Ascension Device

Based on:
EQD Levitation
Effect type:
Vintage Sprint and Plate reverb
Build difficult:
Intermediate

Number of parts:
Average, total 55 components
Technology:
Digi-Log Reverb with adjustable Reverb decay
Power consumption:
9V

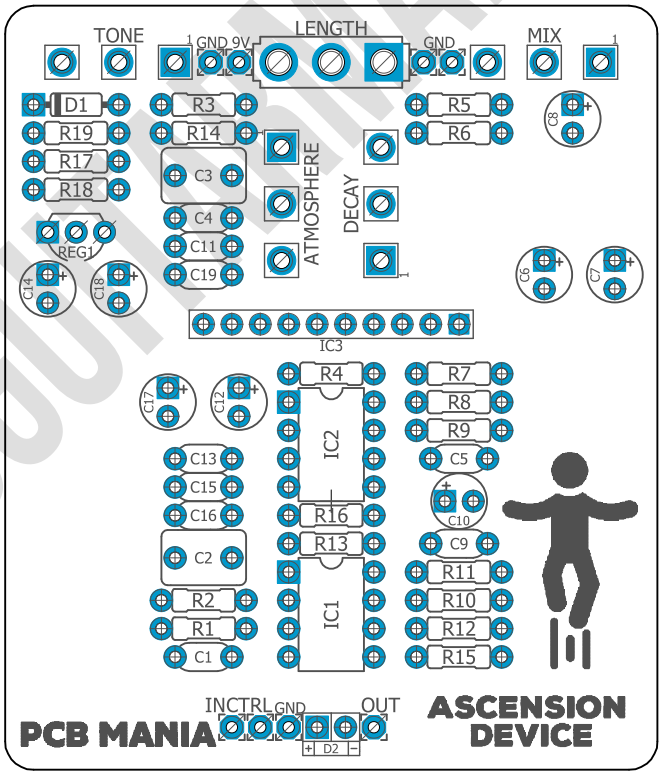
Enclosure type:
125b
Get your board at:
Ascension Device
Get your kit at:
Das Musikding (Europe)

PCBGUITARMANIA.COM

Project overview:

The Ascension Device vintage-voiced reverb is a solid pedal with some excellent control, exciting features, and a voice that emphasizes a bit more of the higher frequencies on the EQ.

This board will allow you to build the perfect tool to make the best psych-rock ever! Prepare yourself because you will get everything from room, spring, plate, psychedelia, unique ambient sounds, and some classic slapback style reverb.



Index

1. Project overview
2. Index, Introduction & Controls
3. Bills of Materials, BOM
4. Shopping Lists
5. Schematic
6. Components, Build Notes, Wiring Diagram
7. Drill Template, Licensing and Usage

Introduction

The Ascension Device reverberation machine will take your sound to new heights! This device is a vintage-voiced versatile reverb that will grant you tons of lap back and unique atmosphere delays. With its set of intuitive controls, you can dial in just the right amount and type of reverberation you need.

Based on the Levitation, this circuit is a close cousin of EarthQuaker's very spring-reverb-like Ghost Echo, though in practice they differ significantly. Where the Ghost Echo had an attack function (which added clarity to pick attack) and a dwell knob, the Ascension Device replaces them with a reverb-length toggle and decay, atmosphere, and tone controls.

The four knobs and the switch control can do wonders! Let's take a look:
Mix: This is one of the most helpful controls of the board regulating the wet signal blended with the dry. If you want more reverb, dial it clockwise, you need less, go counterclockwise.
Decay: Controls the length of the reverb decay. Longer clockwise, shorter counterclockwise.
Tone: This is an input bandwidth control for the reverberated signal. All the way, clockwise to reduce all low-end content making a brighter reverb, turning counterclockwise permits lower end to pass through, giving in a fuller reverberated tone.
Atmosphere: the harmonic regeneration control! It provides the upper frequencies of the reverb trails back through to produce a more harmonic (ringing) reverb. Get more atmosphere by dialing clockwise, less by dialing counterclockwise.
Length Switch: general control for decay time. Longer to the right and Shorter to the left.

This handy pedal offers endless potential for your creativity and is a must-have for any individual who is unsatisfied with little and wants to explore the limits!

PCBGUITARMANIA.COM

Controls

Potentiometers

- Atmosphere
- Decay
- Mix
- Tone

Switches

- Length

Bill of materials

Resistors	
Part	**Value**
R1	1m
R2	1m
R3	10k
R4	22k
R5	1k
R6	15k
R7	10k
R8	10k
R9	22k
R10	39k
R11	10k
R12	470r
R13	39k
R14	100k
R15	100k
R16	10k
R17	47k
R18	47k
R19	4k7

Capacitors	
Part	**Value**
C1	100n
C2	1u
C3	1u
C4	10n
C5	1n
C9	100p
C11	1n
C13	100n
C15	100n
C16	100n
C19	100n

Electrolytic Capacitors	
Part	**Value**
C6	1u
C7	1u
C8	1u
C10	1u
C12	100u
C14	10u
C17	100u
C18	100u

Potentiometers	
Part	**Value**
ATMOSPHERE	50K B
DECAY	25K B
MIX	10K B
TONE	25K B

Trimpots	
Part	**Value**
IC1	TL072
IC2	TL072
IC3	BTDR-3

Switches	
Part	**Value**
Length	SPDT On/On
-	3PDT Stomp foot

Voltage regulator	
Part	**Value**
Reg1	L78L05

Diodes	
Part	**Value**
D1	1N5817
D2	3mm red LED

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

PCBGUITARMANIA.COM

Shopping list

Resistors		
Qty	**Value**	**Parts**
2	100k	R14, R15
5	10k	R3, R7, R8, R11, R16
1	15k	R6
1	1k	R5
2	1m	R1, R2
2	22k	R4, R9
2	39k	R10, R13
1	470r	R12
2	47k	R17, R18
1	4k7	R19

