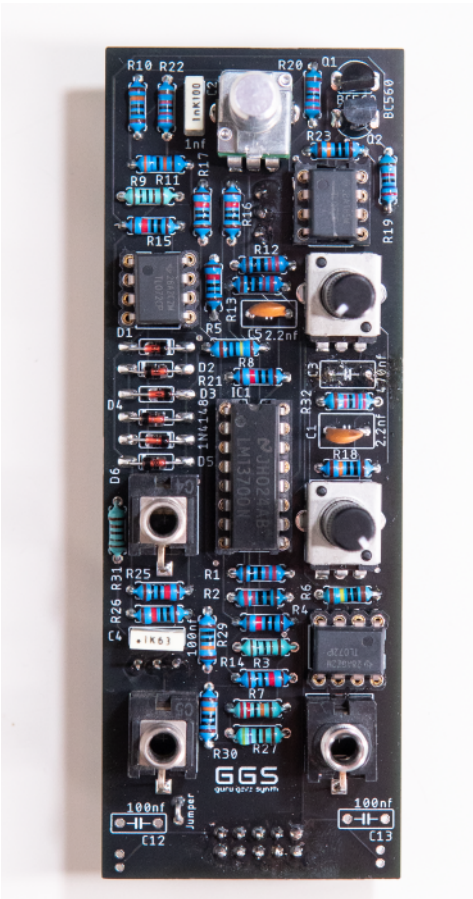
OTA VCF V1.6

Inspired by the classic MS20 low-pass filter, our OTA VCF delivers a warm and juicy sound, perfect for adding analog character to your Eurorack system.

This 2-pole, 12dB/octave voltage-controlled filter is built around the reliable LM13700 Operational Transconductance Amplifier, allowing for rich, resonant sweeps.

