

# Death by Reverb

## Based on:

Death by Audio Reverberation Machine™

## Effect type:

SUPER DREAMY REVERB YOU CAN OVERLOAD

## Build difficult:

Intermediate

## Amount of parts:

Average, total 51 components

## Technology:

BTDR-2H-L Belton brick

## Power consumption:

9V(9mA)

## Enclosure type:

125b/1590b

## Get your board at:

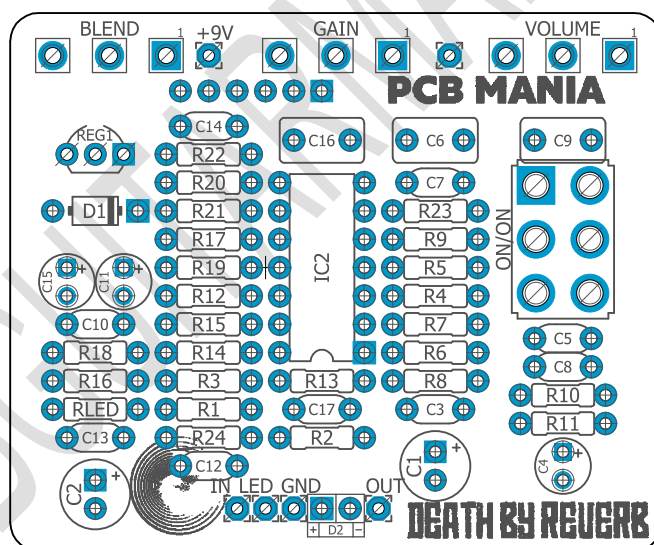
[Death by Reverb](#)

## Get your kit at:

[Das Musikding \(Europe\)](#)

## Project overview:

The Death by Audio Reverberation Machine™ is the dedicated Belton Brick reverb for sinister ambient and spherical shimmer sounds. Like all the DBA pedals, this is not your normal type of effect. But I'm sure you already know what you are looking at. This is not everybody's darling, but if you are looking for something outstanding and special without the hustle of using digital parts, you will love this one.



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## Introduction

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The Reverberation Machine is a synthetic atmosphere creator. Use the effect on any instrument to add depth and simulate different environments. Everything from simulations of vintage amp verb, playing in a cave, large concert halls, and space ships being sucked into wormholes.

With just three simple intuitive knobs this pedal allows you to experiment and combine a variety of settings to obtain the perfect ambiance for your sound. Also special mention for the toggle that allows you to switch in between two distinct reverb flavors: Bright Sunshine and Dark Star.

Although the controls are extremely easy to use and intuitive, they allow you to easily dial up the craziest and dreamy wet soundscapes.

Let your sound shimmer and breathe with a new dimension. Build your Death By reverb now!

## Controls

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### *Potentiometers*

- Blend
- Gain
- Volume

### *Switches*

- Bright/dark Toggle

# Bill of materials

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Resistors	
Part	Value
R1	1M
R2	10K
R3	100K
R4	1M
R5	1M
R6	100K
R7	10K
R8	100K
R9	39K
R10	10K
R11	1K
R12	1M
R13	1M
R14	22k
R15	10K
R16	1M
R17	6K8
R18	1M
R19	1M
R20	68K - or jumper*
R21	10K
R22	100K
R23	39K
R24	100K
RLED	4K7

Electrolytic Capacitors	
Part	Value
C1	100u
C2	100u
C4	1u
C11	1u
C15	1u

Capacitors	
Part	Value
C3	10n
C5	100n

C6	220n
C7	33n
C8	4n7
C9	220n
C10	10n
C12	100n
C13	470p
C14	470p
C16	220n
C17	33n

Potentiometers	
Part	Value
BLEND	A10K
GAIN	C1M
VOLUME	A100K

IC	
Part	Value
IC2	TLC27M4AIN*
IC1	BTDR-2H-L

Voltage regulator	
Part	Value
Reg1	LM7805

Diodes	
Part	Value
D1	1N5817
D2	LED (your choice)

