Skull&Circuits - VCA-1 Old School VCA
https://www.skullandcircuits.com/vca-1/

The 2 transistors forming the long-tail pair should ideally be matched, but in my experience it's not a really that critical if you use 2 transistors you bought at the same time. Mostly they're close enough, but if you have the possibility to use matched ones, why not do it. The CV-reject trimmer can be used to make minor adjustments if you find yourself having a DC offset.

The BOM and schematics specify a BC550 as a transistor, but a transistor like the 2N3904 would work equally well.

RV1 is a trimmer used to offset the control voltage in such a way that the VCA attenuates fully when closed. If you encounter some sound still coming through when closed you should trim this until it disappears. If you find that CV does little, trim it as well until you start hearing sound coming through without any CV input and then back off a bit. RV1 is set in the BOM as 10K, but you could use almost any value you want 50K, 100K, 500K will all work equally well.

RV2 can be used to adjust for CV bleed and compensate for transistors which aren't matched. While the value isn't all that crucial you should keep it low, 1K or 5K will work just fine. In order to fit everything on the PCB you should mount the potentiometer and jack sockets to the backside of the PCB.

Reference(s)	Value
R1, R2, R3	100k
R4	200k
R5, R6, R10	10k
R7, R14, R17	1k
R8, R11, R12, R13	15k
R9	33K
R15, R16	150k
C1, C2	100n 103/104
C3, C4	10u
U1	TL072
Q1, Q2, Q3	BC550/2N39(
M1	Audio input
M2	CV input 2
M3	CV input
M4	Audio Out
RV1	10k trimpot
RV2	5k trimpot
RV3	B100K