

perfBOB

The rear and front panels come as a single board, bend it will separate the boards along the V-score,

To mount a rear edge connector, remove the plate by breaking the 2 drilled tabs, you can equalize the edge with a file or a Dremel.

The +15V, 0V and -15V pads are meant to power extra circuit built on the perfboard. Those shouldn't be shorted or connected to anything else.

To create CV or pulse input or output, connect the socket to the edge connector via a resistor.

A good value for a pulse in is 390k (18k for the SVS), for a switch CV : 200K, for a pulse out : 120k, for a CV in : 120k, but feel free to experiment. There's virtually no risk to damage anything by swapping resistors.

Various sockets, switches, pots, LEDs... can be mounted to the panel.
All is possible.

The 1,5mm holes are guides for a neat aligned drilling.

The perfBOB works with 208r rev1 clones, but the routing possibilities are limited due to the weird design of its program card slot, I listed some I could spot in the table below.

Most are simply what's available on the panel (btw the EG times are controllable directly via the panel "to prog" and "from prog" sockets, a useful secret feature), the only extra features are thus CO waveshape pot CV and sequencer individual pulse outs, but I couldn't find any trigger input to the random, envelope or pulser.

So the perfBOB will be more useful to add extra features : oscillator, noise, slew limiter, sample & hold (could be triggered by the sequencer individual pulse outs).

The power rails are not present on the rev1's connector but can be wired to it easily.

Experienced DIYers might want to add other extra connections such as individual trigger inputs to their 208rev1, here are the schematics : <http://www.portabellabz.be/images/toolbox/208-schematics-rev1.pdf>

BOM

6 x 12mm F/F M3 standoff
5 x 5mm M/F M3 standoff
11 x 4mm M3 screw
2 x 12mm M3 screw + 1 nut
56 way PC mount edge connector - LW-N28A2G on ebay

Pots emplacements are for Alpha or Alps 9mm

Thank you and happy building

Original edge connector pinout (BEMI, 208r rev2...)

Front	Rear
1 : +15V	1 : -15V
2 : 0V	2 : NC
3 : NC	3 : NC (+5V on BEMI 208)
4 : NC	4 : NC
5 : NC	5 : NC
6 : NC	6 : NC
7 : seq step 1 out	7 : seq step 2 out
8 : seq step 3 out	8 : random 1 out
9 : seq step 4 out	9 : pulser period CV in
10 : seq step 5 out	10 : MO index CV in
11 : seq steps #	11 : MO freq CV in
12 : seq pulse setting	12 : sequencer pulse in
13 : seq CV setting	13 : CO pitch CV in
14 : random pulse in	14 : keyboard pulse out
15 : seq CV out	15 : keyboard key CV out
16 : random 2 out	16 : pulser pulse in
17 : EG pulse in	17 : timbre CV in
18 : pulser pulse out	18 : attack CV in
19 : duration CV in	19 : keyboard pressure CV out
20 : pulser out	20 : EG CV out
21 : decay CV in	21 : sequencer pulse out
22 : LPG1 level CV in	22 : MO modulation switch CV in
23 : MO ws CV in	23 : inverter "to prog"
24 : CO & MO key	24 : CO waveshape pot CV in
25 : LPG2 level CV in	25 : CO waveshape switch CV in
26 : preamp "to prog"	26 : LPG1 mode switch CV in
27 : LPG2 mode switch CV in	27 : offset (+13.5V)
28 : inverter "from prog"	28 : signal routing switch CV

208r rev1 pinout (incomplete)

Front	Rear
4 : offset (+13.5V)	4 : 0V
5 : seq step 4 out	5 : seq step 5 out
6 : seq step 2 out	6 : seq step 3 out
	7 : seq step 1 out
	12 : pulser CV in
	13 : MO index CV in
14 : CO pitch CV in	14 : MO freq CV in
15 : CO waveshape pot CV in	15 : CO pitch CV in
	16 : pulser CV in (slider)
17 : CO freq CV in (slider)	17 : MO freq CV in (slider)
19 : CO timbre CV in	
	20 : LPG1 CV in
24 : LPG1 CV in	
25 : LPG2 CV in	25 : LPG2 CV in