Switches	
Part	Value
SW1	DPDT ON-ON
-	3PDT Stomp foot

# Shopping list

Resistors		
Qty	Value	Parts
5	100K	R3, R6, R8, R22, R24
5	10K	R2, R7, R10, R15, R21
1	1K	R11
8	1M	R1, R4, R5, R12, R13, R16, R18, R19
1	22k	R14
2	39K	R9, R23
1	4K7	RLED
1	68K	R20*
1	6K8	R17

Capacitors		
Qty	Value	Parts
2	100n	C5, C12
2	10n	C3, C10
3	220n	C6, C9, C16
2	33n	C7, C17
2	470p	C13, C14
1	4n7	C8

Electrolytic Capacitors		
Qty	Value	Parts
2	100u	C1, C2
3	1u	C4, C11, C15

Potentiometers		
Qty	Value	Parts
1	A100K	VOLUME

1	A10K	BLEND
1	C1M	GAIN

IC		
Qty	Value	Parts
1	TLC27M4AIN	IC2
1	BTDR-2H-L	IC1

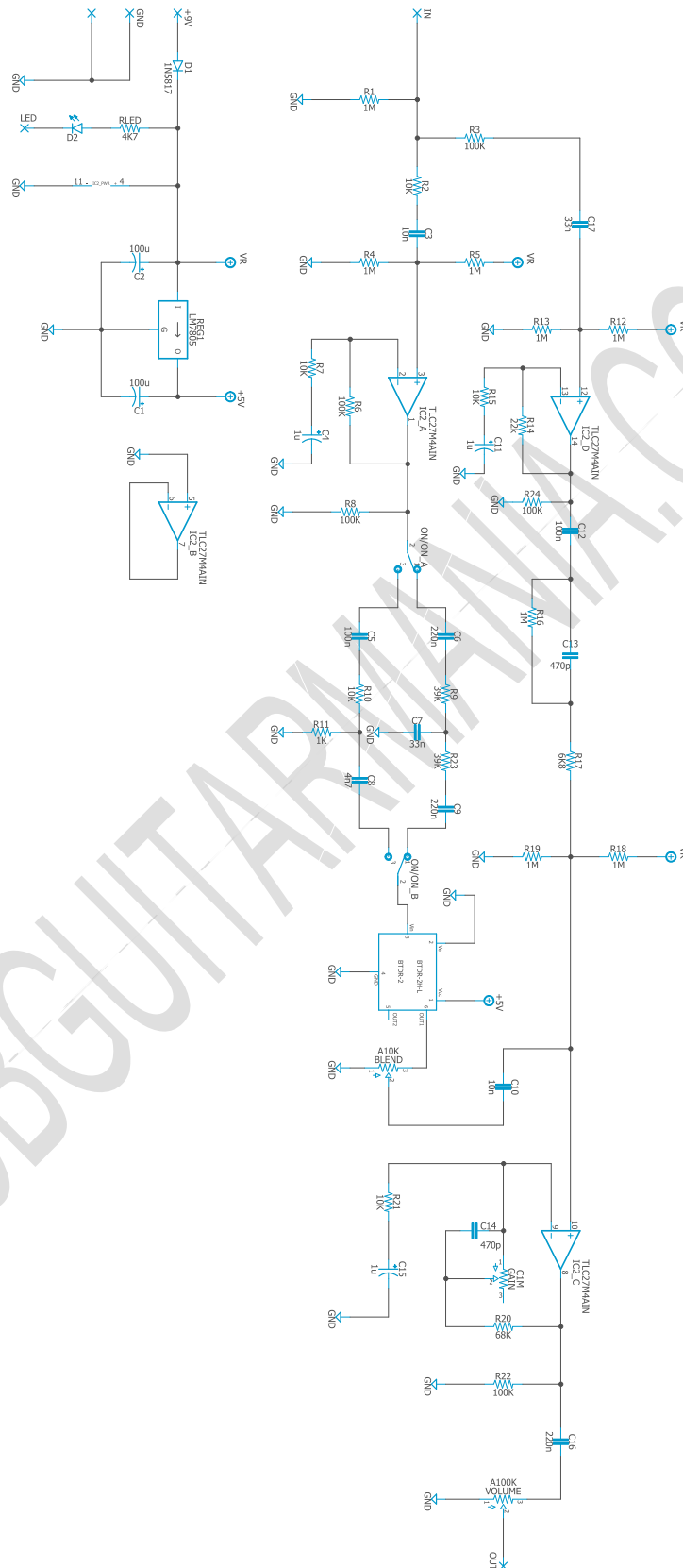
Voltage regulator		
Qty	Value	Parts
1	LM7805	Reg1

