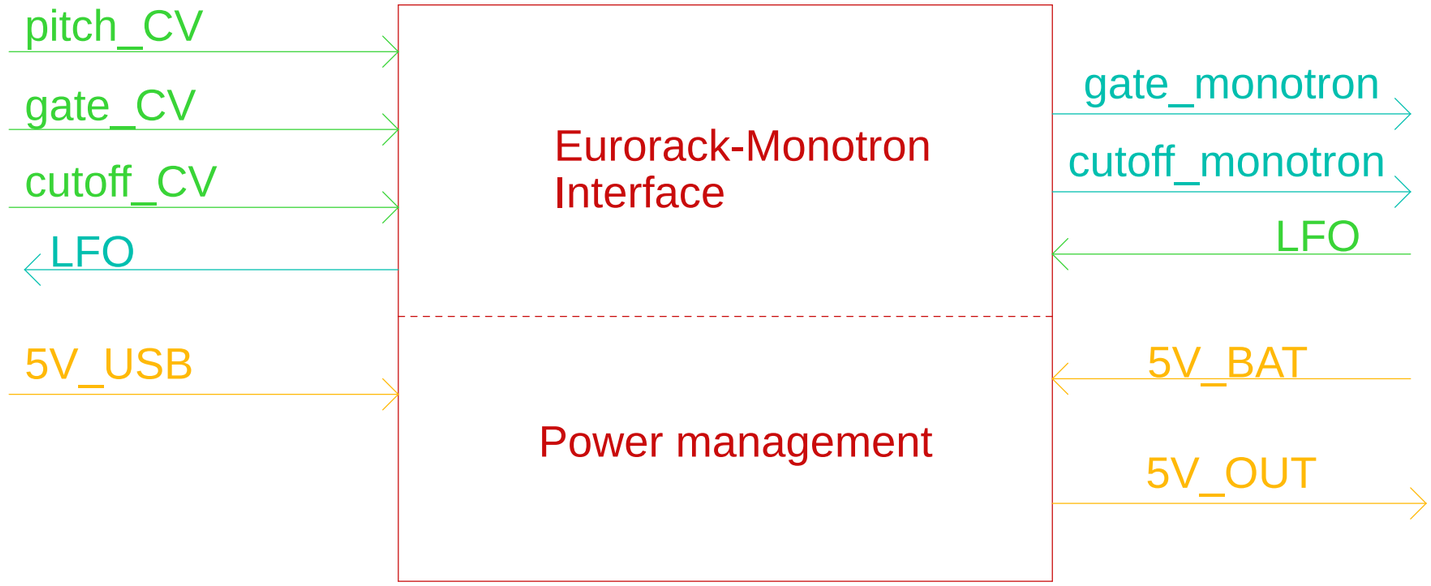
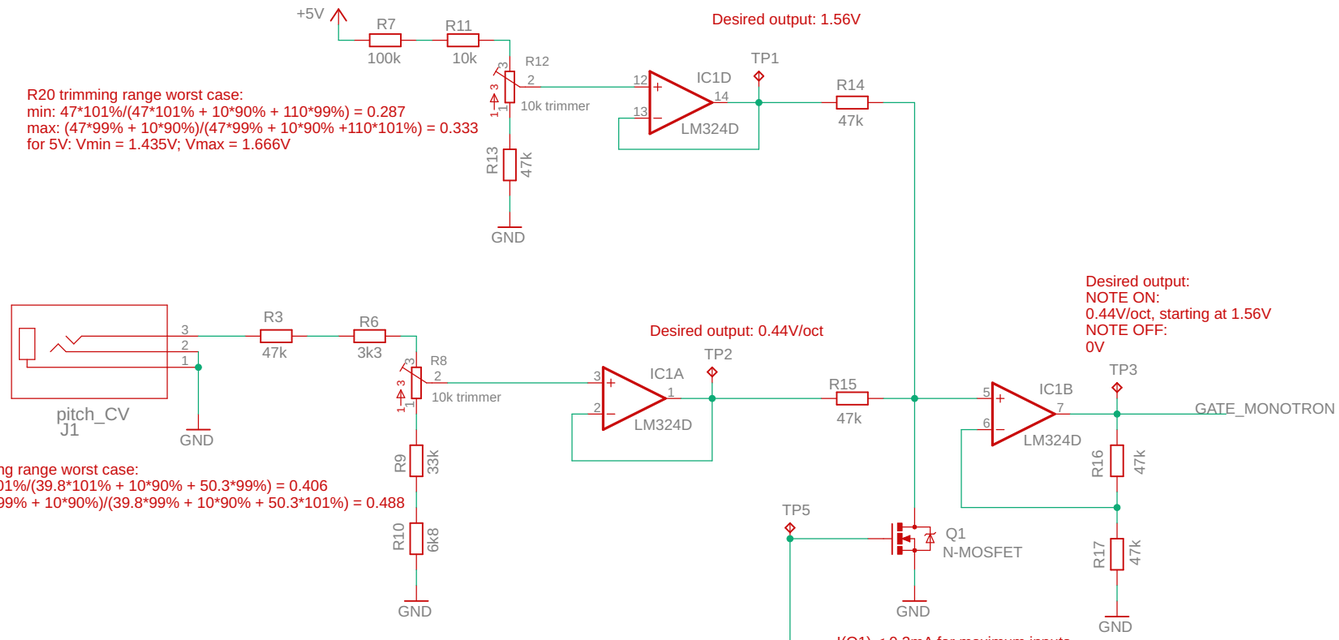
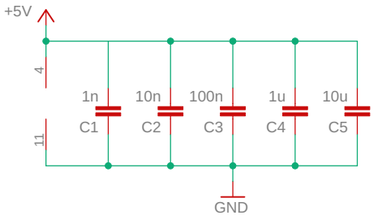


