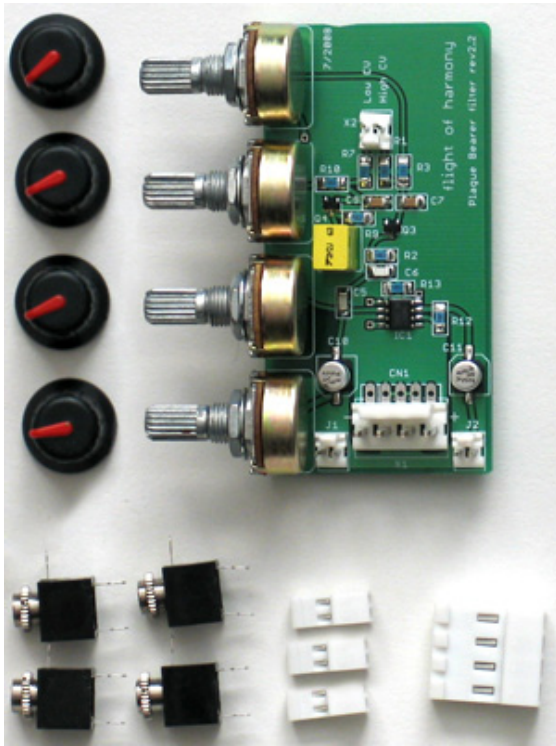


flight of harmony

Plague Bearer

Barebones pack
~rev2.2~





Components

1	Assembled Plague Bearer filter board
4	Knobs – default color: red
4	Audio jacks – default style: 3.5mm phone jacks with hardware
3	AMP MTA 0.100" 2-pin 24ga. connectors
1	AMP MTA 0.156" 4-pin 24ga. connector (default option)

Specifications

(see text for detailed description.)

Supply Voltage (min -> max)	$\pm 9V \rightarrow \pm 15V$
Supply Current (max draw @ $\pm 12V$)	+12V: 6.5mA -12V: 4.0mA
Input Voltage (@ $\pm 12V$)	$0V_{pp} \rightarrow 10V_{pp}$
Output Voltage	$\pm 1V$
Input & Output (I/O) coupling	Capacitive (AC)
Output Impedance	$2.2\mu F$ in series with $1k\Omega$
Control Voltage (CV) inputs	$0V \rightarrow V+$
CV input coupling	Direct (DC)
CV input impedance	$100k\Omega$

Specification Details

The Plague Bearer Barebones Pack (PBBP) rev2.2 is designed to be as versatile as possible – that is, as versatile as possible considering what options I thought of at the time. Details:

Supply: This design has been tested from $\pm 9V$ up to $\pm 15V$ and works well in this range, although performance specifics will vary with supply voltage. All measurements, unless stated otherwise, assume $V_{supply} = \pm 12V$.

Output: For the aforementioned versatility, $V_{out,pp} = \pm 1V$. This allows the unit to be used in low-level systems (guitar effect chain, etc.) as well as line-level (synthesizer).

Input: This can handle pretty much any reasonable (e.g., $< 15+$ volts_{pp}) signal you might throw at it. This is why there is an input attenuator. Lower signal levels will give a much wider range of signal coloration/alteration. Overdriving the input of the filter will give a very harsh distortion and destroy most of the filtering subtleties.

Controls

High: Okay, a confession: The controls are technically labelled incorrectly. *High* actually controls the cutoff frequency (f_c) of the lowpass portion (how much of the high end is let through), while *Low* controls the f_c of the highpass section (how much of the low end is let through).

Having said that, clockwise rotation of the High control increases the high end of the signal. This also increases the resonance of the filter. Applying an increasing CV to the High CV input will act the same as clockwise rotation.

Low: This one is kinda screwy. Clockwise rotation of the Low control will increase the amount of the low end passed through the filter (i.e., it lowers the highpass f_c), and dramatically boosts the resonance. Applying an increasing voltage to the Low CV input also acts as clockwise rotation, which is the screwy part: Increasing the Low CV lowers the highpass f_c , allowing more low end through.

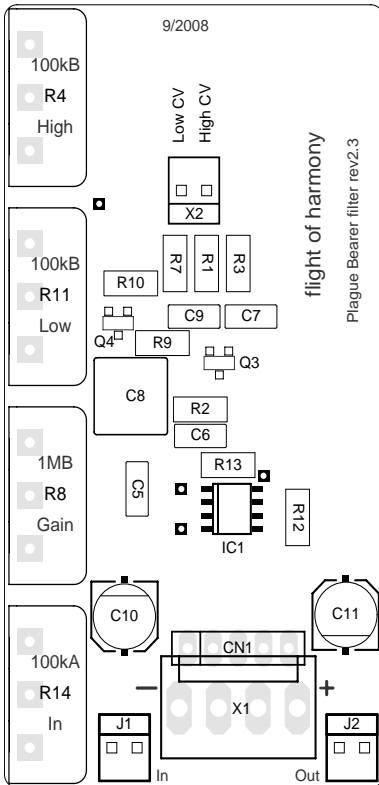
Gain: Controls the gain of the filter. Clockwise to increase, yadda yadda yadda... The part to keep in mind is that increasing the gain increases the resonance, and the PB was designed to go absolutely nertz from this. The filter will easily oscillate and scream at you.

Input: This is the input attenuation control as mentioned above.

Making Noise

The PB filter can also act as a noise generator, and quite a variable one at that. To do so, just turn the input all the way down (CCW), turn the gain up a bit, and then adjust the High and Low controls to get the desired tone of noise. You can get some interesting percussion sounds by applying an impulse or saw wave to the High CV input, or some nice wind/whooshing sounds with a slow sweep. Daisy-chaining (series-connecting) a couple filters makes some nicely creepy ambient effects.

