

Beloved Timmy

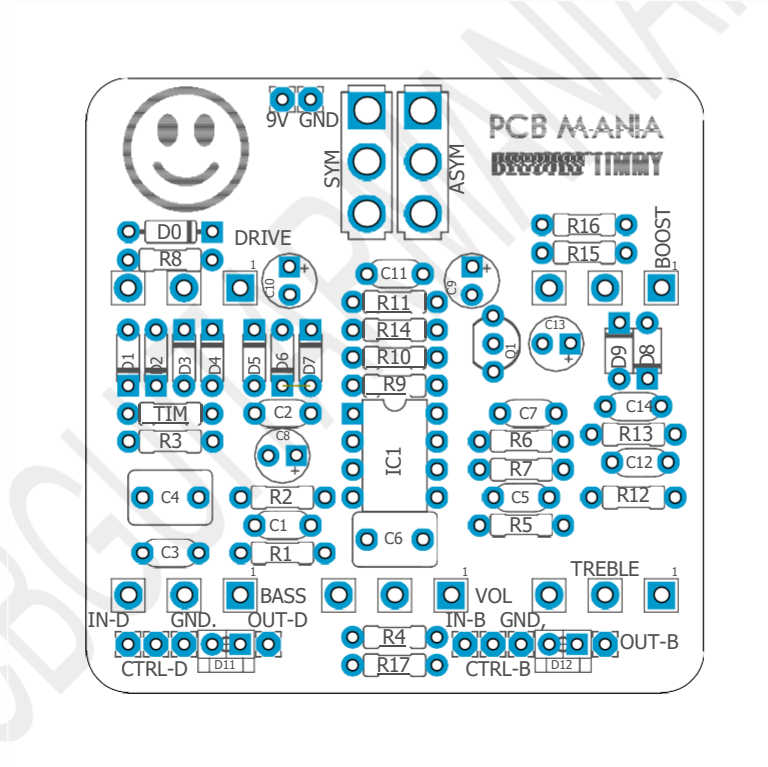
Based on:
Paul Cochrane Timmy
Lovepedal Amp 11
Effect type:
Transparent Overdrive
Build difficult:
Average

Amount of parts:
Average, total 53 components
Technology:
Dual OpAmp
Power consumption:
9V(9mA)

Enclosure type:
125b
Get your board at:
[Beloved Timmy](#)
Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

Our beloved Timmy is a very versatile boards that allows to build many different versions of this classic transparent overdrive. Choose in between the classic Paul Cochrane version or the Lovepedals approach, featuring many custom mods. The boost section is a Lovepedal COT 50 just like on the Amp 11.



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Introduction

Paul Cochrane has created one of the best and most cloned transparent overdrives ever. There are plenty of “Boutique” brands that have cloned this circuit and claimed it as own design. Here you have some examples of pedals based on this beloved circuit:

- Vemuram Jan Ray (300 USD rip off)
- Lovepedal Amp 11 (Includes an COT 50 as boost section)
- Lovepedal Kalamazoo (Different tone control)
- Rockett .45 Caliber (simplified version without one opamp section)
- Walrus Audio Mayflower (Hybrid with a TS)

However for the purpose of this project we focused on making this board optimized for building the classic Timmy and the Lovepedal Amp 11 as are just a couple of values of difference from each other.

We have included two external toggles that adds different sets of diodes into the clipping section, replacing the internal dip switch of the original Timmy.

The boost section is a replica of the Lovepedal COT 50 (Church of tone) as its present on the AMP 11.

Controls

- Drive
- Bass
- Treble
- Volume
- Boost

Bill of materials - Timmy

Resistors	
Part	Value
R1	2M2
R2	510k
R3	3k3
R4	2k7-4k7
R5	1k5
R6	3k3
R7	3k3
R8	3k3
R9	10k
R10	10k
R11	Jumper
R12	1M
R13	2M2
R14	3k3
R15	330r
R16	330r
R17	2k7-4k7
TIM	Jumper

Pots	
Part	Value
BASS	50k B
BOOST	1K B
DRIVE	1m B
TREBLE	50K B
VOL	10k A

Semiconductors	
Part	Value
IC1	JRC4559
Q1	2N5088

Capacitors	
Part	Value
C1	47nf
C2	100pf
C3	39nf
C4	1uf
C5	10nf
C6	1uf
C7	100nf
C8	47uf
C9	47uf
C10*	not populated
C11*	not populated
C12	47nf
C13	47uf
C14	100nf

