



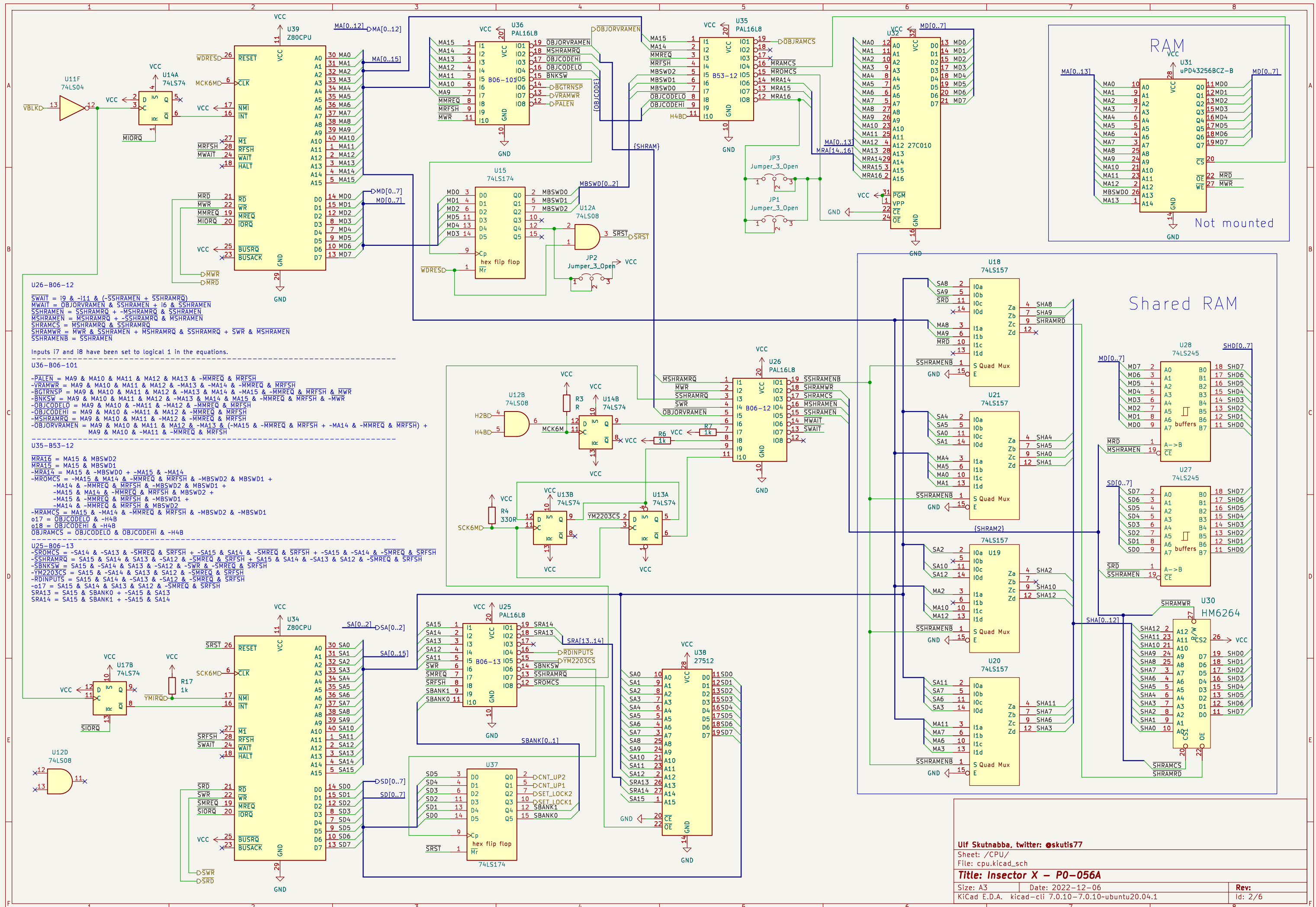
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