Uberdrive

Based on:
John Hollis Omnidrive

Amount of parts:
Average, total 51 components

Enclosure type:
125b

Effect type:
Versatile distortion

Technology:
Op-amp

Get your board at:
Uberdrive

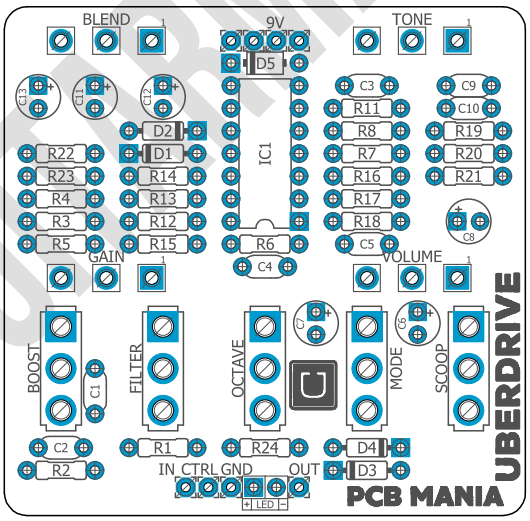
Build difficult:
Intermediate

Power consumption:
9V

Get your kit at:
Das Musikding (Europe)

Project overview:
Anyone called an Uber?

The Uberdrive is a unique pedal inspired by the John Hollis Omnidrive, a pedal that you won't be able to get unless you make it yourself. Yes, it's a DIY exclusive! The circuit contains four knobs - VOLUME, GAIN, TONE and BLEND. It also offers additional five switches to fine tune your tone - BOOST, FILTER, OCTAVE, MODE and SCOOP.



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Introduction

Let's have a look at the pots first. The VOLUME control lets you set the loudness of the pedal to the desired level. The next one is GAIN, which allows you to control how much saturation is added to the signal. The TONE potentiometer is a classid mid-range control. With BLEND, you are able to decide how much of the clean tone you want to add to the distorted sound.

Now to the switches, where all the fun begins. The BOOST you are able to engage a treble boost on the preamp. FILTER is quite the opposite - it allows you to cut some of the highs. The OCTAVE switch... you guessed it! It adds an octave effect to your notes. With MODE you are able to switch between two different clipping options, giving your current settings a different character. SCOOP is a gift from the norse gods to all the death metal fans that wish to cut the mids from their sounds and never to think about them.

Put your seatbelts on, because the Uberdrive will take you on a ride to all the places you know and the ones you've never been to. Tak your bassist with you too, as some of the places are just made for the low-end riders!

Controls

Potentiometers

- Blend
- Gain
- Tone
- Volume

Switches

- Mode
- Boost
- Filter
- Octave
- Scoop

Bill of materials

Resistors	
Part	**Value**
R1	10m
R2	10m
R3	100k
R4	1m
R5	330k
R6	220k
R7	220k
R8	100k
R11	100k
R12	10k
R13	10k
R14	10k
R15	5k
R16	100k
R17	1k
R18	1k
R19	3k9
R20	1k
R21	10k
R22	10k
R23	10k
R24	4k7

Capacitors	
Part	**Value**
C1	1n
C2	10n
C3	1n
C4	10n
C5	470p
C9	47n
C10	100n

Electrolytics Capacitors	
Part	**Value**
C6	10u
C7	10u
C8	1u
C11	1u
C12	10u
C13	10u

Potentiometers	
Part	**Value**
BLEND	**50k A****
GAIN	500k B
TONE	10k B
VOLUME	100k A

IC	
Part	**Value**
IC1	TL074

Switches	
Part	**Value**
MODE	**SPDT (On/Off/ On) ***
BOOST	SPDT (On/On)
FILTER	SPDT (On/On)
OCTAVE	SPDT (On/On)
SCOOP	SPDT (On/On)

Diods	
Part	**Value**
D1	1n914
D2	1n914
D3	1n914
D4	1n914
D5	1n5817
LED	3mm red LED

Shopping list

Resistors		
Qty	**Value**	**Parts**
4	100k	R3, R8, R11, R16
6	10k	R12, R13, R14, R21, R22, R23
2	10m	R1, R2
3	1k	R17, R18, R20
1	1m	R4
2	220k	R6, R7
1	330k	R5
1	3k9	R19
1	4k7	R24
1	5k	R15