Mage Control Systems Ltd. 45 Rankine Avenue East Kilbride F75 0QF	THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO MAGE CONTROL SYSTEMS LTD. AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR DISCLOSED TO OTHER PARTIES OR USED FOR ANY PURPOSES OTHER THAT FOR WHICH IT IS FURNISHED WITHOUT PRIOR WRITTEN PERMISSION OF MAGE CONTROL SYSTEMS LTD.		

	Name	Initials	Date	Title:
Drawn	Peter Konecny	PK	13/04/2022	Interface between eurorack CV and Monotron
Chkd				Document No: CV_MONOTRON-002 / Rev: 2 / Sheet of 1/3
Approved				

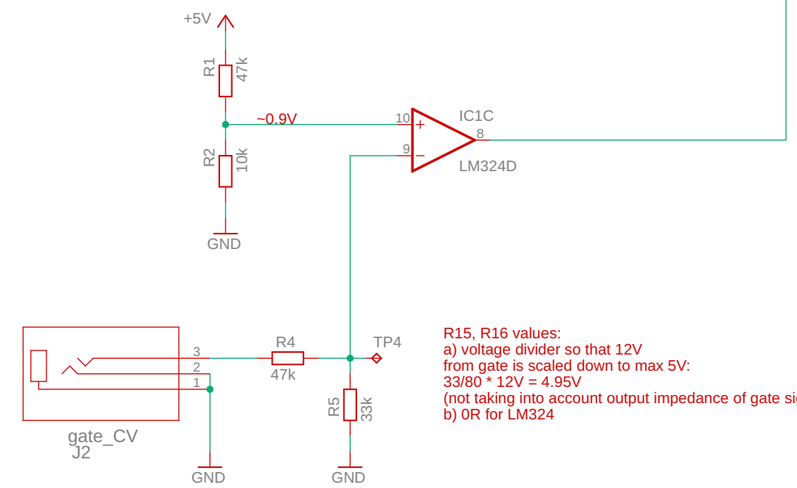
Eurorack-monotron interface

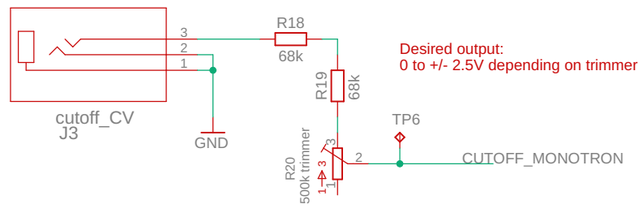




README:
Both gate and pitch testpads on monotron enter a summing op-amp, which controls the VCO.
However, the pitch itself does not trigger the VCO enable, while the gate does.
The gate starts triggering at about 1.4V and C0 is is generated when 1.56V is applied and then its 0.44V/oct.
Eurorack voltages are 1V/oct so we need to scale it down to 0.44V/oct and offset it by 1.56V for the lowest note.
Moreover, to prevent gate being triggered when note is not playing, the external gate_cv controls a transistor Q1, turning it on when the note is OFF. By turning Q1 ON, the transistor pulls the + junction of the summing op-amp to 0, resulting in the output being 0 as well, which disables the monotron VCO, because its less than 1.4V,

The cutoff_monotron signal connects to a summing op-amp in Monotron.
The internal cutoff signal enters the op-amp through 68k resistor
so doubling the value to 2*68k will reduce the incoming signal effect by 2.
However, it is important to measure the internal cutoff signal to see its magnitute,
then choose R17, R18 to scale external signal accordingly.
500k trimmer for attenuation control.





