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Diode Ladder VCF - Modular Synth Self-Made for 450 Yen

♡ 12



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December 2021, 12 11:13





I made my own diode rodder VCF for a modular synthesizer, so that's a memoir.



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[\$4] DIY eurorack modular synth VCF - Diode ladder low pass filter



background

The 39th work of his own modular synth.

While cleaning the room, I found a copy of the mini moog service manual.

Circuits that were completely incomprehensible at the time of printing can now be understood a little.



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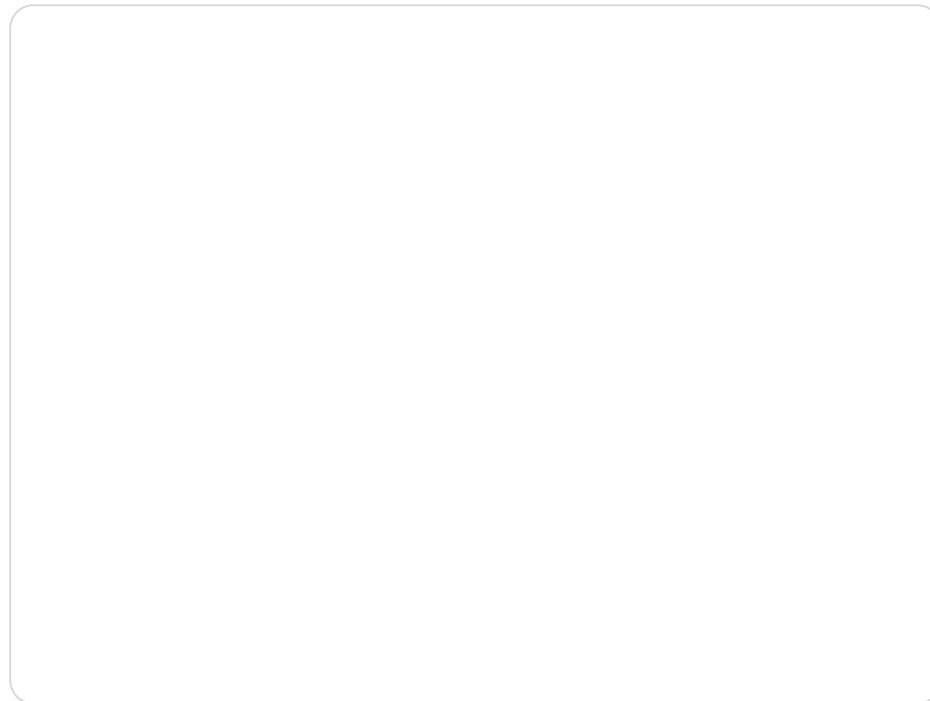
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HAGIWO/ハギヲ 自作シンセ
@HAGIWO1 · フォローする



MINI MOOGの回路図が発掘された。

カットオフ周波数のCV回路に反転加算のオペアンプ
が無いのな。



午前1:47 · 2021年11月23日



10



返信



共有

1件の返信を読む



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I had wanted to make a transistor ladder VCF used in moogs for a long time, but when I looked at the circuit, the number of components was large.

So I decided to start by creating a dihydrader VCF with a small number of components and then try a transistor ladder.

Features of the production

Size: Standard 3U 6HP Size

Power Supply: Requires dual 12V power supply $\pm 15\text{mA}$ or less (at +12V) / $\pm 15\text{mA}$ or less (at -12V).

The current consumption has not been accurately measured, but an approximate value is estimated from the current consumption indicated by the regulated power supply.

FREQ POT: Cutoff Frequency

RES POT: Resonance

ATTN POT: Attenuator of the input audio signal,

FREQ CV distorted when the input is large: CV of the cutoff frequency (0~5V assumed)



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Like the original moog transistor ladder VCF, it features lower bass as the resonance level is increased. It's up to you whether you see this as good or bad. There are also threads discussing this issue, so interested people can peek and get some insights.

**s that do not cut the bass when you turn u
res - Page 2 - MOD WIGGLER**

modwiggler.com

If the input level of the audio is large, it will be distorted nicely. The sound is thicker and warmer. The original plan was not to install an ATTN knob that adjusts the input level, but this distortion was found during the experiment and the ATTN was added.

It is easy to make soft string sounds and warm brass sounds.



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Production cost

Total amount about 450 yen----- polypropylene film

capacitor 120 yen (30 yen * 4pcs),

front panel 100 yen

, etc. (For general-purpose parts,
refer to the link below)



Since transistors and diodes have the same characteristics, it is recommended to use the same LOT components.



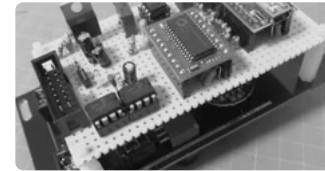
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ユラシンセ自作で使う安価な部品一覧

ついでに。適時更新。コストと品質の観点で記載、主観による。alieはリンクを貼ってもすぐに切れるので、画像で残す。値段は購入当の。昨今は値動きが激しい。品質は私の経験値。よって母数は数...



