C1	68n film
C2	22n film
C3	150pF MLCC
C4	82n film
C5	220n film
C6	2.2uF film
C7	220n film
C8	1uF film

PART	VALUE
C9	2n7 film
C10	82n film
C11	1n film
C12	1uF film
C13	22n film
C14	27n film
C15	100n film
C16	8n2 film

PART	VALUE
C17	68n film
C18	2n7 film
C19	1n film
C20	1uF film
C21	8n2 film
C22	4n7 film
C23	82n film
C24	1uF film

PART	VALUE
C25	1uF film
C26	100n film
C27	2.2uF film
C28	47uF electro
C29	47uF electro
C30	220uF electro
C31	100n MLCC

Transistors

PART	VALUE
Q1	J112
Q2	2N5088
Q3	2N5088

Diodes

PART	VALUE
D1	1N5817
D2	1N914
D3	1N914
D4	3mm green LED
D5	3mm green LED
D6	1N914
D7	1N914

Potentiometers

PART	VALUE
Drive	250kA
Spectrum	50kB
Low Cut	25kB
Mid	50kB
ODC	25kB
Level	50kA

ICs

PART	VALUE
IC1	RC4558P
IC2	RC4558P
DIP-8 socket (2)	

Switches

PART
3PDT stomp

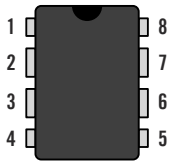
TROUBLESHOOTING INFORMATION

If you finish building the kit and find that it doesn't work right, we've written a separate in-depth Troubleshooting Guide that applies to all of our kits. The main troubleshooting process is covered there. Here you will find information specific to this kit that will help with that process.

Voltages

The following voltages are taken from our prototype unit using a **9.6V** supply. Your measured voltages won't be exactly the same due to variance in power supplies and component tolerances. However, if you see anything more than +/-0.5V from the listed voltages, it's a good indicator of an issue, and the exact voltages can help narrow it down.

Note that IC pins are labeled counter-clockwise from the upper-left, as shown in the diagram to the right. Transistors and JFETs have their pins labeled on the PCB.



IC1

PIN	VOLTAGE
1	5.29
2	5.29
3	5.28
4	0
5	5.27
6	5.30
7	5.29
8	9.39

IC2

PIN	VOLTAGE
1	5.29
2	5.29
3	5.29
4	0
5	5.23
6	5.31
7	5.31
8	9.39

Q1

PIN	VOLTAGE
G	0
S	2.26
D	9.39

Q2

PIN	VOLTAGE
C	9.39
B	5.14
E	4.59

Q3

PIN	VOLTAGE
C	9.39
B	4.82
E	4.26

SUPPORT

Aion FX does not offer direct support for these projects beyond the provided documentation. Replacements and refunds cannot be offered unless it can be shown that the circuit or documentation are in error or that the included components are non-functional.

Where to get help

The three best places to ask for help are the DIY Stompboxes forum, the DIY Stompboxes Facebook group, and the r/diypedals subreddit. These communities have more than 150,000 members between them and they are very accommodating to new builders.

When posting a troubleshooting request, always include the following:

1. A thorough description of the problem you are experiencing
2. A photo of the inside of the pedal
3. A list of all the measured voltages of each of the pins, described on the previous page

While we cannot offer direct, private support, you may send a link to your public troubleshooting thread to Aion FX using the contact form on the website. There is no guarantee that we will be able to join the discussion and help solve your problem, but this improves the chances.

It benefits the whole community if the troubleshooting process is public because then people who have the same issue in the future may come across it when searching. And if you do get help, remember to pay it forward! The best way to learn new skills is to help others. Even if you've only built one pedal, you have more experience than someone who is brand new, so you have something to offer.

RESALE TERMS

These kits may be used for commercial endeavors in any quantity unless otherwise noted. It's okay to sell individual builds locally or online, or even to offer a service to build pedals based on these kits.

No direct attribution is necessary, though a link back is always greatly appreciated. The only usage restriction is that you cannot "goop" the PCB or otherwise obscure the source. In other words: you don't have to go out of your way to advertise the fact that you use Aion FX kits, but please don't go out of your way to hide it. The guitar effects industry needs more transparency, not less!

LEGAL INFORMATION

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