Do not place JACKS too close to each other,
as the connectors are wider than the plugs and might not fit

All resistors must be at least 1% accuracy
All capacitors should be rated atleast 5V
unless stated otherwise

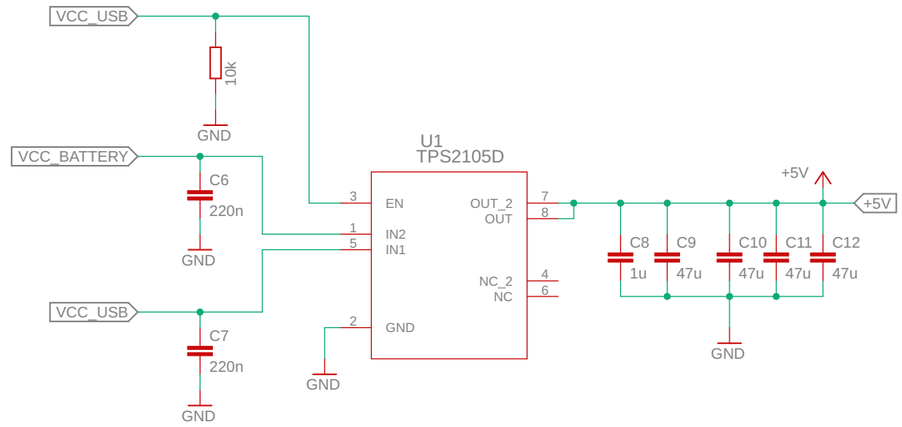
Mage Control Systems Ltd.
45 Rankine Avenue
East Kilbride
F75 0QF

	Name	Initials	Date
Drawn	Peter Konecny	PK	13/04/2022
Chkd			
Approved			

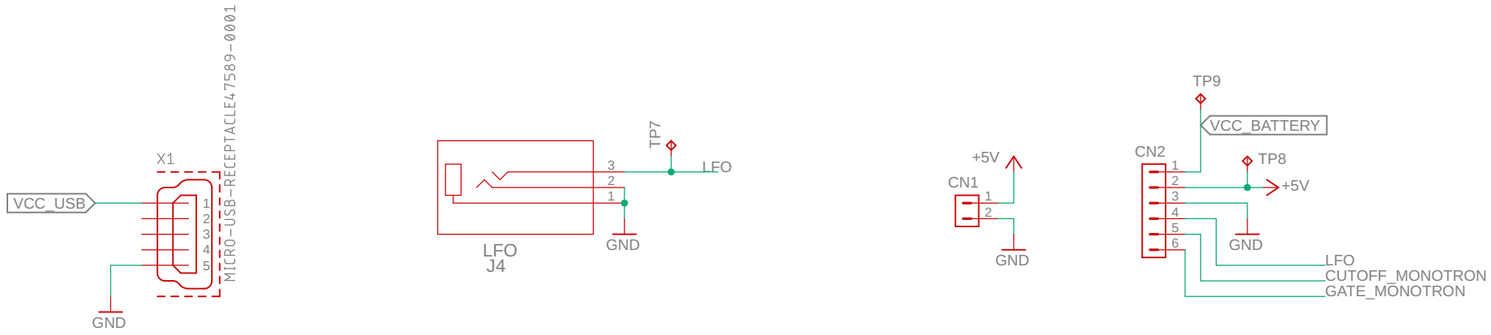
Title: Interface between eurorack CV and Monotron

Document No: CV_MONOTRON-002 | Rev: 2 | Sheet 2/3

Power managment



Connectors



All resistors must be at least 1% accuracy
All capacitors should be rated atleast 5V
unless stated otherwise

	Name	Initials	Date
Drawn	Peter Konecny	PK	13/04/2022
Chkd			
Approved			

Title: Interface between eurorack CV and Monotron

Document No: CV_MONOTRON-002 | Rev: 2 | Sheet 3/3