Christmas Tree

User Manual & Build Guide

Version 1v0r4

1. Intro

What is the heck is it?

The Christmas Tree is a module with 2 functions: It can stand on your table as a wild flashing tree, powered by battery. Or you can upgrade it to a chaos LED oscilator module for Eurorack.

It features four oscillator outputs. Two on each side next to an audio output connector.

You can route the oscilators to the outputs by using the jumper cables.

Do It Yourself

All parts are included to build the module together on your own risk. We can't accept any responsibility for damage to the synthesizer caused by improper installation or shitty DIY skills. You need some soldering skills and some tools. If you experience wrong parts, please get in contact with us. Before powering up, please check everything carefully. That's your part of the success.

Intended use and savety instructions

The Christmas Tree is not intended for operation in or under water or at high humidity. Conductive and/or corrosive liquids, gases, aerosols, oils or vapours may damage or destroy the equipment, regardless of its operating condition. The same applies to fires or temperatures above 85°C/185°F.

Contact & responsible

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WEEE Reg-Nr.: DE94097895

Disposal

For private households: Information on disposal for users of WEEE

This symbol (figure on the right) on the product(s) and / or accompanying documents means that used electrical and electronic equipment (WEEE) should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product(s) to designated collection points where it will be accepted free of charge. Alternatively, in some countries, you may be able to return your products to your local retailer upon purchase of an equivalent new product.

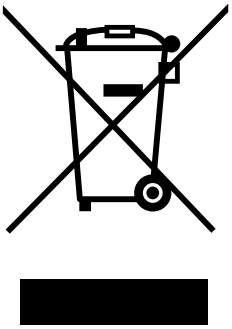
Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation.

For professional users in the European Union

If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.

For disposal in countries outside of the European Union

This symbol is only valid in the European Union (EU). If you wish to discard this product please contact your local authorities or dealer and ask for the correct method of disposal.



Specifications

Mechanical

Width: 12 HP
Height: 128,5 mm
Depth: 18 mm / Tree: 43 mm
Weight: 60 g

Power

Option 1:
9V Battery (6LR61)

Option 2:
+12 V: 162 mA
-12 V: 15 mA

2. How to build the damned thing?

General info

You need at least medium DIY and soldering skills. If you are a beginner, make sure to watch at least one of the recommended tutorials for soldering electronics:

www.exploding-shed.com/info

Also you should have a minimum knowledge about how to identify the polarity of electronic parts. We do our best to highlight these important info on the little bags.

Needed tools

You will need the following tools or just adapt the process to what you have at home.

- Soldering iron
- Solder
- Pliers / Nut-Tool Set
- Wirecutter

2.1. Soldering the Christmas Tree (Table configuration)

You need basic soldering skills, a good iron and solder wire. We already mentioned the tutorials before. Some parts have a polarity, this is mentioned on the bag-labels in red. You should know about how to identify the polarity of electronic parts. If not, do your research first.

- For this configuration you need only the 2 green PCBs.
- Generally you start with the most flat components and „work your way up“.
- Start with resistors R1-R4 and cut off the legs after soldering.
- Then go on with the capacitors C1, C2, C5-C8 and cut off the legs after soldering.
- Next you can solder the SMD-switch. Just solder one leg first and make shure it sits in the right position. Then all the others.
- Next step is to solder the LEDs. Read the explanation for the LEDs in chapter **2.2** first.
- Now you can solder the LEDs. Long leg is plus, short is minus. The short leg (-) goes through the square solder pad, long leg (+) goes through the round solder pad. They can also be identified by a (+) symbol on the PCB.
- Then you can go on soldering the Voltage Regulator U2.
- Next step is to solder the battery cable. Check the polarity!
- Last step is to put the 2 PCBs together and soldering all pads.
- Now you are done. Congratulations! Install a 9V Battery and enjoy your flashing Christmas Tree!

2.2. Explanation of the LED sections

All LEDs are flashing differently. They come mixed in one bag. So it's up to you where you want to put the LEDs. There are 4 sections to which the LEDs are soldered. Each section consists of 2 LEDs, which are connected in series. This way the flashing LEDs influence each other. To achieve a nice result, it is recommended to use different LEDs for each section. Distinguish the LEDs by their design and the length of the legs.