HAGIWO/ハギヲ
2021/11/19 16:18

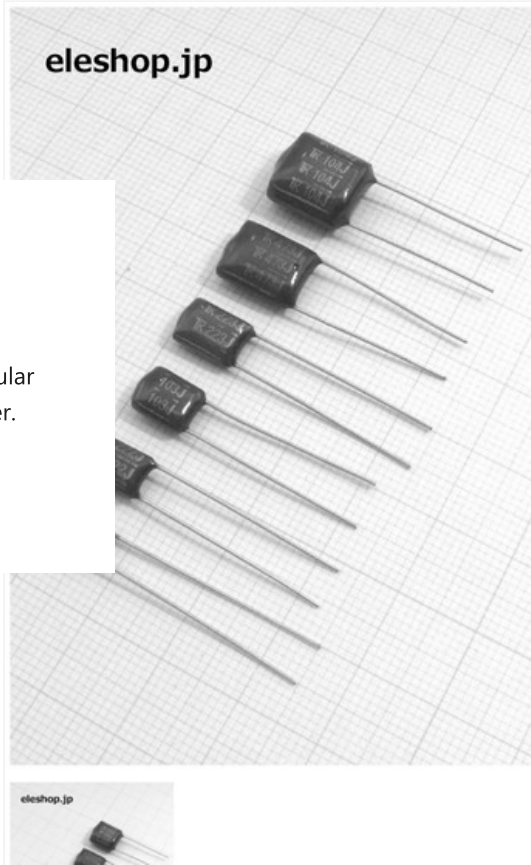
Polypropylene film capacitors were purchased from Kyoritsu Eleshop. There is an assortment of capacitors with a wider range of capacitors than in the autumn months.



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ブログ掲載品

ポリプロピレンフィルムコンデンサ
100V 0.068uF
2AUPZ683JE

web販売価格：	¥31(税込) 注文受付単位：1
数量割引価格：	▼数量割引価格▼ ¥27 / 50個～ ¥23 / 100個～
在庫：	935 (現在庫数)
送料区分：	ネコボス（ヤマト運輸）可能
メーカー：	東信工業
商品コード：	ABT367
品名／型番：	ポリプロピレンフィルムコンデンサ100V 0.068uF / 2AUPZ683JE
登録日：	2010.11.29
製品情報：	データシート/PDF

数量：

買い物かごへ

hardware

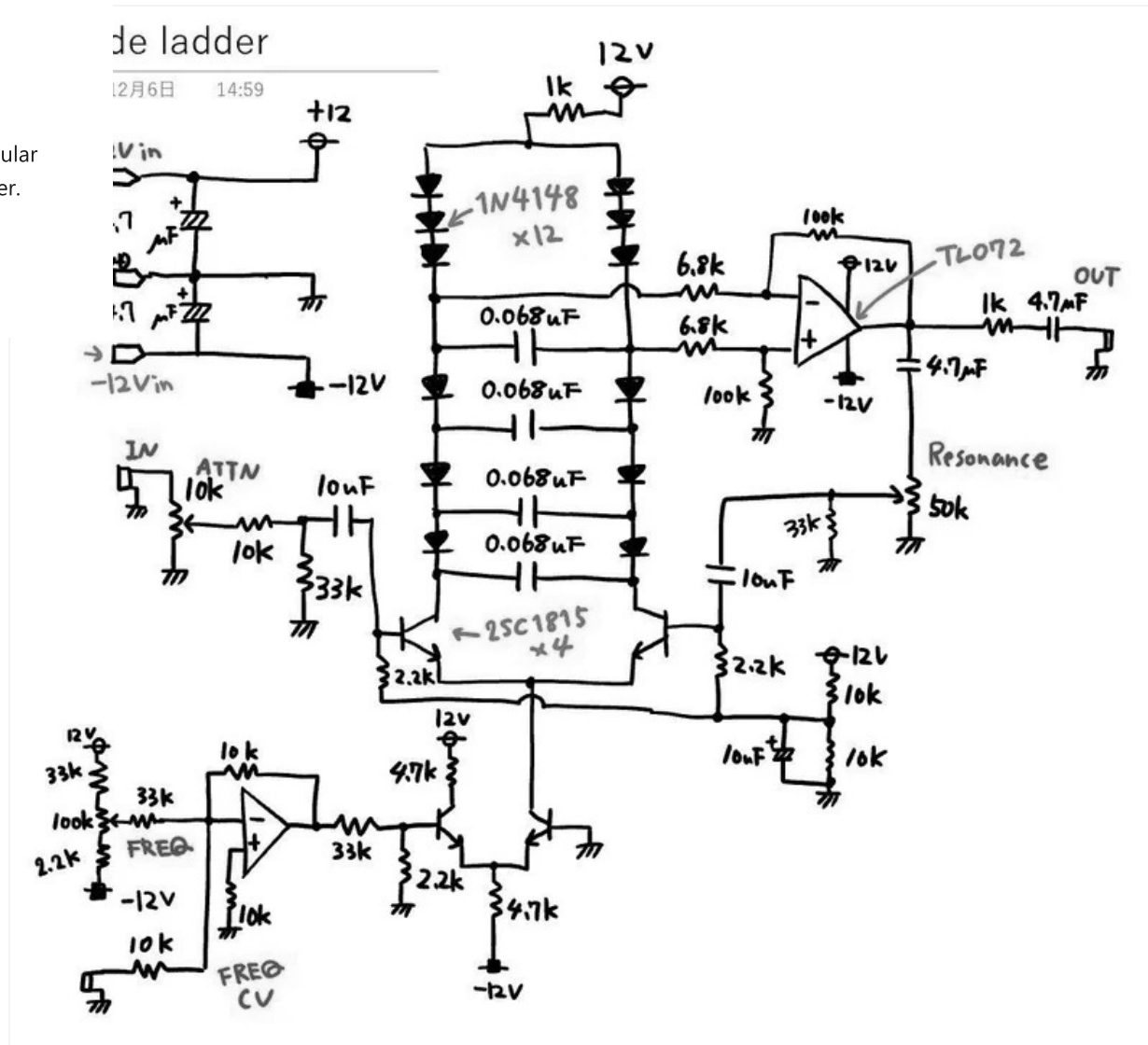
As for the circuit of the dioderuder, you can find a variety of circuit diagrams by searching the Web. There are various circuits, such as multi-mode filter circuits that include HPF / BPF, and circuits that can control resonance by CV. It was a great reference.

