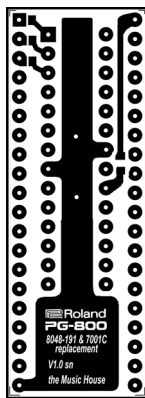
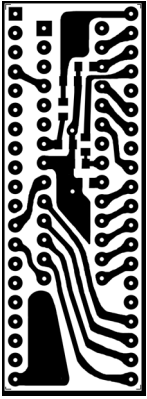


PG-800 replacement processor V1.0 - Component placement

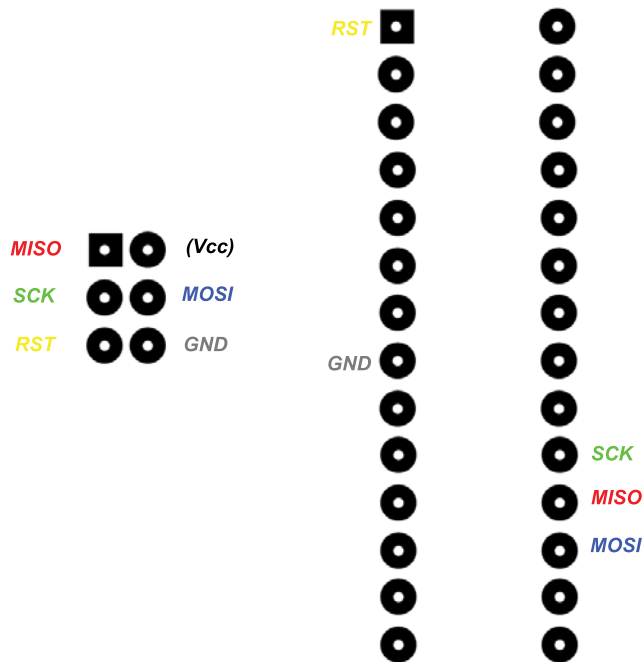
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Optional ISP clamp-on programmer board for the new PG-800 processor.



Here's how to wire an ISP clamp-on adapter for the new PG-800 processor. I used a strip experiment PCB to set it up. The 6 pin ISP connector is to Atmel standard. Only these signals need to be routed to the marked pins on the microcontroller. Vcc is not connected; you should power the PG-800 board externally.

I used SIL 0.1" square pin header connector strips for contacts to the processor; if you wiggle it on gently it will stay in place. Do consider clipping off the one pin near the SMD coil near the processor. It can easily short out +5V to Ground!

The view presented above is top view and the nr 1 pins are marked as squares. Be careful to line up the pins 1 of the adapter to pin 1 of the processor.

PG-800 synthesizer programmer code

Channel	FUNCTION								First byte: CHANNEL + \$80	Second byte: Values	With switches: runner voltage values measured in sequence
	REFDES	Yx	LEGEND	POT SLIDER	POT ROTARY	SW4P	SW3P	SW2P	Hex	Hex	
0	IC3	Y1	DCO1 RANGE			x			80	0,20,40,60	0.16 1.23 2.1 2.56 0.23 1.22 2.03 2.56 0.23 1.17 2.12 2.56 0.28 1.2 2.11 2.56 0.2 1.25 2.07 2.56
1	IC1	Y3	DCO1 WAVE			x			81	0,20,40,60	
2	IC1	Y3	DCO1 TUNE		x				82	0..7F	
3	IC2	Y2	DCO1 LFO	x					83	0..7F	
4	IC3	Y1	DCO1 ENV	x					84	0..7F	
5	IC1	Y3	DCO2 RANGE			x			85	0,20,40,60	
6	IC1	Y3	DCO2 WAVE			x			86	0,20,40,60	
7	IC1	Y3	DCO2 CROSS			x			87	0,20,40,60	
8	IC1	Y3	DCO2 TUNE		x				88	0..7F	0 0.49 1.3 2.17 0 0.5 1.3 2.14 0 0.5 1.29 2.18 0 0.5 1.3 2.18 0 0.5 1.31 2.15 0 0.5 1.14 0 0.5 1.35
9	IC1	Y3	DCO2 FINE		x				89	0..7F	
10	IC3	Y1	DCO2 LFO	x					8A	0..7F	
11	IC3	Y1	DCO2 ENV	x					8B	0..7F	
12	IC2	Y2	DCO DYNA			x			8C	0,20,40,60	
13	IC2	Y2	DCO ENV MODE			x			8D	0,20,40,60	
14	IC1	Y3	MIX DCO1	x					8E	0..7F	
15	IC4	Y0	MIX DCO2	x					8F	0..7F	
16	IC5	Y4	MIX ENV	x					90	0..7F	0 0.5 1.23 2.17 0 0.5 1.28 2.16 0 0.5 1.34 2.13
17	IC3	Y1	MIX DYNA			x			91	0,20,40,60	
18	IC5	Y4	MIX ENV MODE			x			92	0,20,40,60	
19	IC4	Y0	HPF			x			93	0,20,40,60	
20	IC4	Y0	VCF FREQ	x					94	0..7F	
21	IC4	Y0	VCF RES	x					95	0..7F	
22	IC4	Y0	VCF LFO	x					96	0..7F	
23	IC4	Y0	VCF ENV	x					97	0..7F	
24	IC4	Y0	VCF KEYF	x					98	0..7F	0 0.47 1.2 2.25 1.23 2.19
25	IC5	Y4	VCF DYNA			x			99	0,20,40,60	
26	IC5	Y4	VCF ENV MODE			x			9A	0,20,40,60	
27	IC4	Y0	VCA LEVEL	x					9B	0..7F	
28	IC5	Y4	VCA DYNA			x			9C	0,20,40,60	
29	IC6	Y5	CHORUS				x		9D	0,20,40	
30	IC2	Y2	LFO WAVE				x		9E	0,20,40	
31	IC2	Y2	LFO DELAY	x					9F	0..7F	
32	IC2	Y2	LFO RATE	x					A0	0..7F	
33	IC2	Y2	ENV1 A	x					A1	0..7F	
34	IC3	Y1	ENV1 D	x					A2	0..7F	
35	IC3	Y1	ENV1 S	x					A3	0..7F	
36	IC3	Y1	ENV1 R	x					A4	0..7F	
37	IC2	Y2	ENV1 KEYF			x			A5	0,20,40,60	
38	IC6	Y5	ENV2 A	x					A6	0..7F	
39	IC6	Y5	ENV2 D	x					A7	0..7F	
40	IC5	Y4	ENV2 S	x					A8	0..7F	
41	IC5	Y4	ENV2 R	x					A9	0..7F	
42	IC6	Y5	ENV2 KEYF			x			AA	0,20,40,60	
44	IC5	Y4	VCA MODE					x	AC	0,40	
	IC6	Y5	(undefined)								
	IC6	Y5	(undefined)								
	IC6	Y5	(undefined)								
	IC6	Y5	(undefined)								

The Write button sends out a SINGLE byte Decimal 30 (\$1E)

The 'Manual' button barks out all parameters preceded by a single decimal 31 (\$1F). Then all parameters pass in sequence, numbered '128' to '172' BUT SKIPPING '171'.

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