

Sheet: VeraModule

VERA FPGA

File: vera-fpga.sch

Sheet: BusDecoder

BUS DECODER

File: busdecoder.sch

Sheet: Vera FPGA flash

VERA SPI FLASH
SD CARD INTERFACE

File: vera-fpga-flash.sch

Sheet: CartridgeInterface

CARTRIDGE INTERFACE

File: cartridgeInterface.sch

Sheet: PowerSupply

POWER SUPPLY

File: powersupply.sch

Sheet: VGA Analog

VGA ANALOG

File: vga-analog.sch

FIDUCIAL TOP

FID3
Fiducial

FID4
Fiducial

FIDUCIAL BOTTOM

FID2
Fiducial

FID1
Fiducial

H1
MountingHole

H2
MountingHole

LOG01
VERA X16 LOGO

LOG02
ATARI READY

LOG03
KICAD DESIGN

LOG04
ATARI DUO BUS

LOG05
ESP32_BOBOARD

LBL1

Gianluca Renzi
RetroBit Lab

Sheet: /
File: VERA-MODULE-RBL.sch

Title: VERA FPGA Audio & Video Board

Size: A4

Date: 2025-10-17

KiCad E.D.A. kicad 5.1.9+dfsg1-1+deb11u1

Rev: 1.0

Id: 1/7

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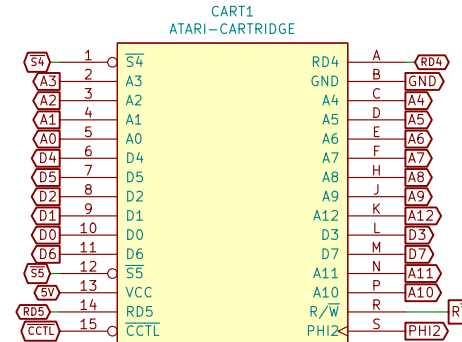
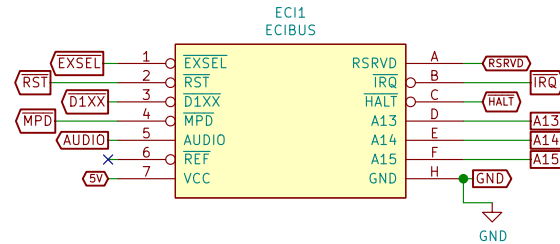
Id: 2/7

PBI DEVICE ID: software selectable only

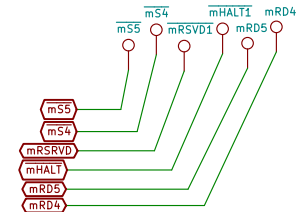


ATARI 130XE ECI & CARTRIDGE INTERFACE

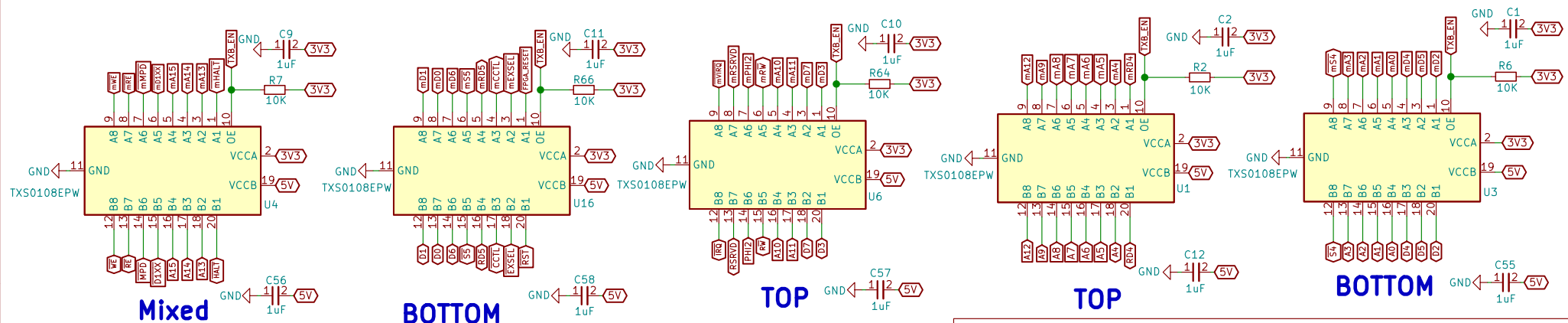
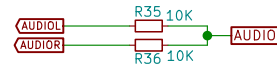
All 8-Bit signals must be shifted from 5V to 3.3V and vice versa