Diodes	
Part	Value
D1	1n4148
D2	1n4148
D3	1n4148
D4	1n4148
D5	1n4148
D6	1n4148
D7	1n4148
D8	BAT46
D9	BAT46
D10	1n5817
D11	3mm led
D12	3mm led

Switches	
Part	Value
SW1	SPDT ON-ON
SW2	SPDT ON-ON

Bill of materials - AMP 11

Resistors	
Part	Value
R1	1M
R2	1M
R3	3k3
R4	2k7-4k7
R5	1k5
R6	3k3
R7	3k3
R8	3k3
R9	8k2
R10	10k B
R11	100r
R12	1M
R13	2M2
R14	3k3
R15	330r
R16	330r
R17	2k7-4k7
TIM	empty

Pots	
Part	Value
DRIVE	500k B
TREBLE	5K B
VOL	10k B
BASS	50k B
BOOST	1K B

Switches	
Part	Value
SW1	don't populate
SW2	don't populate

Semiconductors	
Part	Value
Q1	2N5088
IC1	IC4558

Capacitors	
Part	Value
C1	47nf
C2	100pf
C3	33nf
C4	1uf
C5	47nf
C6	1uf
C7	100nf
C8	47uf
C9	47uf
C10	47uf
C11	100nf
C12	47nf
C13	47uf
C14	100nf

Diodes	
Part	Value
D1	1n4148
D2	1n4148
D3	1n4148
D4	1n4148
D5	Empty
D6	Empty
D7	Empty
D8	BAT46
D9	BAT46
D10	1n5817
D11	3mm Led
D12	3mm Led

Shopping list - Timmy

Resistors		
Qty	Value	Parts
2	10k	R9, R10
1	1M	R12
1	1k5	R5
2	2M2	R1, R13
2	2k7-4k7	R4, R17
2	330r	R15, R16
5	3k3	R3, R6, R7, R8, R14
1	510k	R2
2	Jumper	R11, TIM

Capacitors		
Qty	Value	Parts
2	100nf	C7, C14
1	100pf	C2
1	10nf	C5
1	1uf	C4
1	1uf	C6
1	39nf	C3
2	47nf	C1, C12
1	not populated	C11

Electrolytics Capacitors		
Qty	Value	Parts
3	47uf	C8, C9, C13
1	not populated	C10

Potentiometers		
Qty	Value	Parts
1	10k A	VOL
1	1K B	BOOST
1	1m B	DRIVE
1	50K B	TREBLE
1	50k B	BASS

IC		
Qty	Value	Parts
1	JRC 4559	IC1

Transistors		
Qty	Value	Parts
1	2N5088	Q1

Switches		
Qty	Value	Parts
2	SPDT ON-ON	SW1, SW2

Diodes		
Qty	Value	Parts
7	1n4148	D1, D2, D3, D4, D5, D6, D7
1	1n5817	D10
2	BAT46	D8, D9
2	3mm LED	D11, D12

Shopping list – Amp 11

Resistors		
Qty	Value	Parts
1	100r	R11
1	10k	R10
1	1M	R12
1	1k5	R5
2	1m	R1, R2
1	2M2	R13
2	2k7-4k7	R4, R17
2	330r	R15, R16
5	3k3	R3, R6, R7, R8, R14
1	8k2	R9

Capacitors		
Qty	Value	Parts
3	100nf	C7, C11, C14
1	100pf	C2
2	1uf	C4, C6
1	33nf	C3
3	47nf	C1, C5, C12

Electrolytics Capacitors		
Qty	Value	Parts
4	47uf	C8, C9, C10, C13

Potentiometers		
Qty	Value	Parts
1	10k A	VOL
1	1K B	BOOST
1	500k B	DRIVE
1	50k B	BASS
1	5k B	TREBLE

IC		
Qty	Value	Parts
1	JRC 4558	IC1

Transistors		
Qty	Value	Parts
1	2N5088	Q1

Diodes		
Qty	Value	Parts
7	1n4148	D1, D2, D3, D4
1	1n5817	D0
2	BAT46	D8, D9
2	LED 3mm	D11, D12

Components Recommendations

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

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

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

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

C10 AND C11* are power filtering capacitors not present on the original Timmy, but is recommendable to add them on your build, it won't affect your tone but will help you reduce the noise.

