Buchla pulse generator V3

The Buchla pulse generator turns any waveform into the typical Bucha pulse required for proper behaviour of the 208's sustained/transient envelope switch and other Buchla modules.
It might not work properly if the incoming signal is already a Buchla pulse.

The circuit works with +/-12V or +/-15V.
The incoming signal must be +5V minimum.

The board can be soldered directly to a Cliff minijack socket and installed to a boat or panel or mounted with a screw instead of the minijack socket.
When the minijack is not used, the input must be wired to the 'in' pad.
The output can be wired either directly to a module's pulse input or to a banana socket.

Happy building !

Disclaimer
This circuit is tested and safe as long as built and used as it should. I assume no liability for issues, damages, accidents... Double check the output before connecting it to a module for the first time. Build and installation is at your own risk and should only be done by people experienced in electronics who know what they're doing. If in doubt, don't do it.

BOM

Resistors		
220 ohms	1	
1k	1	
6k8	1	
10k	3	1 is not silkscreened and goes between the 'in' pad and 1µF cap +
20k	1	
2M2	1	
Trimmer 3362P10k		
Capacitors		
4.7nF film	1	
100nF multilayer ceramic	3	the one next to the minijack socket is optional to filter the incoming signal
1µF electrolytic		
Diodes		
3.6V Zener	1	
1N5818 or other Schottky	1	
1N4148	1	
Misc		
TL072, TL082 or LM358 opamp	1	
DIP8 IC socket	1	
Cliff CL1384 mono jack socket PC mount	1	

Pulse out scaling

This is for a 208, adapt for other modules.

Set the sequencer, envelope and pulser trigger source switches to keyboard and the envelope mode select switch to transient.

Depress a key of the keyboard.
It should fire the sequencer, envelope and pulser.
The envelope and pulser should behave in transient mode and their length shouldn't be related to how long the key is depressed, if it is adjust the trimmer located above the pulse out banana in order to get correct behaviour.

Some may prefer a sustained behaviour of the pulser and keep it on as long as the key is depressed, this is possible with a fine adjustment of the trimmer, keeping the envelope working well in both sustained and transient modes.