In the circuit I created, I aimed to have as few components as possible while

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Originally, I would have to adjust the characteristics of the parts and think about temperature compensation, but I closed my eyes to that.

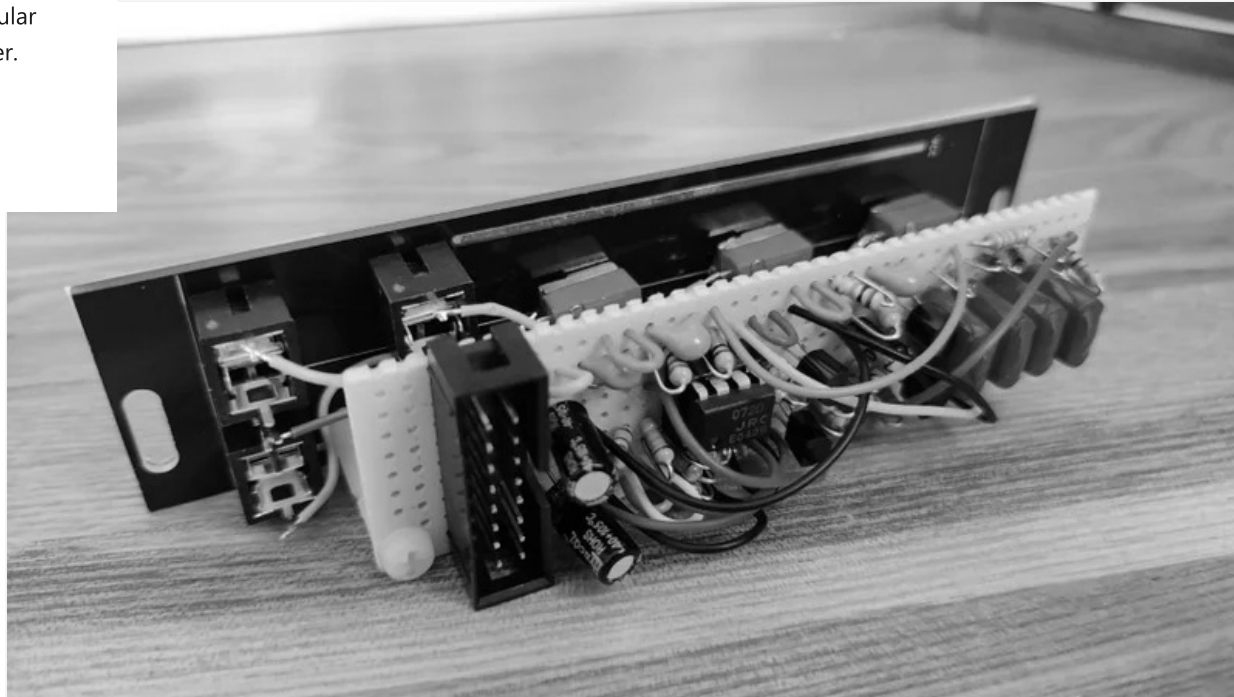
Since the number of components has also been reduced, it can be mounted on a 4P size universal board.



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