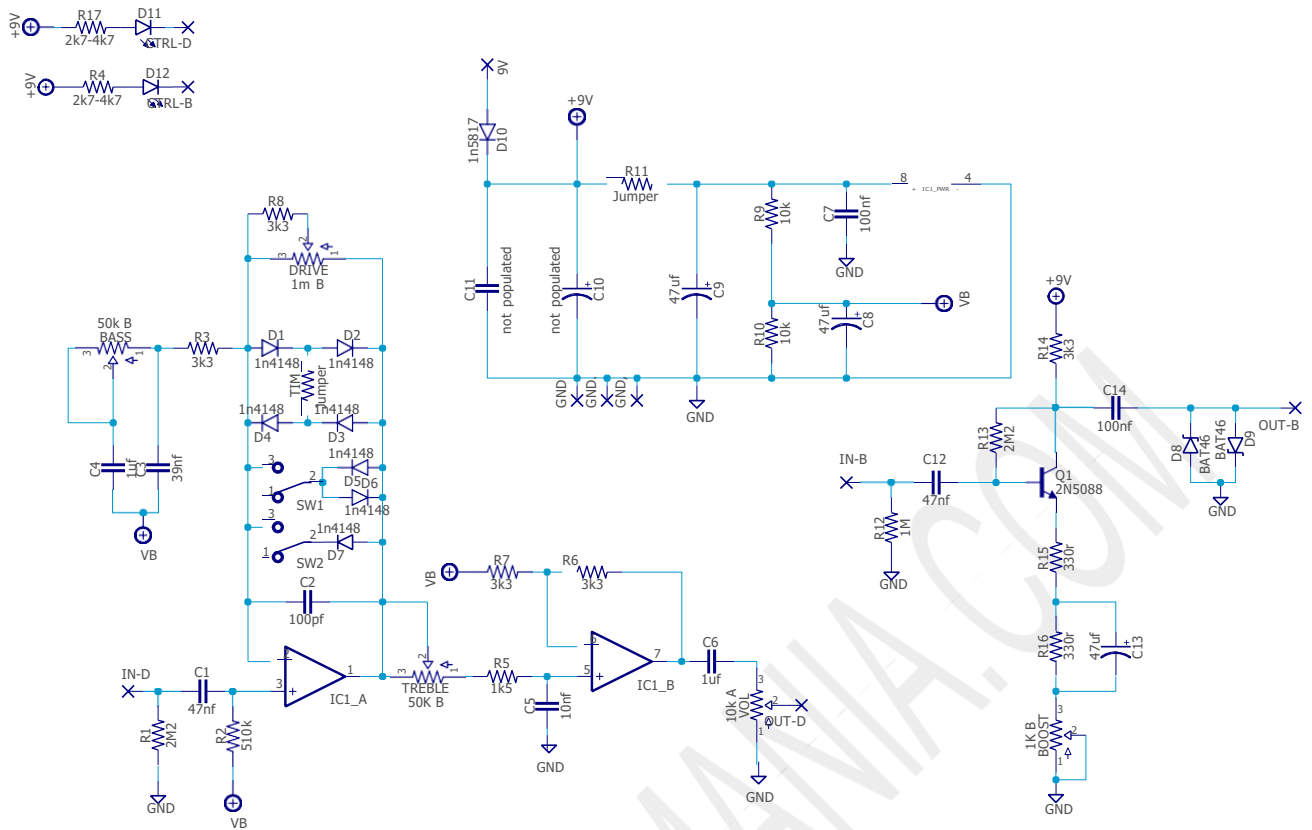
Build Notes

If this is one of your first projects I recommend you to take a look on our [Pedal Building Guide](#)

