

Mr. Tea

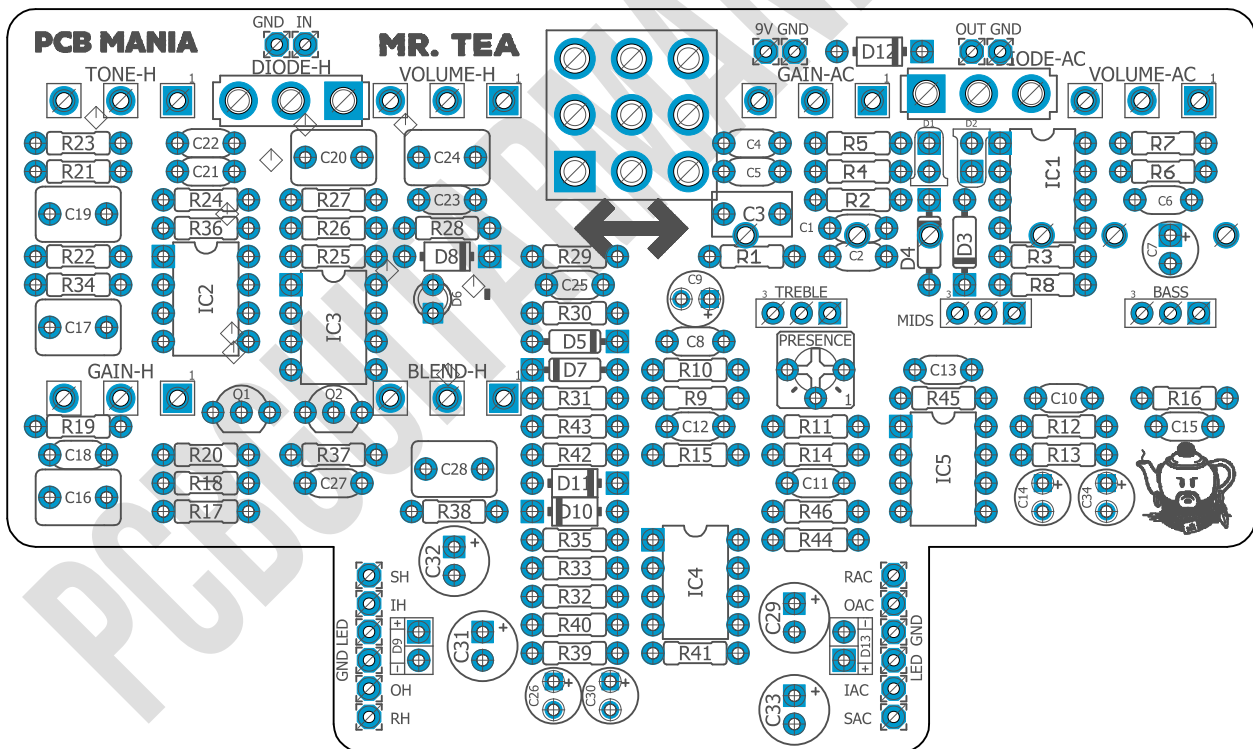
Based on:
JHS Sweet Tea
Effect type:
Unique Overdrive
Build difficult:
Advanced

Number of parts:
High, 117 components
Technology:
Dual Opamp + Charge pump
Power consumption:
9V

Enclosure type:
1590bb
Get your board at:
[Mr. Tea](#)
Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

Do you like to rock? Do you like tea? Then you'll love Mr. Tea! This board gives you overdrive/distortion tones perfect for any style of music. Plus, its versatile design allows you to stack two great independent boards for the ultimate face-melting sounds. Thanks, Mr. Tea!



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Introduction

Looking for a versatile pedal to cover all your bases? Look no further than Mr. Tea! Inspired by JHS Sweet Tea V3, this pedal features fully independent and stackable [Moonshine V2](#) and [Angry Charlie V3](#) circuits that can handle everything from light breakup and blues tones to heavier rock and grind sounds.

With its multiple but straightforward controls, Mr. Tea is easy to use, making it the perfect choice for any guitarist. Nobody should miss out on this essential piece of gear.

The right side of the board contains brand-new [Moonshine V2](#), a highly unique and massively tweaked version of the most famous non-transparent overdrive ever created. Featuring a clean blend that adds all the sparkle, breadth, clarity, and individual string definition you need.

The left side has one of the best Marshall in a box of all time, the [Angry Charlie V3](#). This section gives all the firepower you need to unleash your inner beast with its high-gain JCM 800 tones that are as accurate as they come.

The order toggle allows you to select the order of effects when stacking, and the tons of control let you dial in the perfect sound you need.

