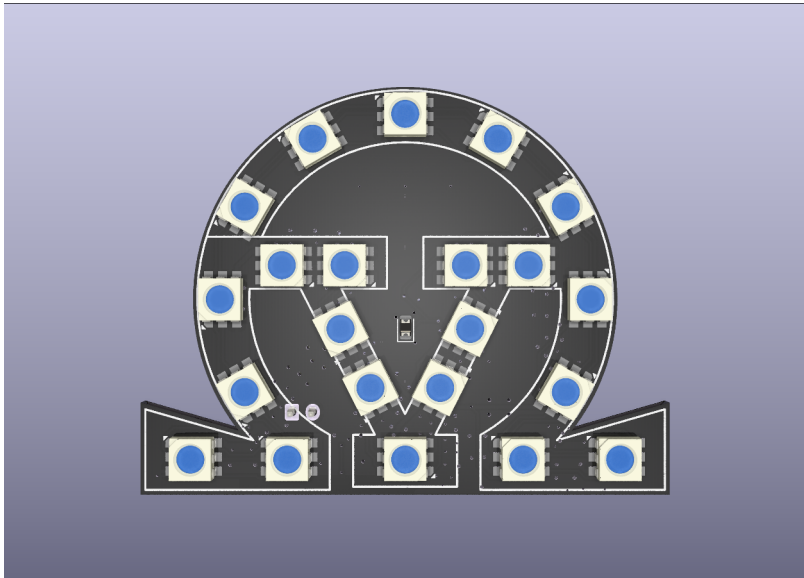


OV-imponator

<https://git.omegav.no/steinned/ov-imponator-addressable>



Kopiert fra readme på git:

OV-imponator!

The hardware is designed using KiCad, and the project borrows a little layout from a previous attempt at an OV-imponator with another architecture (used "dumb" LEDs).

The imponator will consist of a circuit board shaped like the OV logo, with a regular imponator pin on the back, and a laser cut diffuser on top of the SK9822 addressable RGB LEDs. It will be connected to an external battery pack. Unlike the regular imponators, the diode plate and "driver circuit" are combined in this implementation.

Symbols and footprints not contained in the official KiCad (7.x) library should be added to the respective project-local libraries.

Diffuser

Diffuseren er ikke ennå på githuben. På confluence har vi en grafisk profilmanual, der ligger det en fil for laserkutting og sånt. Den må skaleres til laserkutteren, bruk skyvelære. Graver en firkant på baksiden av akrylen, graver forsiden i formen av OV-logo, kutt ut OV-logoen. Jeg brukte smeltelim inn mellom kretskortet og diffuseren på noen punkter, gjerne finn en bedre måte å feste den på.

Komponentene koster veldig omtrentlig 100kr, og kretskortet er tolags på ca. 50 x 65 mm.

I starten har jeg (Steinar) tenkt å bestille opp 5 eller 10 kretskort (ca 250kr med hurtigfrakt) og nok komponenter til 2 imponatorer (ca 200kr).

BOM:

Source:	D:\Downloads\ov-imponator-addressable\Hardware\OV-imponator.kicad_sch
Date:	28/01/2024 23:11:54
Tool:	Eeschema 7.0.6
Generator:	D:\7.0\bin\scripting\plugins\bom_csv_grouped_by_value.py
Component Count:	61

Item	Qty	Reference(s)	Value	LibPart	Footprint	Datasheet	Order code	Vendor
1	25	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C26, C28	100nF	Device:C_Small	Capacitor_SMD: C_0603_1608Metric	~		OV
2	2	C24, C25	4.7µF	Device:C_Small	Capacitor_SMD: C_0603_1608Metric	~		OV

3	1	C27	150µF, 10V	Device: C_Polarized	Capacitor_SMD:CP_Elec_6.3x5.4	https://www.we-online.com/components/products/datasheet/865080243008.pdf	2466266	Far nell
4	22	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, D21, D22	SK9822	Imponator-local-symbols: SK9822	Vimponator-local-footprints: LED_RGB_5050-6_less_silkscreen	https://www.pololu.com/file/0J1234/sk9822_datasheet.pdf		OV /LC SC
5	1	D23	TEM D620 OFX01	Device: D_Photo	Diode_SMD: D_0805_2012Metric	https://www.farnell.com/datasheets/2711856.pdf	2251282	Far nell
6	1	H1	Imponator needle	Mechanical: MountingHole_Pad	Vimponator-local-footprints: Imponatornål_20mm	~		OV /cc hob by
7	1	J1	AVR-UPDI-6	Connector: AVR-UPDI-6	Connector_PinHeader_2.54mm:PinHeader_2x03_P2.54mm_Vertical_SMD	https://www.microchip.com/webdoc/GUID-9D10622A-5C16-4405-B092-1BDD437B4976/index.html?GUID-9B349315-2842-4189-B88C-49F4E1055D7F		OV
8	1	J2	JST XH	Connector_Generic: Conn_01x02	Connector_JST: JST_XH_S2B-XH-A_1x02_P2.50mm_Horizontal	~		OV
9	1	R1	1M ohm	Device:R_Small	Resistor_SMD: R_0603_1608Metric	~		OV
10	2	R2, R3	100?	Device:R_Small	Resistor_SMD: R_0603_1608Metric	~		OV
11	1	R6	1.5M	Device:R_Small	Resistor_SMD: R_0603_1608Metric	~		OV
12	2	SW1, SW2	KSS3 21G LFS	Switch: SW_Push	Vimponator-local-footprints: KSS side-actuated switch	~	1437642	Far nell
13	1	U1	AVR64DD14-I/SL	Imponator-local-symbols: AVR64DD14-I/SL	Package_SO:SOIC-14_3.9x8.7mm_P1.27mm	https://ww1.microchip.com/downloads/aemDocuments/documents/MCU08/ProductDocuments/DataSheets/AVR64DD-14-20-Prelim-DataSheet-DS40002444.pdf	4077889	Far nell