Capacitors		
Qty	**Value**	**Parts**
5	100n	C1, C13, C15, C16, C19
1	100p	C9
1	10n	C4
2	1n	C5, C11
2	1u	C2, C3

Electrolytic Capacitors		
Qty	**Value**	**Parts**
3	100u	C12, C17, C18
1	10u	C14
4	1u	C6, C7, C8, C10

Potentiometers		
Qty	**Value**	**Parts**
1	10K B	MIX
2	25K B	TONE, DECAY
1	50K B	ATMOSPHERE

Switches		
Qty	**Value**	**Parts**
1	SPDT On/On	Length
1	3PDT Stomp foot	-

IC		
Qty	**Value**	**Parts**
1	BTDR-3	IC3
2	TL072	IC1, IC2

Switches		
Qty	**Value**	**Parts**
1	3PDT Stomp foot	-

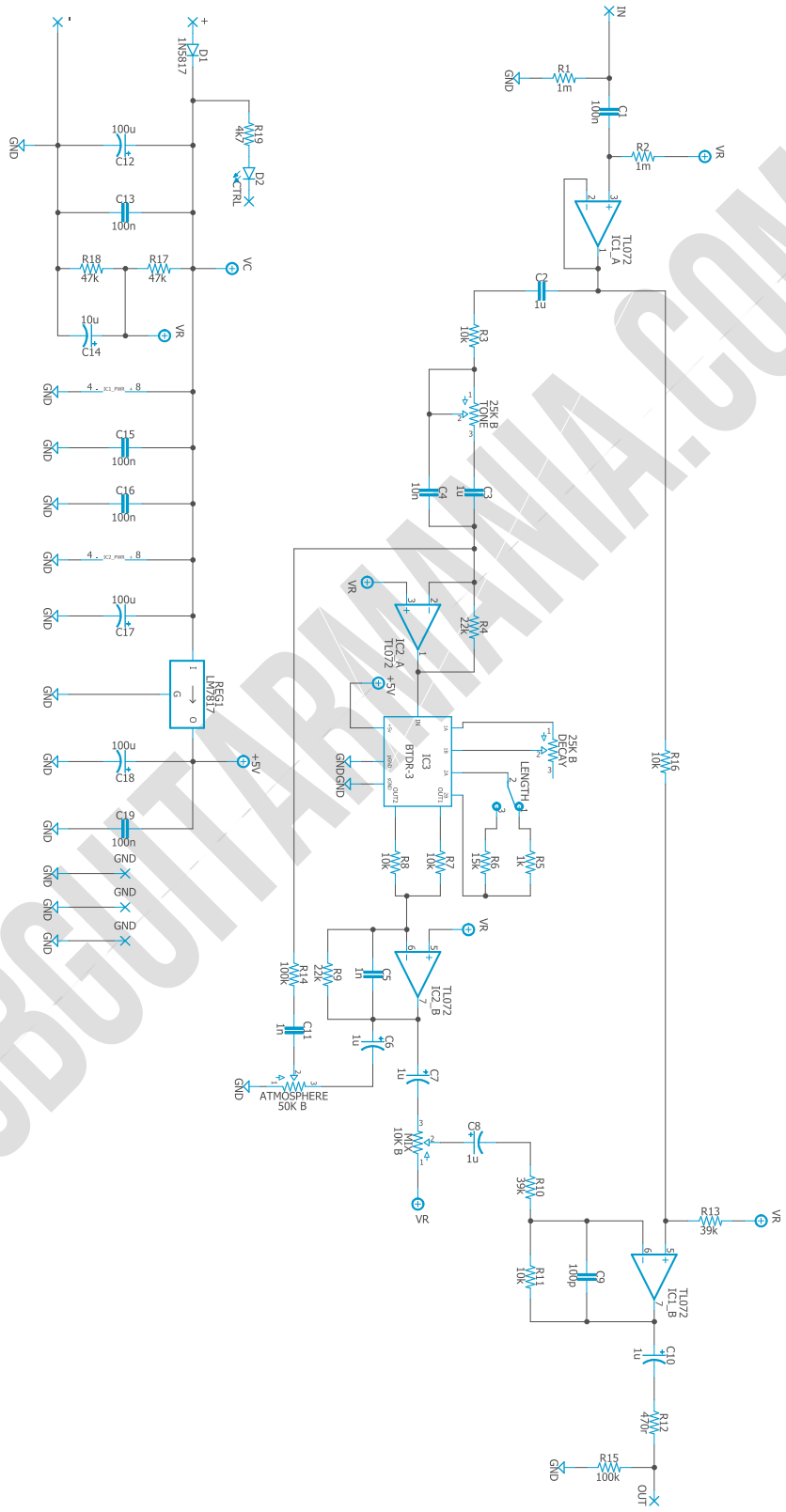
Voltage regulator		
Qty	**Value**	**Parts**
1	L78L05	Reg1

Diodes		
Qty	**Value**	**Parts**
1	1N5817	D1
1	3mm red LED	D2

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

PCBGUITARMANIA.COM

Schematic



PCBGUITARMANIA.COM

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

PCBGUITARMANIA.COM

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.

Follow us on Instagram and Facebook to stay in tune with the latest projects!

PCBGUITARMANIA.COM