UNCONNECTED IN THIS PROJECT



AUDIO MIXER INSIDE ATARI



BUS LOGIC LEVEL SHIFTERS

Gianluca Renzi

RetroBit Lab

Sheet: /CartridgeInterface/

File: cartridgeInterface.sch

Title: CARTRIDGE INTERFACE AND BUS LEVEL SHIFTERS

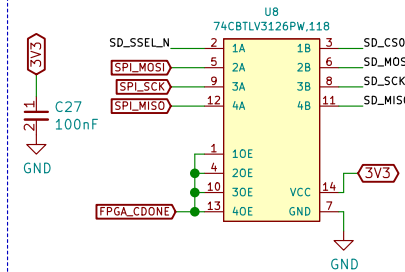
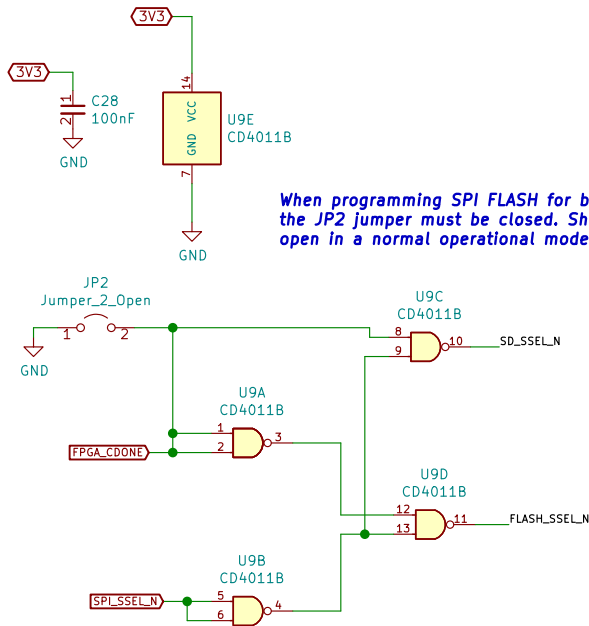
Size: A4 Date: 2025-10-17

