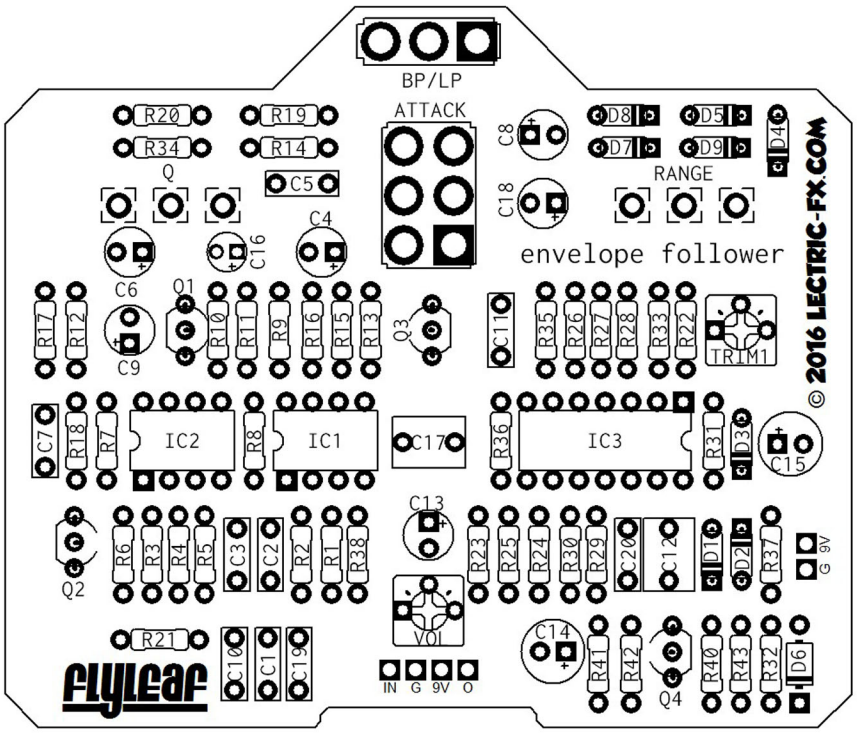
Flyleaf

envelope follower



The Flyleaf is based on the vintage EHX Zipper™ Envelope Follower that debuted in 1977. It has been adapted to use true bypass switching and includes an internal trimpot for adjusting the effect for bypass unity via an onboard clean boost. This boost is based on the LPB-1.
Although the original circuit used 2n4302 jfets, we've found 2n5485 to be an ideal substitute, although others such as 2n5952 may also work adequately.

CONTROLS:

ATTACK: Controls the speed of the envolope response.

RANGE: This control varies the frequency of the envelope follower. CW rotation = higher frequencies, while CCW = lower frequencies. This control used along with guitar volume, string attack, and range settings, will provide a variety of sounds.

Q: This control adds "sharpness" to the response. For max effect, the Q should be turned CW full. CCW rotation will have a somewhat opposite outcome.

BP/LP: (band pass/low pass) Varies the tone of the envelope. The switch in BP position adds treble, while the LP adds bass to your signal.

BILL OF MATERIALS

Part #	Value
R1	43k
R2	4k7
R3	220R
R4	4k7
R5	4k7
R6	4k7
R7	4k7
R8	10k
R9	470R
R10	22r
R11	160k
R12	22M
R13	4M7
R14	2k7
R15	22R
R16	470R
R17	22M
R18	4M7
R19	43k
R20	3k3
R21	47k
R22	33k
R23	10k
R24	3k3
R25	1M5
R26	43k
R27	27k
R28	160k
R29	47k
R30	47k
R31	1M
R32	22R
R33	100R
R34	160k
R35	2k2
R36	10k
R37	1M5
R38	1M
R40	1M
R41	100k
R42	390r
R43	10k

Part #	Value
C1	47n
C2	22n
C3	22n
C4	4u7
C5	2n2
C6	4u7
C7	4n7
C8	4u7
C9	4u7
C10	22n
C11	33n
C12	2u2 NP
C13	10uF
C14	100uF
C15	220uF
C16	1uF
C17	2u2 NP
C18	4u7
C19	100n
C20	100n

D1	1n914
D2	1n914
D3	1n914
D4	1n914
D5	1n914
D6	1n4002
D7	1n914
D8	1n914
D9	1n914