Connections



To the left is an outline drawing of the board and it's components. Most should be self-explanatory and are silkscreened on the PCB itself, except for the I/O connections – the input connector is on the left side, next to the input level pot, and the output is on the right. the pins on the CV connector are marked on the PCB, not so for the I/O connectors (again).

Input: J1 – LEFT pin is signal/tip, RIGHT pin is ground/sleeve

Output: J2 – RIGHT pin is signal/tip, LEFT pin is ground/sleeve

Power: Pads are provided for either Blacet/MOTM (0.156" SIP) or Doepfer (0.100" SIP) power connectors. For both styles the Positive pin is on the RIGHT, negative on the LEFT, with ground/OV pins in between.

AMP connectors: At the end of this manual is the instruction manual for the AMP T-handle insertion tool for pushing wires into the connectors. I made up a couple of my own out of some flat-blade screwdriver bits – just file some notches in the tip to clear the metal insert in the connector. Make sure the blade is at least as wide as the wire and round the edges so they don't cut the wire.

Stuff

Since I was a complete bastard and locked you into a specific panel layout for the controls, drawings from the PB-1E 8hp module panel are on the next page to help out with cutting holes.

I keep saying this but I haven't received any yet: Send us some samples of your work with the Plague Bearer! I'll put up a page on the site for users' samples once I get a few.

A big thank you to those who've sent in suggestions and comments, keep them coming!

Send samples to: samples@flightofharmony.com

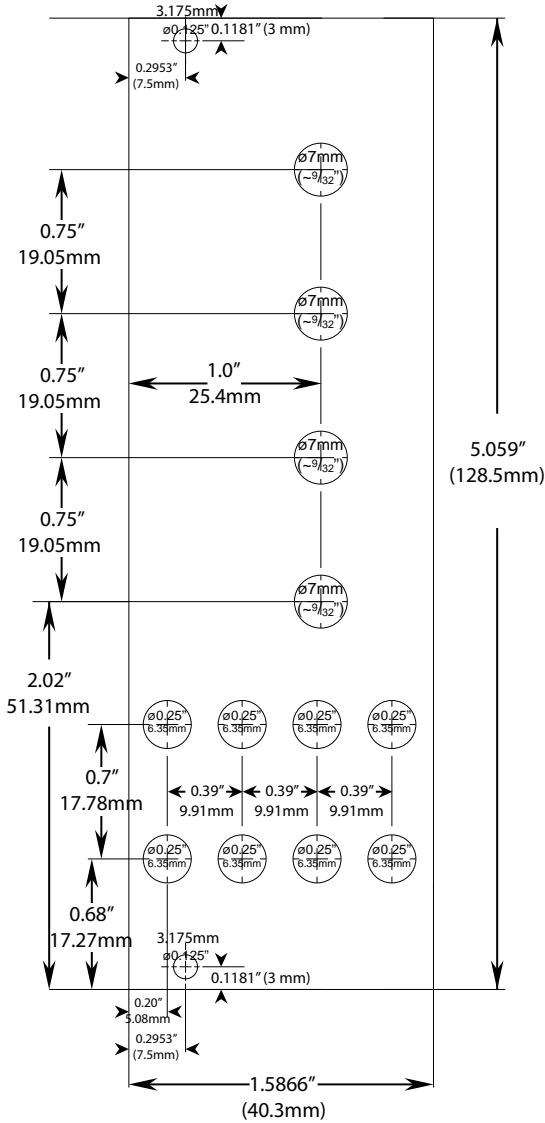
Comments, suggestions, complaints to: flight@flightofharmony.com

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PB-IE templates (8hp)

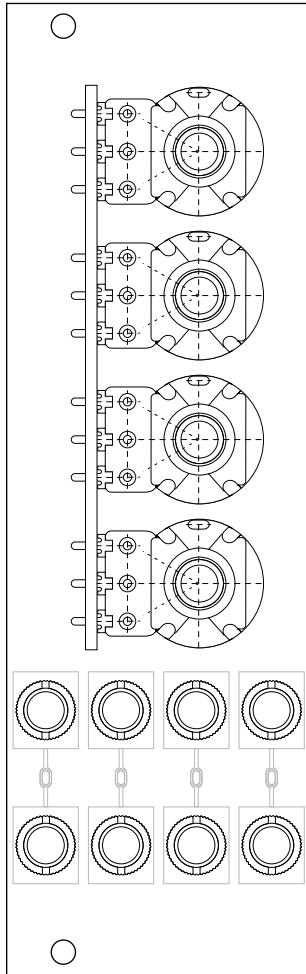
Drill



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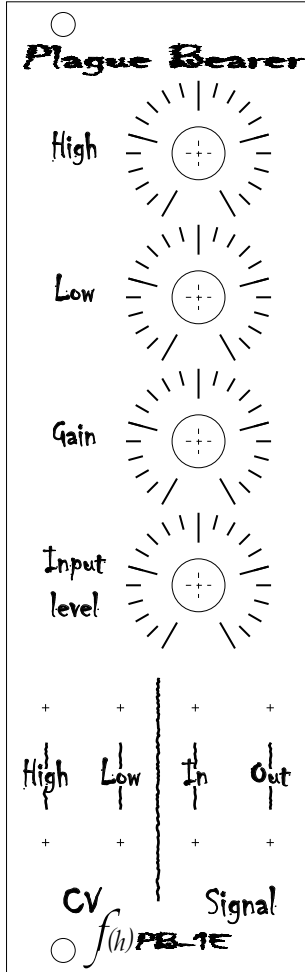
Mechanical



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Graphics



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