

## Quantums Effects DUBNIUM DRIVE v2.0 based on the Death By Audio Interstellar Overdriver

This is a workalike of the DBA Interstellar Overdriver. It is a drive effect pedal (who would have guessed?), which covers a lot of different sound from low gain drive to gritty fuzz. I only added a bit of DC filtering and polarity protection to the original design.

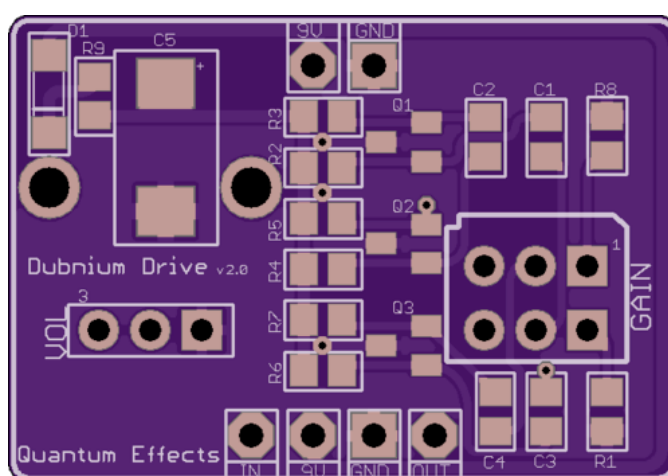
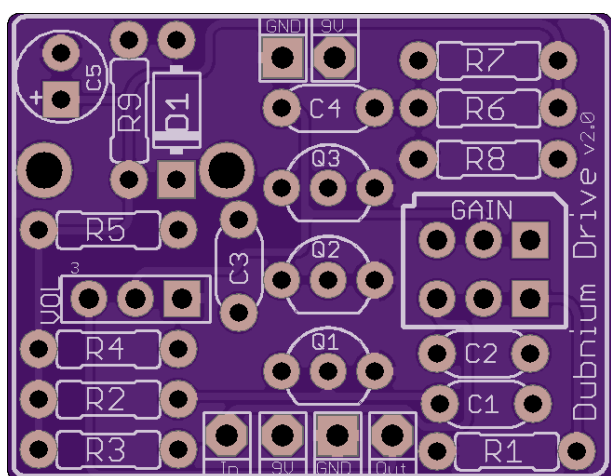
The pcb is designed for a 1590a enclosure. You can at least board mount the Volume pot, and possibly the gain pot, if you find a suitable 9mm stereo pot, which is kind of unobtainable in Europe. I used solid core wires on the the volume pot to wire in a 16mm pot and mount the board firmly to that and wired the gain pot. Square pads are lug 1.

The DBA designs are weird. Like, really weird. Many of their drive effects have collectors to ground, and this one is no exception in that. The result is that the effect is rather picky about the choice of transistor. There is a discussion about that on <http://tagboardeffects.blogspot.co.at/2013/04/death-by-audio-interstellar-overdriver.html> which will bring you up to speed on that topic. Basically, mine was very gated with 2n5089 transistors too and I ended up replacing Q1 and Q2 with 2n5088. You might find good sounding 2n5089s, but it is most likely that DBA scored some weird borderline spec transistors some time ago. I STRONGLY URGE TO USE SOCKETS FOR THE TRANSISTORS.

Obviously this is not possible for the SMD version, which is actually the reason I did the through-hole version in the end. As I already did the SMD version, I can as well put it out there, but you have been warned. The SMD version is also untested! Please let me know, if anyone builds it.

The design is pretty tight. I recommend soldering in the Vol pot before R4 to make your live easier. Hard to get in there otherwise.

This pcb layout is intended for DIY use only. Commercial use of this design is prohibited!



## BOM

Resistors		Capacitors	
<b>R1</b>	10k	<b>C1</b>	100n
<b>R2</b>	910k	<b>C2</b>	10n
<b>R3</b>	180k	<b>C3</b>	100n
<b>R4</b>	910k	<b>C4</b>	100n
<b>R5</b>	180k	<b>C5</b>	47u
<b>R6</b>	910k		
<b>R7</b>	180k	Transistors	
<b>R8</b>	3k3	<b>Q1</b>	2N5089/ MMBT5089
<b>R9</b>	33R	<b>Q2</b>	2N5089/ MMBT5089
		<b>Q3</b>	2N5089/ MMBT5089
Pots		Diodes	
<b>Vol</b>	100kA	<b>D1</b>	1N5817/SS12
<b>Gain</b>	100kB dual		

For the SMD version, it uses the SS12 Zener diode for polarity protection. Eg. obtainable here: <http://at.rs-online.com/web/p/gleichrichter-und-schottky-dioden/9034428/>

C5 is an electrolytic capacitor. The SMD version uses a tantalum electro like this one: <http://at.rs-online.com/web/p/products/6993683/>

All other SMD parts are normal 0805 parts. Most of them should be available at tayda, which I found to have very good tolerances.

Schematic