Both [Angry Charlie V3](#) and [Moonshine V2](#) are some of my favorite pedals of all time, so imagine when I knew about the existence of the JHS Sweet Tea V3. I immediately realized that we had to incorporate it into our ranks. Buying two great pedals in one is awesome; building two pedals in one is even better!

Controls

Potentiometers:

- Bass
- Blend-H
- Gain-AC
- Gain-H

- Mids
- Tone-H
- Treble
- Volume-AC
- Volume-H

Switches

- Diode-AC
- Diode-H
- Order-SW

Bill of materials

Resistors	
Part	Value
R1	1m
R2	1k
R3	1m
R4	1k
R5	1k
R6	10k
R7	1m
R8	470r
R9	3K3
R10	10K
R11	3K3
R12	10K
R13	10K
R14	3K3
R15	3K3
R16	1K
R17	1M
R18	1M
R19	1K
R20	510K
R21	1K
R22	10K
R23	10K
R24	10K
R25	1K
R26	10K
R27	220R
R28	1K
R29	1K
R30	510K
R31	10K
R32	100R
R33	15K
R34	15K
R35	15K
R36	15K

R37	50K
R38	3K6
R39	10K
R40	100R
R41	4K7
R42	47K
R43	47K
R44	4K7
R45	10K
R46	10K

Capacitors	
Part	Value
C1	22n
C2	1n
C3	1n
C4	100p
C5	100n
C6	100p
C8	3n3
C10	47n
C11	4n7
C12	4n7
C13	4n7
C15	47n
C16	1u
C17	1u
C18	27n
C19	1u
C20	330n
C21	51p
C22	220n
C23	220n
C24	1u
C25	100n
C27	100p
C28	1u

Electrolytic Capacitors	
Part	Value
C7	2u2
C9	1u
C14	2u2
C26	10u
C29	100u
C30	10u
C31	100u
C32	100u
C33	100u
C34	10u

Potentiometers	
Part	Value
BASS	B50K 9mm pots**
BLEND-H	B10K
GAIN-AC	B100K
GAIN-H	A500K
MIDS	B50K 9mm pots**
TONE-H	B5K
TREBLE	B100K 9mm pots*
VOLUME-AC	B50K
VOLUME-H	B100K

Trimmer	
Part	Value
PRESENCE	5K

IC	
Part	Value
IC1	LM833
IC2	NE5532
IC3	LM833
IC4	TC1044SCPA
IC5	TL072

Transistors	
Part	Value
Q1	2N3904
Q2	2N3904

Switches	
Part	Value
DIODE-AC	SPTD On/Off/On
DIODE-H	SPTD On/Off/On
ORDER-SW	3PDT On/On Toggle
3PDT Stomp foot	-
3PDT Stomp foot	-

Diodes	
Part	Value
D1	3mm red LED
D2	3mm red LED
D3	Your choice
D4	Your choice
D5	BA482
D6	3mm red LED
D7	BA482
D8	1N4002
D9	3mm red LED
D10	1N5817
D11	1N5817
D12	1N5817
D13	3mm red LED

Jacks	
Part	Value
-	DC JACK
-	AUDIO JACK
-	AUDIO JACK

Shopping list

Resistors		
Qty	Value	Parts
2	100R	R32, R40
12	10K	R6, R10, R12, R13, R22, R23, R24, R26, R31, R39, R45, R46
4	15K	R33, R34, R35, R36
9	1K	R2, R4, R5, R16, R19, R21, R25, R28, R29
5	1M	R1, R3, R7, R17, R18
1	220R	R27
4	3K3	R9, R11, R14, R15
1	3K6	R38
2	47K	R42, R43
2	4K7	R41, R44
1	50K	R37
2	510K	R20, R30
1	470r	R8

Capacitors		
Qty	Value	Parts
1	100n	C5, C25
1	100p	C4, C6, C27
5	1u	C16, C17, C19, C24, C28
2	220n	C22, C23
1	27n	C18
1	330n	C20
1	3n3	C8
2	47n	C10, C15
3	4n7	C11, C12, C13
1	51p	C21

1	22n	C1
1	1n	C2
1	1k	C3

Electrolytic Capacitors		
Qty	Value	Parts
4	100u	C29, C31, C32, C33
3	10u	C26, C30, C34
1	1u	C9
2	2u2	C7, C14

Potentiometers		
Qty	Value	Parts
1	A500K	GAIN-H
2	B100K	VOLUME-H, GAIN-AC
1	B10K	BLEND-H
1	B50K	VOLUME-AC
1	B5K	TONE-H
1	B100K 9mm pots*	TREBLE
2	B50K 9mm pots**	BASS, MIDS