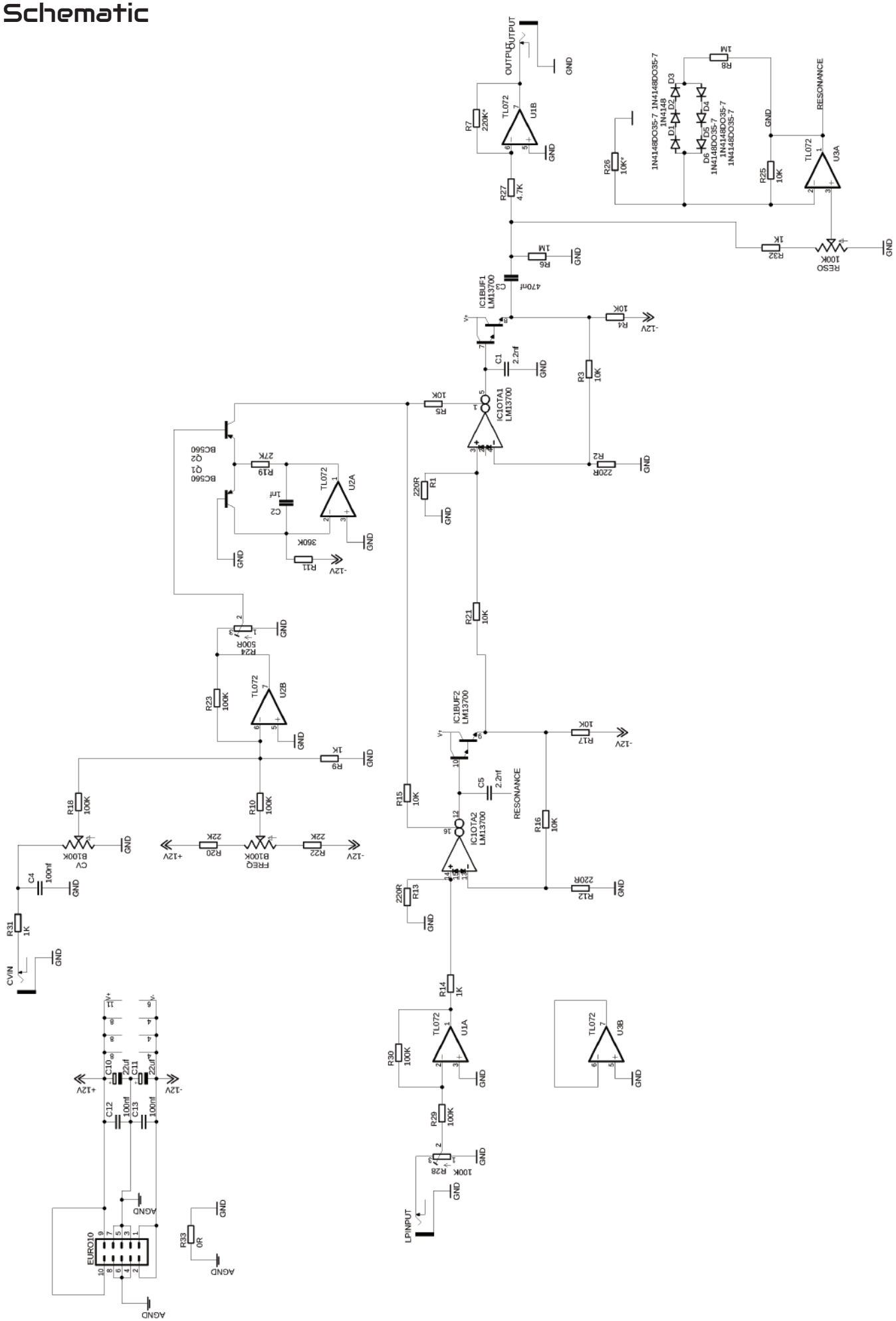


Bom

Qty	Value	Part Number
1	2 x 5 IDC Connector	EURO Power
1	0R	Jumper
1	B100K - 9mm Potentiometer	RESO
5	100K	R10, R18, R23, R29, R30
1	100K - trimmer	R28
3	100nf	C4, C12, C13
8	10K	R3, R4, R5, R15, R16, R17, R21, R25
1	10K*	R26
1	1K	R9, R14, R31
1	~~1K~~ 22K	R32
2	1M	R6, R8
6	1N4148	D1, D2, D3, D4, D5, D6
1	1nf	C2
1	2.2nf	C5
1	2.2nf	C1
1	220K*	R7
4	220R	R1, R2, R12, R13
2	22K	R20, R22
2	22uf	C10, C11
1	27K	R19
1	360K	R11
1	4.7K	R27
1	~~470nf~~ 1uf	C3
1	500R - Trimmer	R24
2	B100K - 9 mm Potentiometer	CV, FREQ
2	BC560	Q1, Q2
1	LM13700	IC1
3	THONKICONNOLD	CVIN, LPINPUT, OUTPUT
3	TL072	U1, U2, U3

Use capacitors rated 25V or higher.
R7: increase for higher output level or decrease for lower output level if needed.

Schematic


OUTPUT
TL072
U1B
R7
220K*
R27
4.7K
R26
10K*
1N4148DO35-7
1N4148
D1
D2
D3
D4
D5
D6
R8
1M
RESONANCE
R25
10K
U3A
R32
1K
RESO
100K
R6
1M
C3
470nf
IC1BUF1
LM13700
R4
10K
-12V
C1
2.2nf
R3
10K
R5
10K
IC1OTA1
LM13700
R2
220R
R1
220R
BC560
Q2
Q1
R19
27K
C2
1nf
U2A
360K
R11
R24
500R
R23
100K
U2B
R9
1K
R21
10K
IC1BUF2
LM13700
R17
10K
C5
2.2nf
R15
10K
IC1OTA2
LM13700
R16
10K
R18
100K
CV
B100K
R10
100K
FREQ
B100K
R20
22K
R22
22K
+12V
C4
100nf
R31
1K
CVIN
R13
220R
R12
220R
R14
1K
U1A
R30
100K
U3B
R29
100K
R28
100K
LPINPUT
EURO10
C10
22uf
C11
22uf
C12
100nf
C13
100nf
R33
0R
AGND
GND

Calibration

In Level Adjustment (R28)
Set the frequency all the way up and resonance all the way down. Connect a sound source, such as a VCO, to the input. Turn down R28 completely and then slowly increase it. Check the output and roughly adjust the trimmer to match the output level of the VCO.

Frequency Resiolution Adjustment (R24)
Adjust it to spread the filter sweep across the frequency potentiometer. Initially, the filter sweep may be observed in a very short section of the pot.

GGS
guru gara synth

Thanks you for choosinf Guru Gara Synth.
For more information please contact gurugarasynth@gmail.com