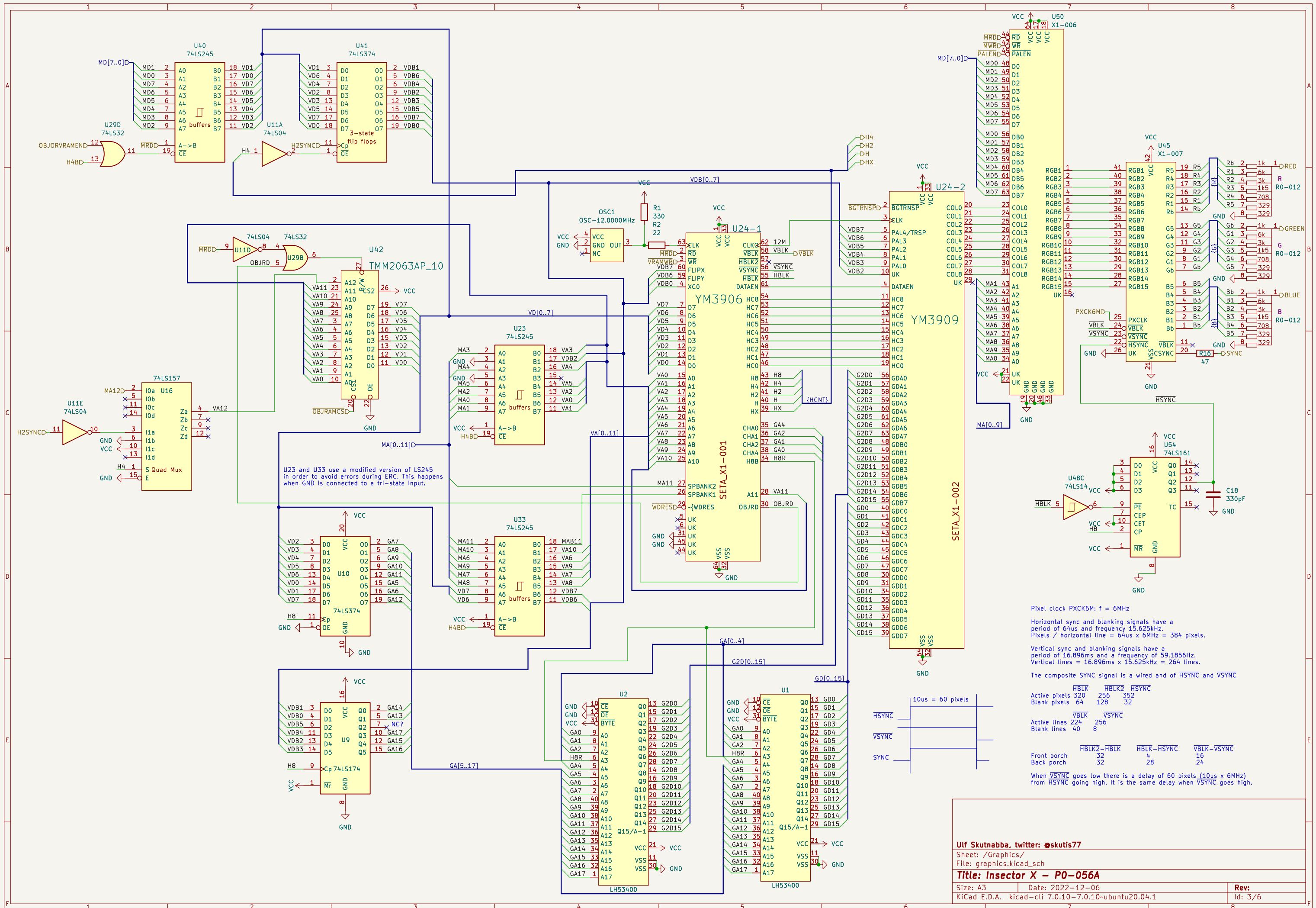
Sheet: /  
File: insectx.kicad\_sch