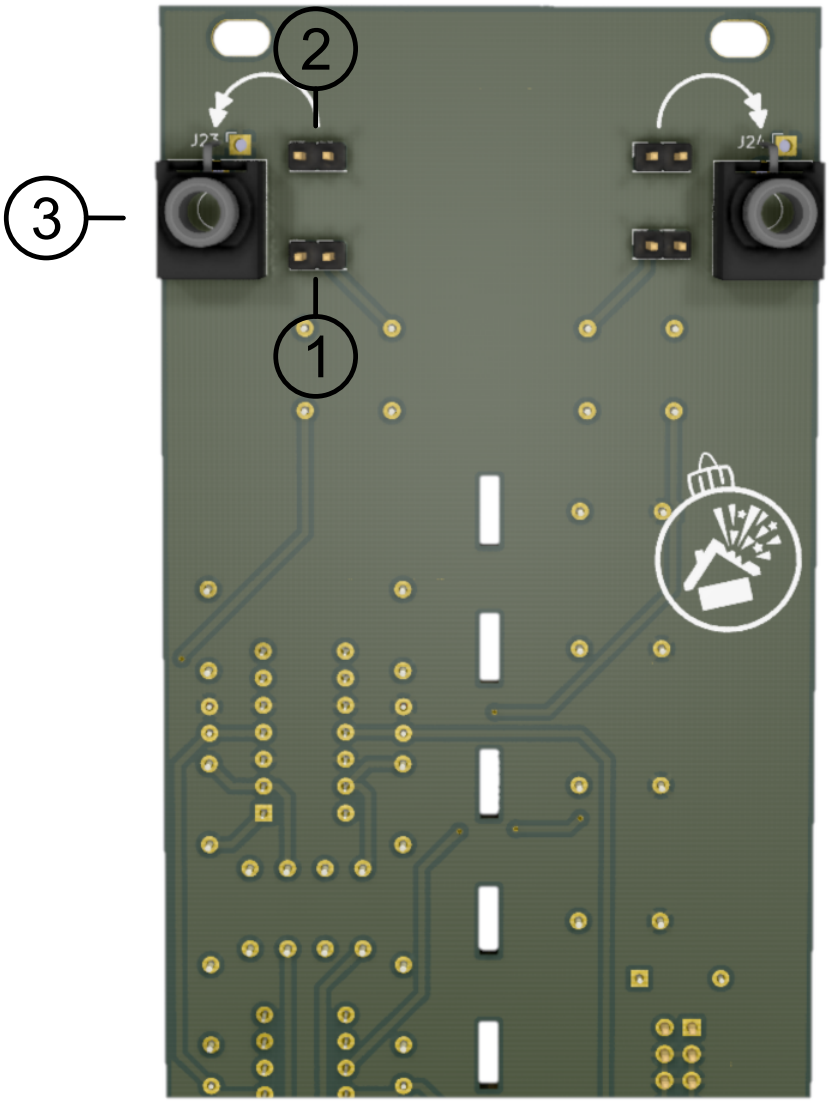
2.3. Soldering the Christmas Tree (Eurorack module)

You need basic soldering skills, a good iron and solder wire. We already mentioned the tutorials before. Some parts have a polarity, this is mentioned on the bag-labels in red. You should know about how to identify the polarity of electronic parts. If not, do your research first.

- For this configuration you also need the black PCB now.
- Generally you start with the most flat components and „work your way up“.
- Start with soldering the remaining resistors.
- Go on with the diodes and check the polarity.
- Next you can solder the capacitors.
- Then you can go on with the IC sockets.
- Next you can solder the power header but check if it sits flat on the PCB surface.
- Then you can go on and put the ICs into place. Please check the polarity!
- After that, solder the small pin headers on the frontside of the PCB. Solder one pin first and check if there are straight.
- If not, heat up again and push it into place before you solder the second pin.
- Next is to solder the Thonkiconns.
- Check carefully if all Thonkiconns sit flat on the PCB surface, then solder.
- Last step is to put the Tree into the panel module. **Cut off or desolder the battery cable first if you used the Tree in the standalone configuration before!**
- Check if the tree is sitting straight in the panel.
- Then solder the pads on the backside.

Be attentive. Remove the battery before connecting it to your Eurorack power. Otherwise you can destroy your equipment with it! It is not designed for parallel power operation.

2.4. Explanation of Input & Output



① These are the audio outputs coming from the 4 oscillators of section 1-4.

② These inputs are routed to the Thonkiconns. 2 inputs are merged togheter and mixed.

Using the included jumper cables you can patch the outputs from ① to the any of the inputs ②

③ These are the audio outputs for normal modular level.

Thank you!

We hope you are happy with our product.

Feel free to post pictures about your build on Instagram and Facebook and let people know about us and what we do. This kind of positive community support is very important to us. **Thank you!**

www.exploding-shed.com
www.facebook.com/explodingshed
www.instagram.com/explodingshed

Main distributor in the EU is: www.exploding-shed.com