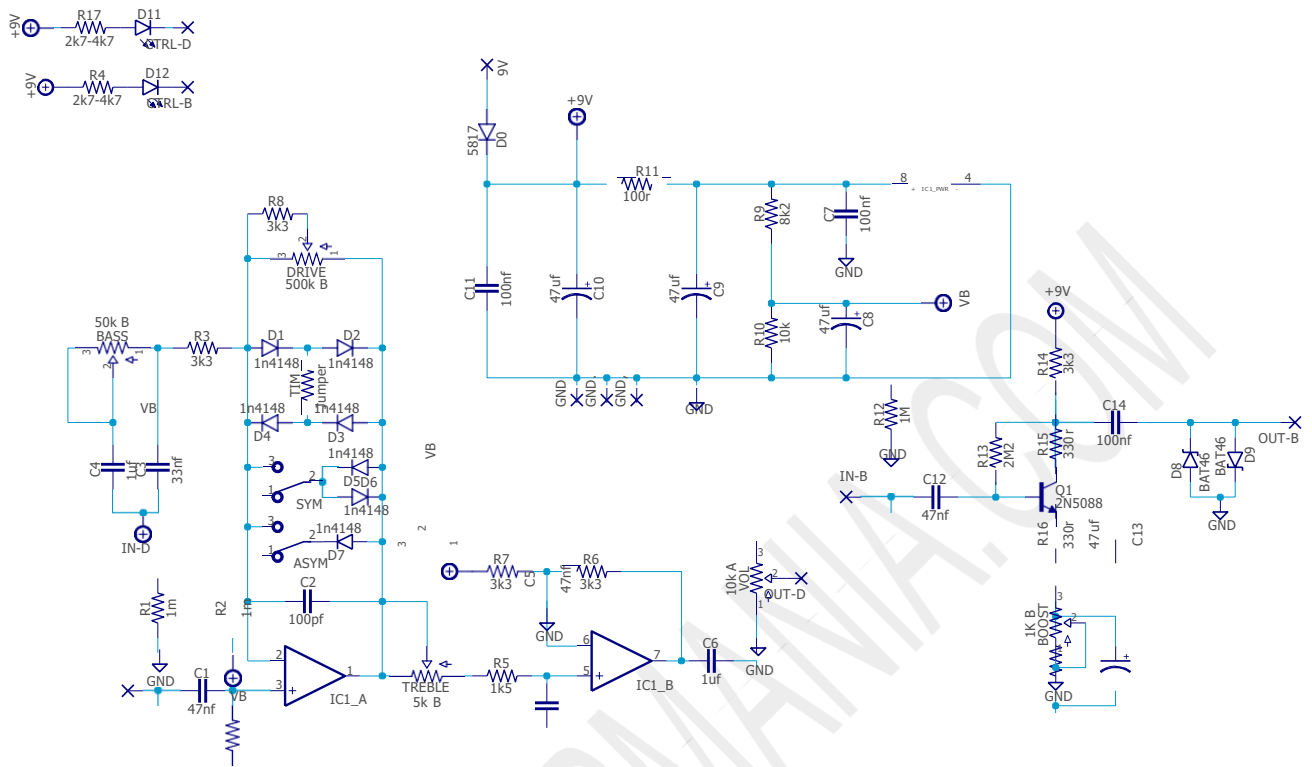
For a successful and tidy build it's recommended the following order:

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

Schematic - Timmy



Schematic – Amp 11



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 control slug of your 3PDT.

This board has been designed to match our EZ 3PDT PCB check it [here](#) to access to our [Pedal Wiring Guide](#)

Drill Template

This Project has been planned to fit into a 1590bb enclosure type.

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

Licensing and Usage

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

We try to reply to every question we receive on our email or in our social media, but we try to encourage all our customers to join our [PCB Guitar Mania – Builders Group](#) on Facebook, in order to post all your doubts, issues, suggestions or request, as well to share your builds and have some feedback from us and other fellow builders!

All of our projects have been tested following this same guide on their standard configurations. Although, not all of the variations and mods have necessarily been tested. These are suggestions based on the schematic analysis, and on the experiences and opinions of others. Feel free to share with us your opinions and suggestions regarding the mods your own personal experimentation.

These boards may be used for commercial endeavors in any quantity unless specifically noted. No attribution is necessary, though accreditation or a link back is always greatly 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 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 silk screen, 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 own designs, with your brand and logo we could certainly reach an agreement.

Follow us on [Instagram](#) and [Facebook](#) to stay in tune with the latest projects!