RUNTIME.ERROR

FX TYPE: Distortion? Maybe Fuzz?
Based on the Systech® Overdrive™
Enclosure Size: 1590A
"Softie" compatibility: none
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Overview

So you have this drummer, whom you love and is a great addition to your band, but he's got 17 Paiste crash cymbals which he plays relentlessly and it eats up all the upper mids in every live or studio mix. How can you, guitar piddler extraordinaire, compete with that when it's time for "the big solo"? Jack into the Runtime Error and obliterate everyone's preconception of mid-range!
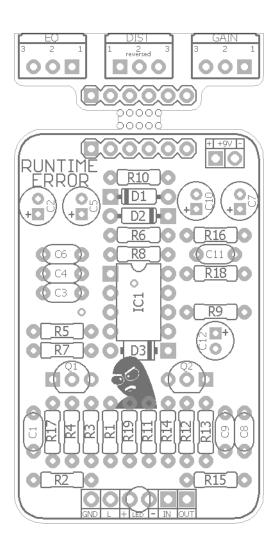
The Systech Overdrive is pretty unique in terms of fuzzboxes. It's got a lot of familiar elements (buffer, filter, ground clipping) but is not really an overdrive and probably not a distortion in the traditional sense. The key ingredient is the active EQ adjustment before the distortion. This ends up producing a fairly wild "stuck wah" fuzzy sound. Much like the Systech Harmonic Energizer, if you are a fan of mid-70's Zappa lead tones (as heard on Roxy, Baby Snakes, Zoot Allures, etc) this is the one you want. It's creamy but not rude or harsh and is guaranteed to get you noticed.
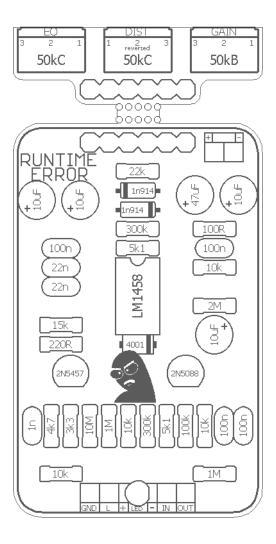
Controls

- **GAIN -** Output volume (before final gain stage).
- **DIST -** A voltage divider that acts as a gain control before the clipping section.
- **EQ -** Active mid-range filter. The only way to describe this is *extreme*. It's range is a bit reminiscent of a ladder type filter you might find on an old synth.

Technical assistance for your build(s) is available via the madbeanpedals forum. Please go there rather than emailing me for assistance on builds. This is because (1) I'm not always available to respond via email in a timely and continuous manner, and (2) posting technical problems and solutions in the forum creates a record from which other members may benefit.

EQ			DIST			GAIN		
3	2	1	1	2 reversed	3	3	2	1
	50kC			50kC			50kB	

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10uF 10uF

22k
1n914
1n914
300k
5k1

47uF 10uF

100R
100n
10k

LM1458

2M
10uF

100n
22n
22n

15k
220R

4001

2N5457

2N5088

1n 4k7 3k3 10M 1M 10k 300k 5k1 100k 10k 100n 100n

10k

1M

GND L + LED − IN OUT

Resistors		Caps		Diodes	
R1	1M	C1	1n	D1	1n914
R2	10k	C2	10uF	D2	1n914
R3	10M	C3	22n	D3	1N4001
R4	3k3	C4	22n	Transistors	
R5	15k	C5	10uF	Q1	2N5457
R6	300k	C6	100n	Q2	2N5088
R7	220R	C7	10uF	IC	
R8	5k1	C8	100n	IC1	LM1458
R9	2M	C9	100n	Pots	
R10	22k	C10	47uF	DIST	50kC
R11	300k	C11	100n	EQ	50kC
R12	100k	C12	10uF	GAIN	50kB
R13	10k				
R14	5k1				
R15	1M				
R16	100R				
R17	4k7				
R18	10k				
R19	10k				

Value	QTY	Type	Rating
100R	1	Metal / Carbon Film	1/4W
220R	1	Metal / Carbon Film	1/4W
3k3	1	Metal / Carbon Film	1/4W
4k7	1	Metal / Carbon Film	1/4W
5k1	2	Metal / Carbon Film	1/4W
10k	4	Metal / Carbon Film	1/4W
15k	1	Metal / Carbon Film	1/4W
22k	1	Metal / Carbon Film	1/4W
100k	1	Metal / Carbon Film	1/4W
300k	2	Metal / Carbon Film	1/4W
1M	2	Metal / Carbon Film	1/4W
2M	1	Metal / Carbon Film	1/4W
10M	1	Metal / Carbon Film	1/4W
1n	1	Film	16v min.
22n	2	Film	16v min.
100n	4	Film	16v min.
10uF	4	Electrolytic, low profile	16v min.
47uF	1	Electrolytic, low profile	16v min.
1n914	2		
1N4001	1		
2N5457	1		
2N5088	1		
LM1458	1		
50kC	2	PC Mount	9mm
50kB	1	PC Mount	9mm

You can use two 1M resistors in series in place of the 2M.

Low profile Electrolytic caps:

http://smallbear-electronics.mybigcommerce.com/electrolytic-radial-low-profile-16v-1-f-100-f/

2n5457:

http://smallbear-electronics.mybigcommerce.com/transistor-fet-2n5457/

You should be able to use similar JFETs like J201, MPF102 or 2n5458 here.