Capacitors		
Qty	**Value**	**Parts**
1	100n	C10
2	10n	C2, C4
2	1n	C1, C3
1	470p	C5
1	47n	C9

Electrolytics Capacitors		
Qty	**Value**	**Parts**
4	10u	C6, C7, C12, C13
2	1u	C8, C11

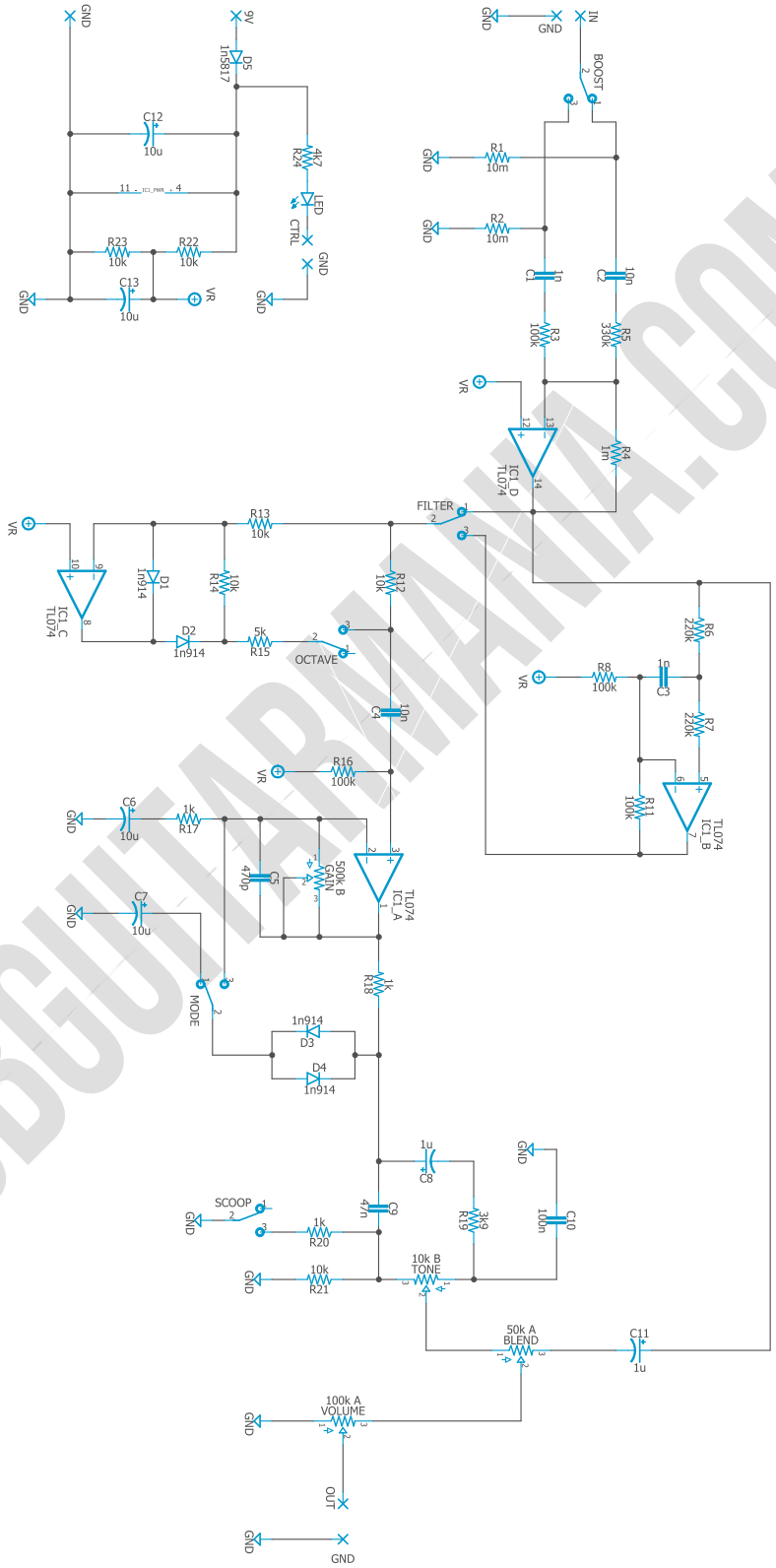
Potentiometers		
Qty	**Value**	**Parts**
1	100k A	VOLUME
1	10k B	TONE
1	500k B	GAIN
1	**50k A****	BLEND