Trimmer		
Qty	Value	Parts
1	5K	PRESENCE

IC		
Qty	Value	Parts
2	LM833	IC1, IC3
1	NE5532	IC2
1	TC1044SCPA	IC4

1	TL072	IC5
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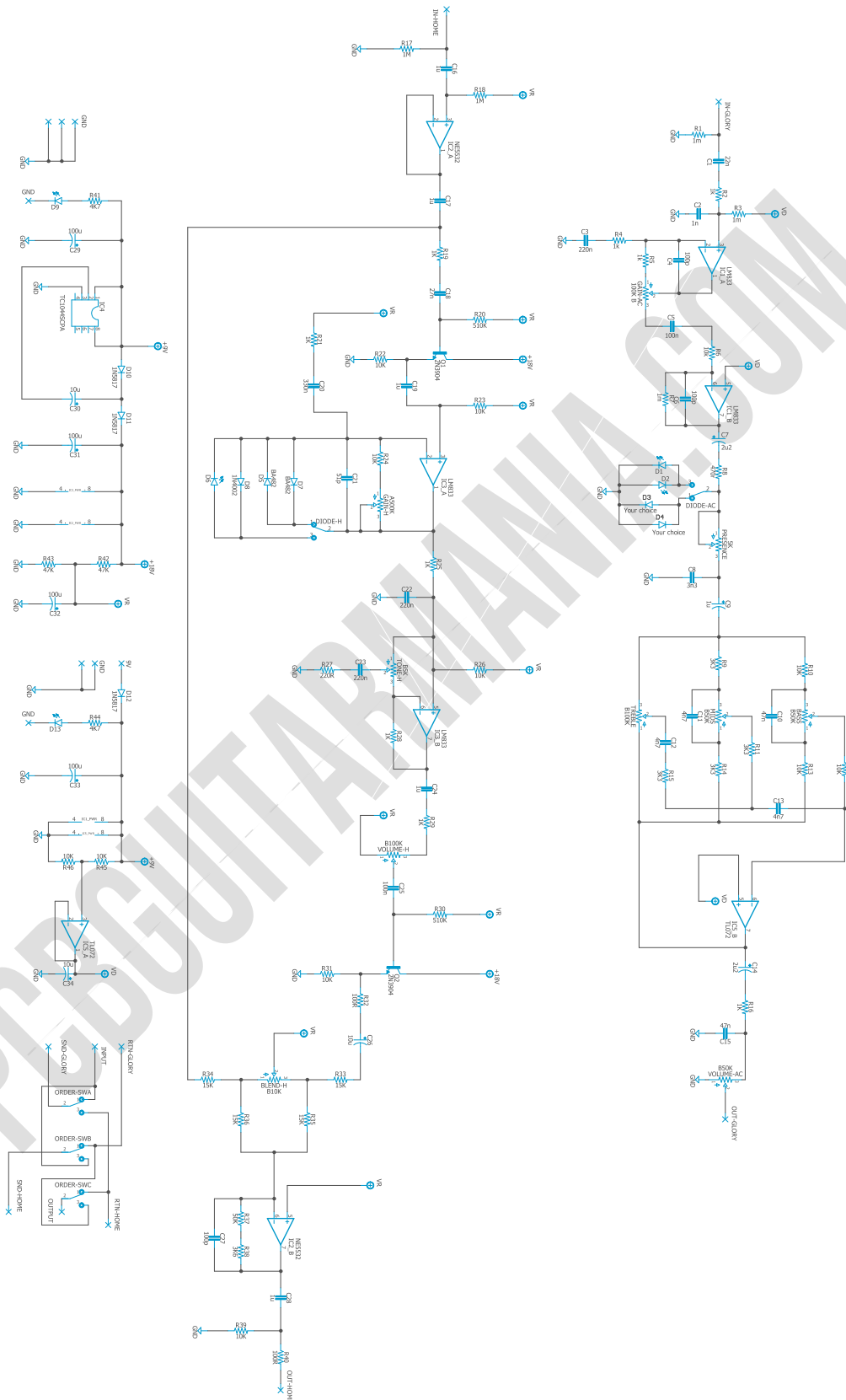
Transistors		
Qty	Value	Parts
2	2N3904	Q1, Q2

Switches		
Qty	Value	Parts
1	3PDT On/On Toggle	3PDT On/On Toggle
2	SPTD On/Off/On	DIODE-AC, DIODE-H
2	3PDT Stomp foot	-