LM1458:

http://smallbear-electronics.mybigcommerce.com/ic-mc1458p-ti/

9mm PC Mount pots:

http://smallbear-electronics.mybigcommerce.com/alpha-single-gang-9mm-pc-mount/

Note, you can use 100kC in place of the 50kC and just put a 100k resistor across pins 1 and 3 of the pot. This is what I had to do and it worked out fine.

Thinline DC Jack:

http://smallbear-electronics.mybigcommerce.com/dc-power-jack-all-plastic-unswitched-2-1-mm/

Enclosed Mono:

http://smallbear-electronics.mybigcommerce.com/1-4-in-mono-enclosed-jack/
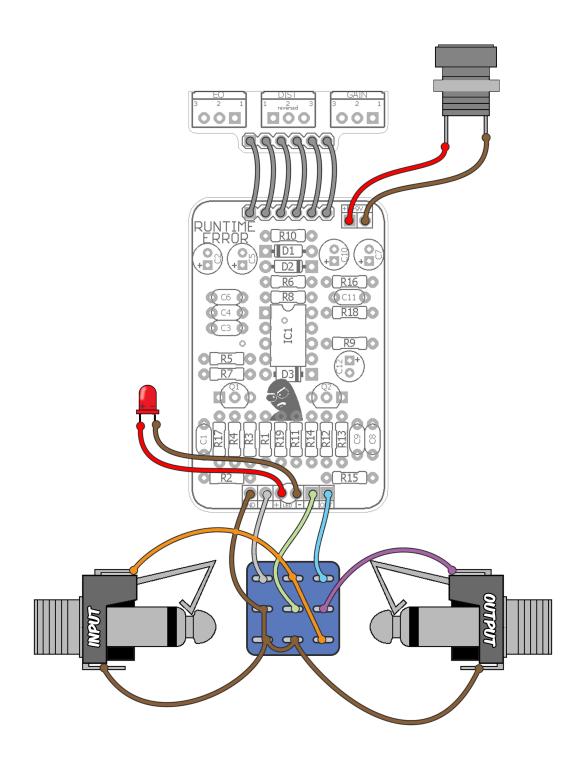http://smallbear-electronics.mybigcommerce.com/1-4-in-mono-enclosed-switchcraft-111x/

Lumberg Mono:

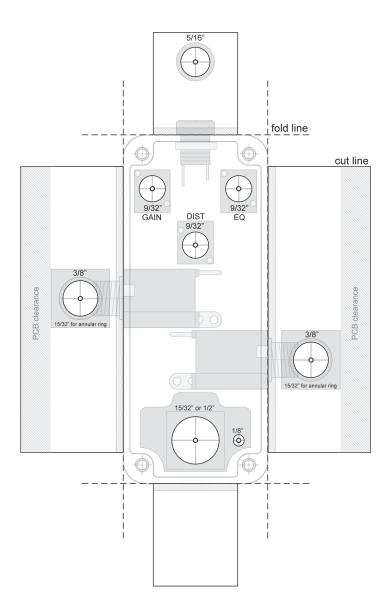http://smallbear-electronics.mybigcommerce.com/lumberg-1-4-compact-shrouded-mono-jack/

None, other than be sure to break the two PCBs apart before you start populating! 24AWG is preferred for wiring the two boards together but 22AWG is also fine.

Note: *Drill Guides are approximate and may require tweaking depending on the types of jacks, switches and pots you use.*
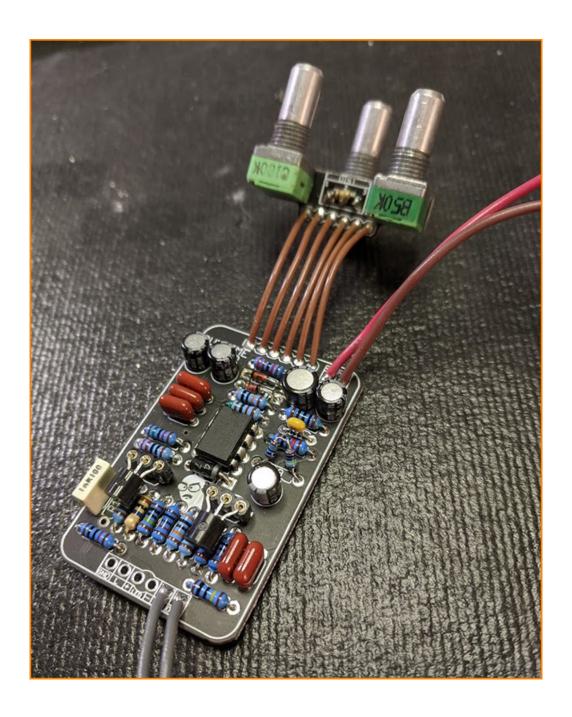

- This template will work for either mono enclosed jacks or the "Lumberg" style.
- It uses the "Thinline" style DC Jack but you should be able to fit other styles in there (different drill size req'd).
- It also shows the 3PDT02 bypass PCB but this is not required. If you are wiring straight to a 3PDT you can use the same LED location on the right side or choose a different spot.

Q1	DC	IC1	DC
G	0	1	4.39
S	1.17	2	4.43
D	8.86	3	4.42
		4	0
Q2	**DC**	5	4.41
C	5.76	6	4.44
B	2.14	7	4.19
E	1.57	8	8.86

9.42vDC One Spot
Current Draw: ~6mA

RuntimeError

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