IC1	NJM4558
IC2	NJM4558
IC3	LM324

Q1	2N5485
Q2	2N5485
Q3	2N5485
Q4	2N5088

ATTACK	DPDT
BP/LP	SPDT

Q	100KB
RANGE	10KB

TRIM1	25k tr
VOL	100k tr

Count	Value
3	22R
1	100R
1	220R
1	390R
2	470R
1	2k2
1	2k7
2	3k3
5	4k7
4	10k
1	27k
1	33k
3	43k
3	47k
1	100k
3	160k
3	1M
2	1M5
2	4M7
2	22M

Count	Value
1	4n7
1	2n2
3	22n
1	33n
1	47n
2	100n
1	1uF
2	2u2 NP
5	4u7
1	10uF
1	100uF
1	220uF

If you cannot find 22M resistors in your area, try “tepee-ing” 2x 10M’s.

For space saving considerations, I recommend using MLCC (Multi-Layer Ceramic Capacitors) for C12 & C17 if possible. Film caps in that value tend to be rather large, but they may fit.

This effect may benefit from matched jfets. Mouser carries 2n5485’s from Central Semi, and taydaelectronics has a bunch of Fairchilds that are in tape & reel. I tried both, and they worked great for me!

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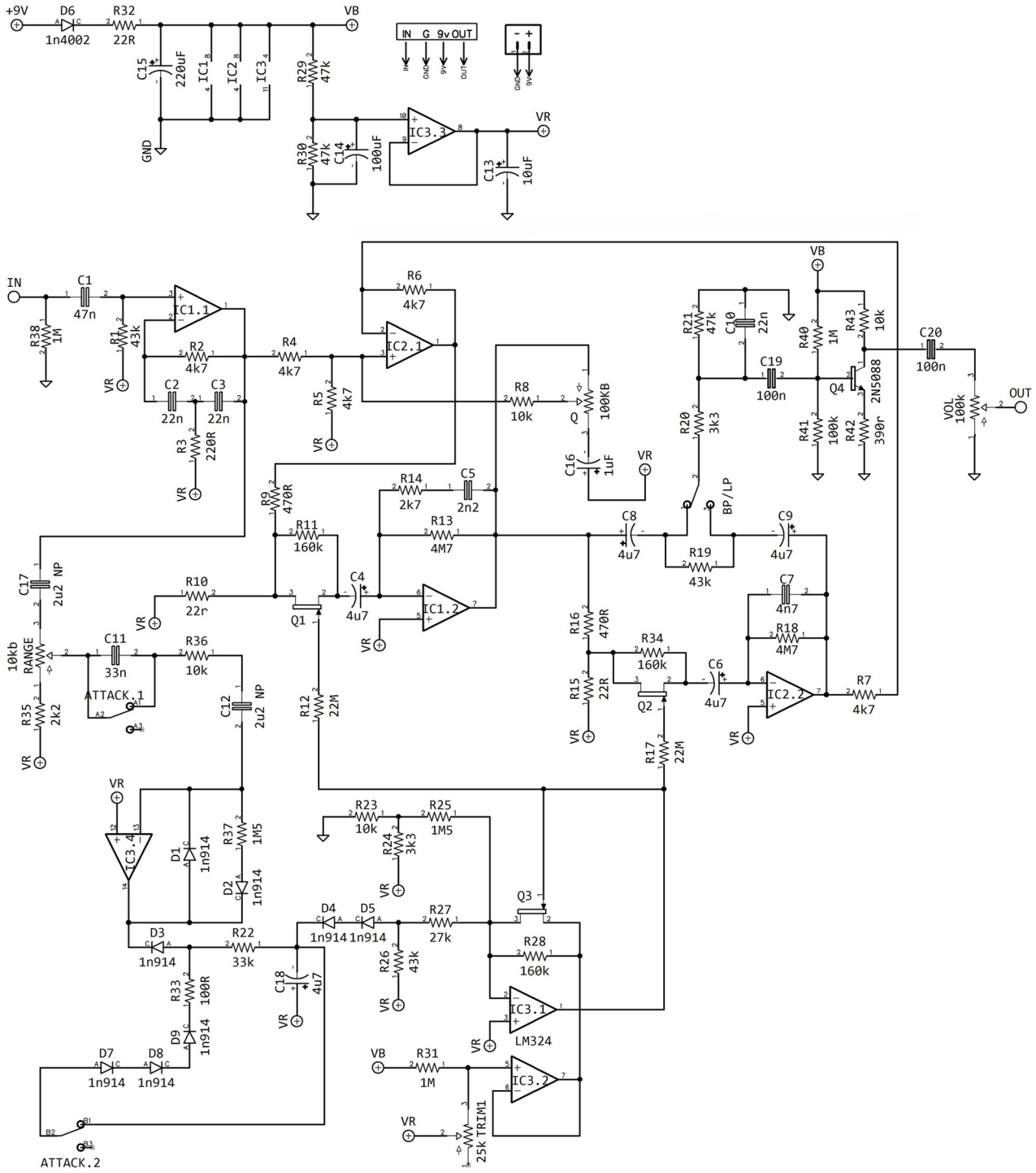
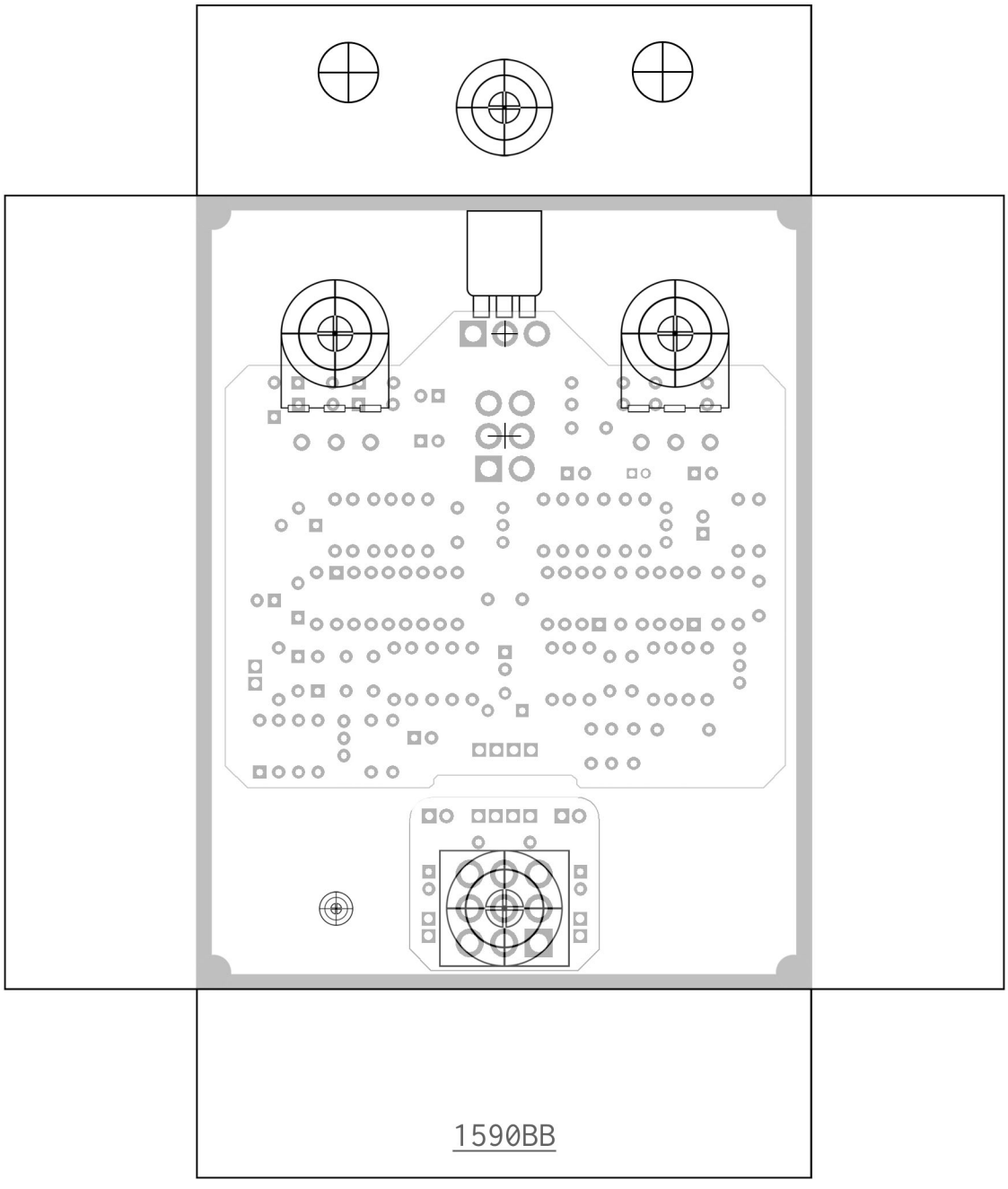


Drill Guide (Top Mounts)



Drill Guide (Side Mounts)

Untested