IC		
Qty	**Value**	**Parts**
1	TL074	IC1

Switches		
Qty	**Value**	**Parts**
1	**SPDT (On/Off/On)***	MODE
4	SPDT (On/On)	BOOST, FILTER, OCTAVE, SCOOP

Diods		
Qty	**Value**	**Parts**
1	1n5817	D5
4	1n914	D1, D2, D3, D4
1	3mm red LED	LED

Schematic



Components Recommendations

As many people like to experiment with some pedals with higher voltage, always ensure your **electrolytic capacitors'** max tolerance is over 25v.

This board has been tested using Film box capacitors for most of the values over 1nf and ceramics discs for those under 1nf. However, high-quality components such as Wima's Capacitors and Panasonic's electrolytics can deliver a better performance.

All the resistors used for testing this project are 1/4W Metal Film.

The BOM and Shopping list are exclusive regarding this project. It doesn't include all the hardware like the 3PDT bypass switch, audio/dc jacks, enclosure, etc.

Build Notes

If this is one of your first projects, I recommend you to take a look at our Pedal Building Guide.

For a successful and tidy build, it's recommended the following order:

1. Resistors & diodes
2. Capacitors, starting with the smaller ones and the ceramic ones.
3. Electrolytic capacitors (always check the polarity)
4. Transistors
5. Wires
6. Potentiometers and switches
7. Off-board wiring

SPDT (On/Off/On)*
The original circuit has an SPDT (On/On), changing it for a three-position SPDT(On/Off/On) allows Soft, Hard, and No clipping diodes.
50k A**
The original circuit use a 50K A Blend pot; changing it to 100K A allows better separation of clean/dirt signals.

Here are some sample settings:

Distortion Device	Boost	Filter	Octave	Mode	Drive	Blend
EH Big Muff	Off	On	Off	FB	Max	Min
Fender Blender	Off	Off	On	Clip	Max	Blend
TS-808	Off	Off	Off	FB	Low	Min
SRV	On	Off	Off	FB	Low	Blend
MXR Distortion+	Off	Off	Off	Clip	50%	Min
Ampeg Scrambler	On	Off	On	FB	50%	Blend
Octavia	Off	On	On	Clip	Low	Min
Clean Boost	Off	Off	Off	N/A	Min	Max
Treble Boost	On	Off	Off	N/A	Min	Max

Wiring Diagram

All our projects include a free 3PDT Board to make the wiring easier and tidier. Also, all of our PCBs feature the status LED on board.

The pad named “Ctrl” or “LED” is the one that controls the status of the led; wire it to the “LED” pad on the 3PDT board or in the control slug of your 3PDT.

This board has been designed to match our EZ 3PDT PCB; check it here to access our Pedal Wiring Guide.

Drill Template

This Project has been planned to fit into a 125b enclosure type.

Check the Attached “Drilling templates” to drill the box properly. The files are on Scale 1:1, ready to print on an A4 page.

Licensing and Usage

We really appreciate your trust and support in buying this PCB, as well as your will to dive into the DIY electronics world. For us, that's why you can make this project work properly and enjoy not only the building process but also experiment and play with it on your rig.

We try to reply to every question we receive on our email or our social media. Still, we try to encourage all our customers to join our PCB Guitar Mania – Builders Group on Facebook to post all your doubts, issues, suggestions, or requests, share your builds, and have some feedback from other fellow builders and us!

We tested all our projects following this same guide on their standard configurations. Although, not all of the variations and mods have necessarily been checked. These are suggestions based on the schematic

analysis and the experiences and opinions of others. Feel free to share with us your views and recommendations regarding the mods your personal experimentation.

These boards may be used for commercial endeavors in any quantity unless expressly noted. No attribution is necessary, though accreditation or a link back is always much appreciated.

If you are a builder planning to make your own run of pedals, we also offer the service of custom-made boards with your brand and logo, design according to your specifications.

The only usage restrictions are that, first, you cannot resell the PCB as part of a kit without prior arrangement with us, and second, you cannot scratch off the silkscreen or other way of trying to hide our logos and the source of the PCBs. Like it's written above, if you want to have your designs with your brand and logo, we could undoubtedly reach an agreement.

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