Diodes		
Qty	Value	Parts
1	1N5817	D1
1	LED (your choice)	D2

Diodes		
Qty	Value	Parts
1	3PDT Stomp foot	-
1	DPDT ON-ON	SW1

Diodes		
Qty	Value	Parts
1	DC Jack	-
2	Audio jack	-

# Schematic



# Components Recommendations

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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.

## TLC27M4AIN\*

This Quad Opamp might be hard to source on some parts of the globe. However, there are many other substitutes you can use to have this bad boy fully operating such as

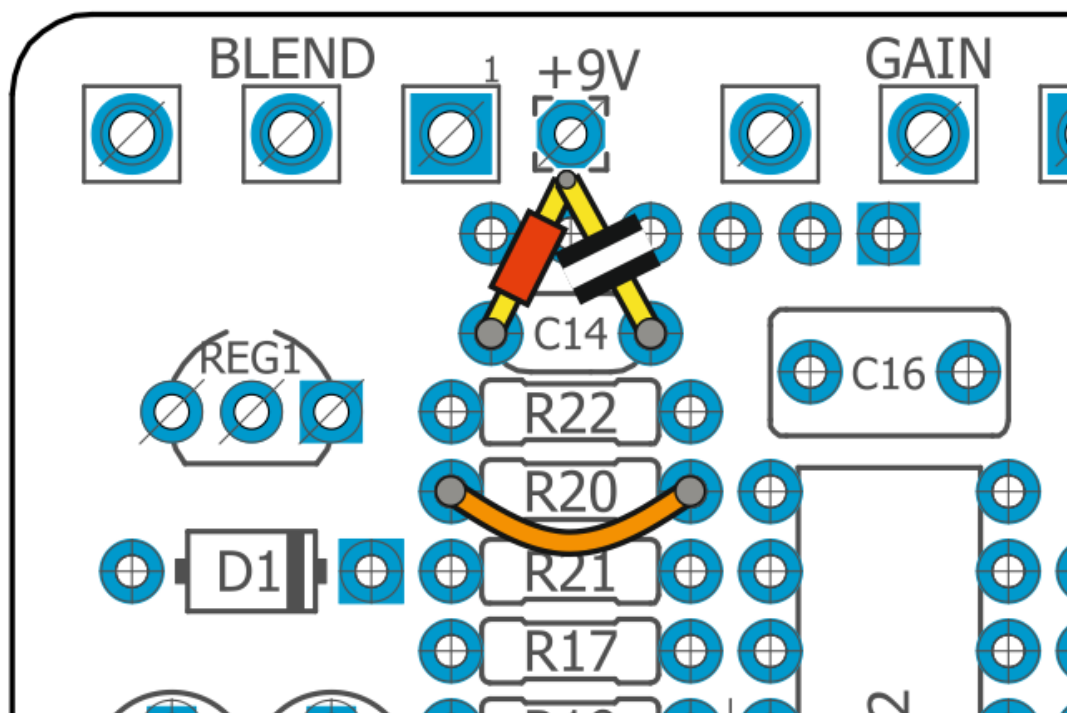
- TLC274CN
- TL074 (RECOMMENDED SUSBSTITUTE)
- TL084
- LM324

## Higher Gain Mod - Dirtier and Lo-fi. Recommended for experienced builders.

This mod allows you to achieve the levels of dirtiness and Lo-fi of the original Reverberation Machine.

**R20:** place a jumper.

**C14:** In the left pad of C14, place a 68K resistor (originally R20); in the right pad, place a 470p capacitor (C14). Connect the free right-leg of the resistor with the free left-leg of the capacitor as shown in the example below.



## 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

## 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

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This Project has been planned to fit into a 1590bb or in 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

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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.

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