Diodes		
Qty	Value	Parts
1	1N4002	D8
3	1N5817	D10, D11, D12
1	BA482	D5, D7
5	3mm red LED	D1, D2, D6, D9, D13
2	Your choice	D3, D4

Jacks		
Qty	Value	Parts
1	DC JACK	-
2	AUDIO JACK	-

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 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

B100K 9mm pots*

Worldwide (Tayda Electronics)

<https://www.taydaelectronics.com/100k-ohm-linear-taper-potentiometer-knurled-plastic-spline-shaft-pcb-9mm.html>

Europe (Musikding)

<https://www.musikding.de/Pot-9mm-100k-log-Print-vertical>

B50K 9mm pots**

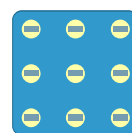
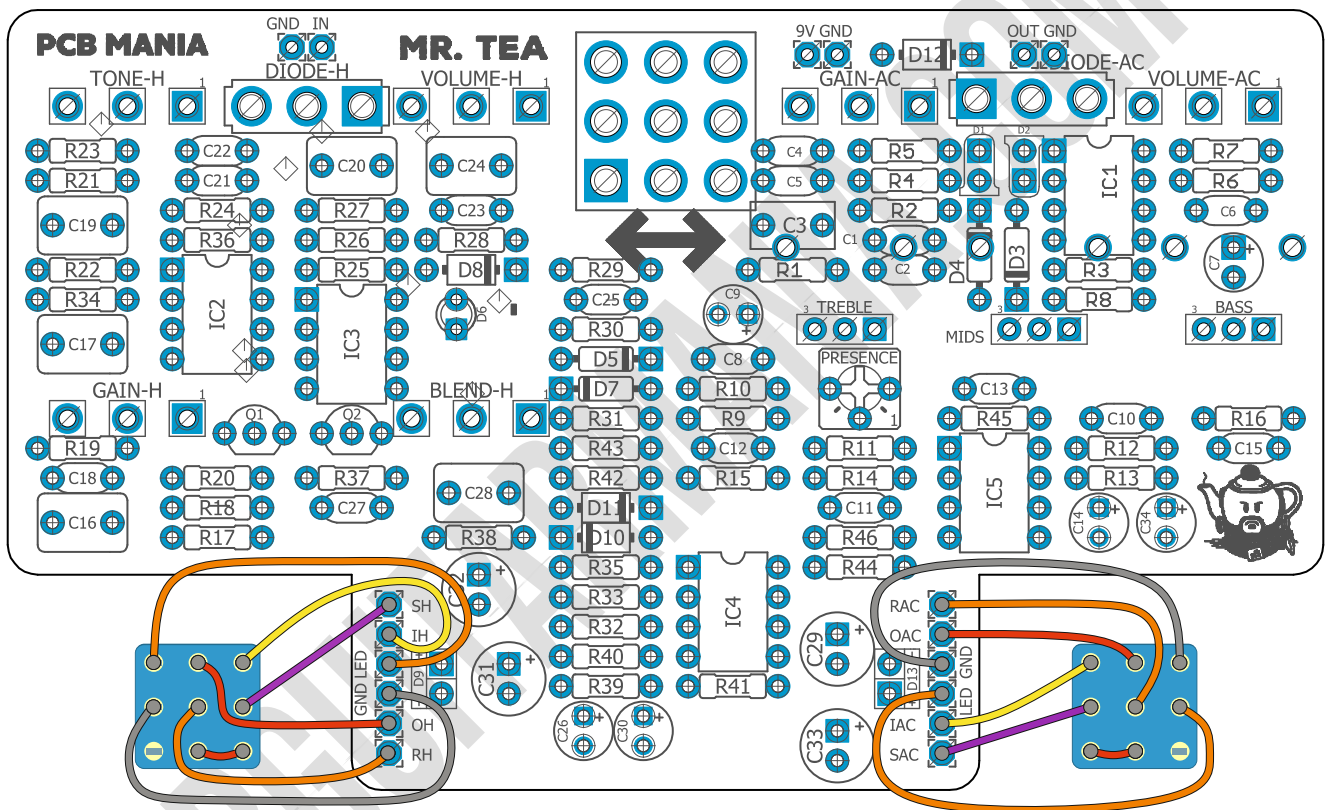
Worldwide (Tayda Electronics)

<https://www.taydaelectronics.com/50k-ohm-linear-taper-potentiometer-knurled-plastic-spline-shaft-pcb-9mm.html>

Europe (Musikding)

<https://www.musikding.de/Pot-9mm-50k-log-Print-vertical>

Wiring Diagram



Always place the 3PDT like this!

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 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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