**Title: Insector X - P0-056A**

Size: A3 Date: 2022-12-06  
KiCad E.D.A. kicad-cli 7.0.10-7.0.10-ubuntu20.04.1

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Pixel clock PXCK6M: f = 6MHz

Horizontal sync and blanking signals have a period of 64us and frequency 15.625kHz. Pixels / horizontal line = 64us x 6MHz = 384 pixels.

Vertical sync and blanking signals have a period of 16.896ms and a frequency of 59.1856Hz. Vertical lines = 16.896ms x 15.625kHz = 264 lines.

The composite SYNC signal is a wired and of HSYNC and VSYNC

	HBK1	HBK2	HSYNC
Active pixels	320	256	352
Blank pixels	64	128	32

	VBLK	VSYNC
Active lines	224	256
Blank lines	40	8

	HBK2-HBK1	HBK-HSYNC	VBLK-VSYNC
Front porch	32	4	16
Back porch	32	28	24

When VSYNC goes low there is a delay of 60 pixels (10us x 6MHz) from HSYNC going high. It is the same delay when VSYNC goes high.

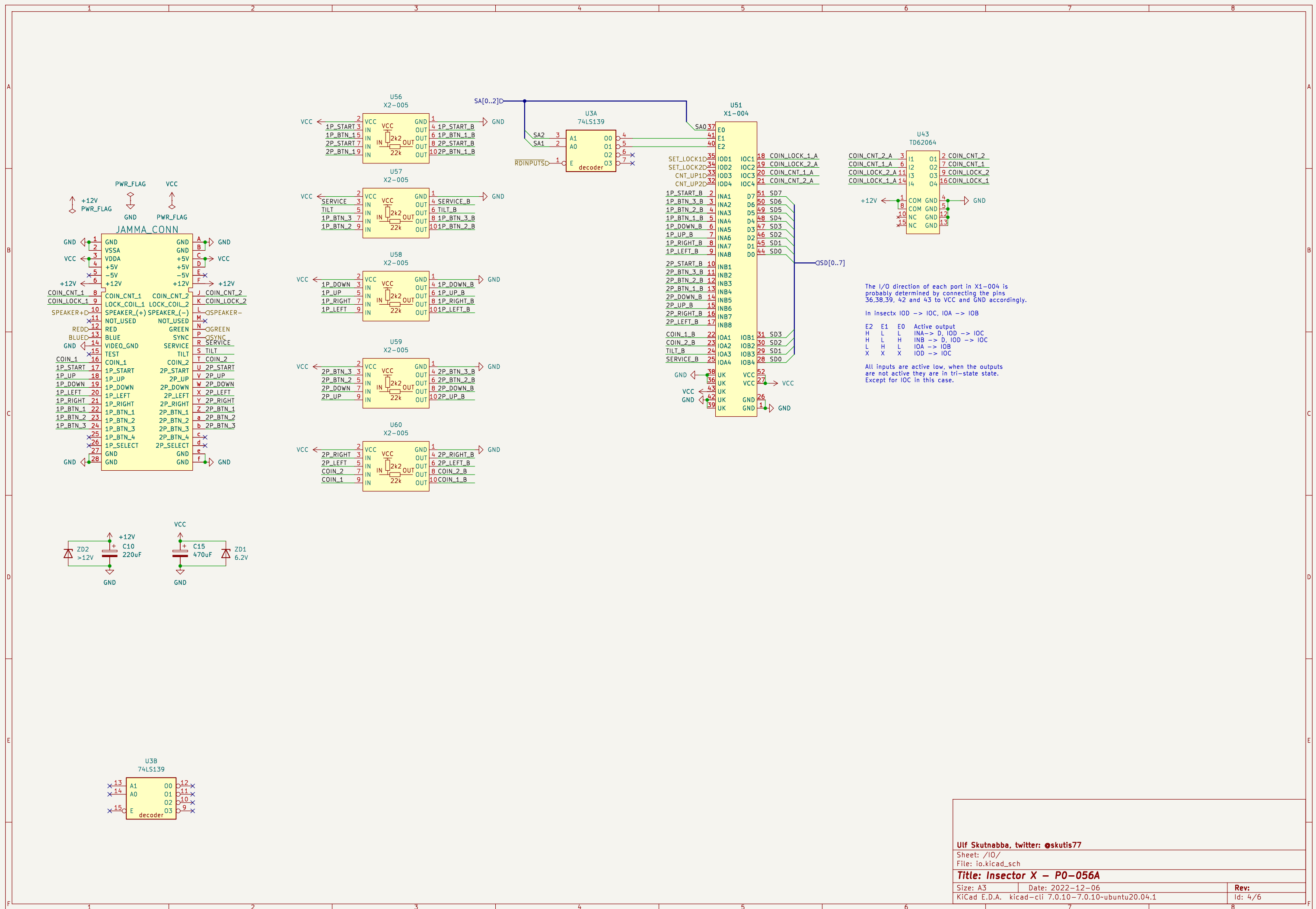
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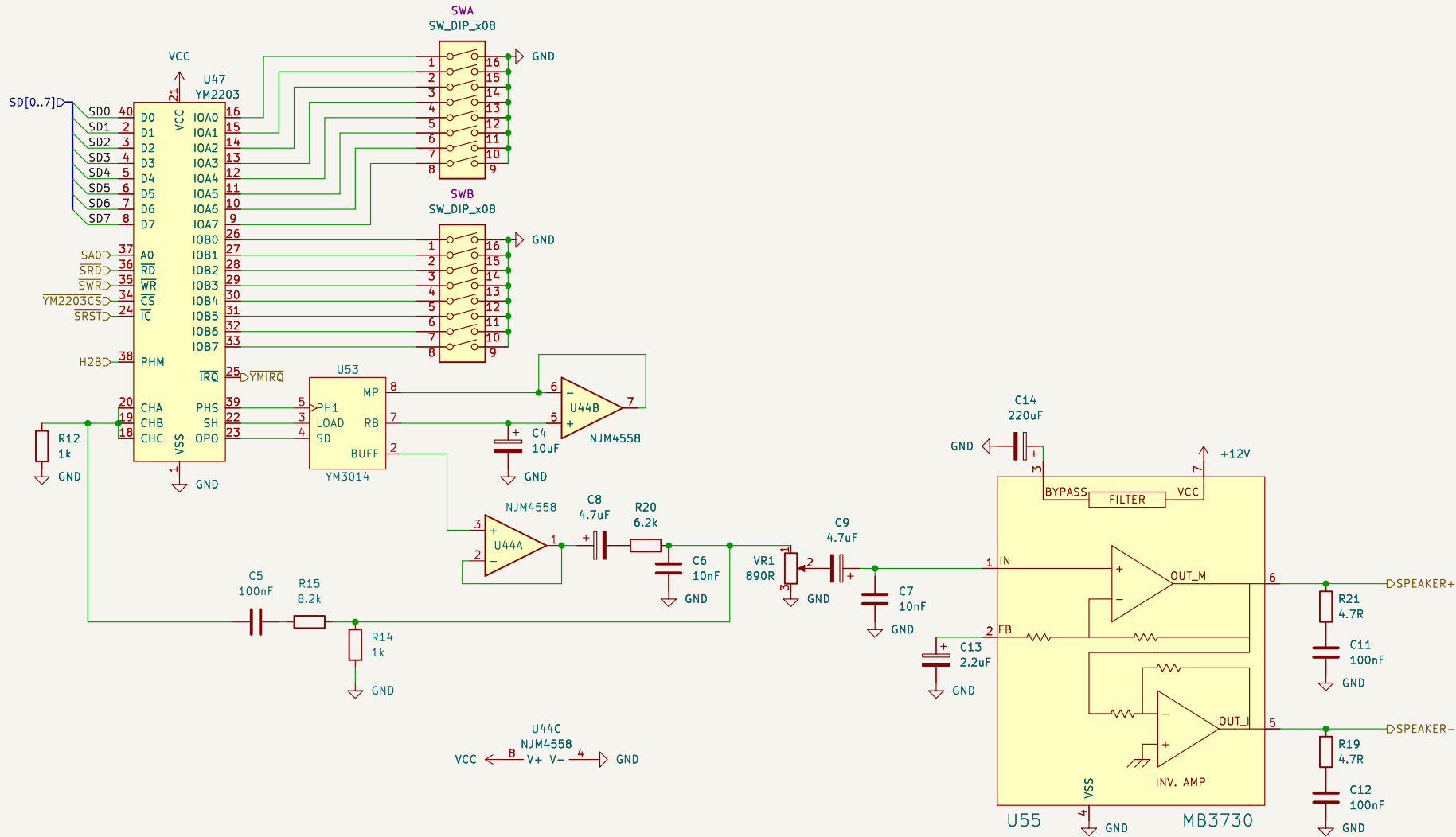
Sheet: /Graphics/  
File: graphics.kicad\_sch

Title: Insector X - P0-056A

Size: A3 Date: 2022-12-06  
KiCad E.D.A. kicad-cli 7.0.10-7.0.10-ubuntu20.04.1

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Sheet: /Sound/  
File: sound.kicad\_sch

**Title: Insector X - P0-056A**

Size: A3 Date: 2022-12-06  
KiCad E.D.A. kicad-cli 7.0.10-7.0.10-ubuntu20.04.1

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