KiCad E.D.A. kicad 5.1.9+dfsg1-1+deb11u1

Rev: 1.0

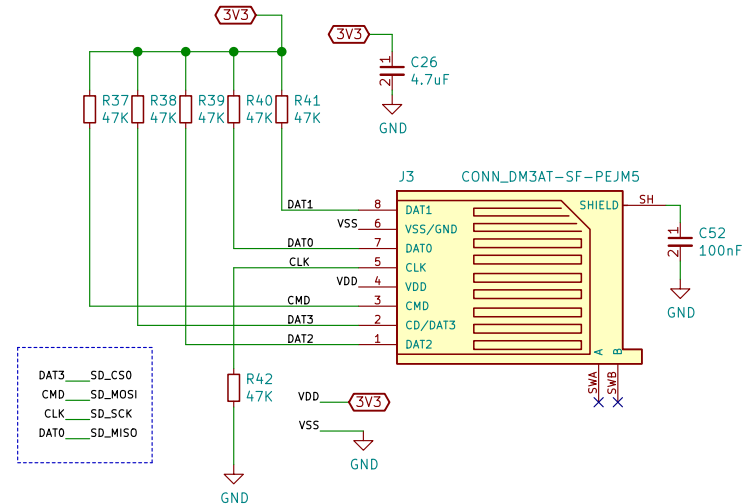
Id: 4/7

FPGA/SSD Flash Glue Logic

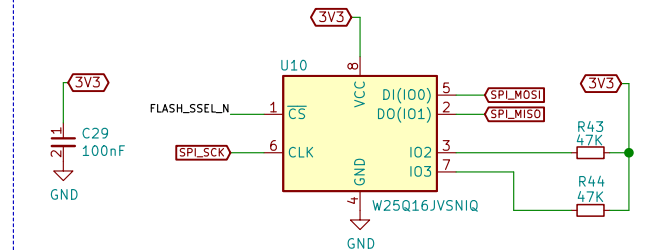


The microSD BUS will be available only when FPGA is ready and programmed

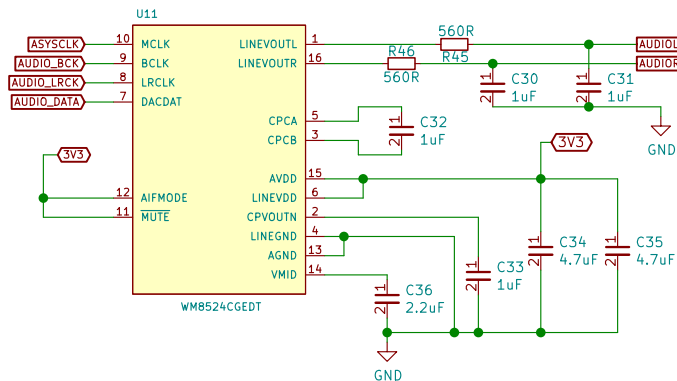
SD/microSD INTERFACE



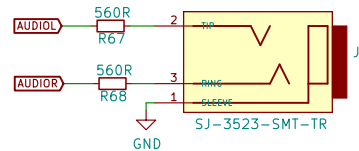
SPI 16MB FLASH



IC DAC/AUDIO 24BIT 192K 16TSSOP



AUDIO 3.5mm OUTPUT



AUDIO SECTION

Gianluca Renzi

RetroBit Lab

Sheet: /Vera FPGA flash/

File: vera-fpga-flash.sch

Title: uSD Card, FPGA FLASH and AUDIO SECTION

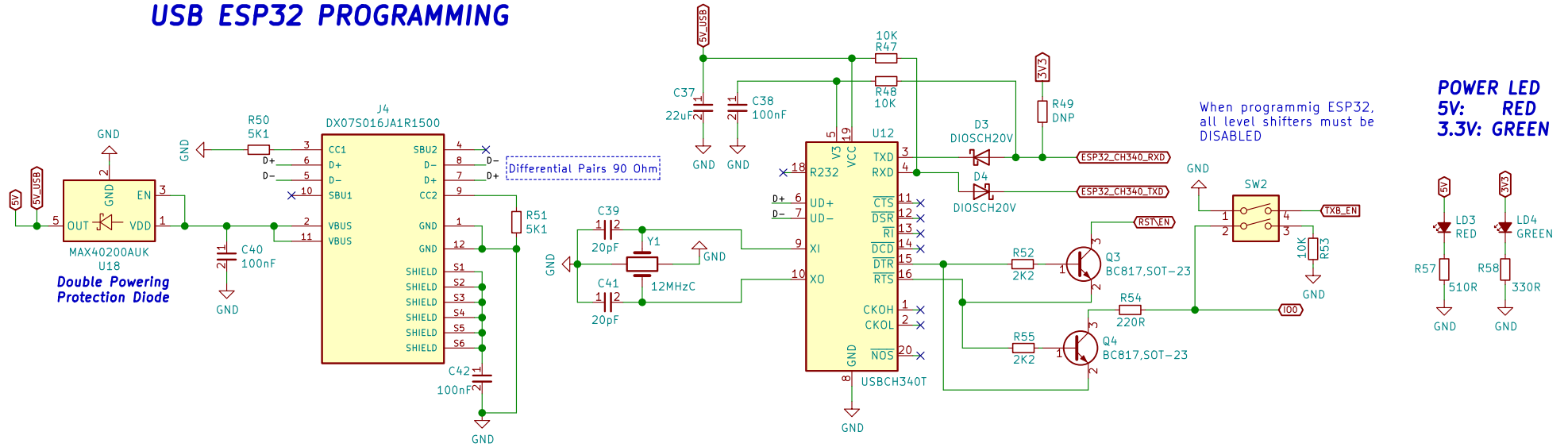
Size: A4 Date: 2025-10-17

KiCad E.D.A. kicad 5.1.9+dfsg1-1+deb11u1

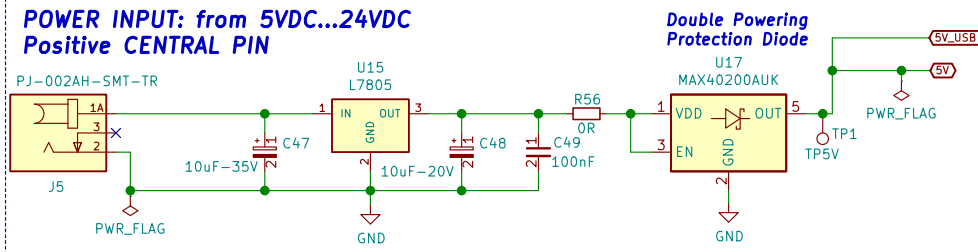
Rev: 1.0

Id: 5/7

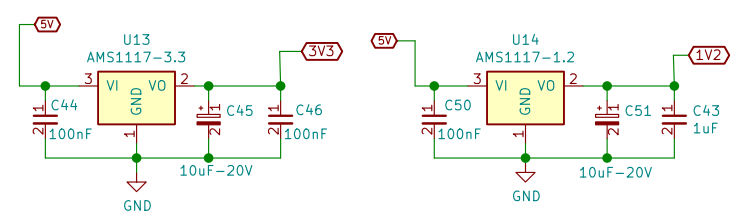
USB ESP32 PROGRAMMING



POWER INPUT: from 5VDC...24VDC
Positive CENTRAL PIN



POWER 3.3V & POWER 1.2V



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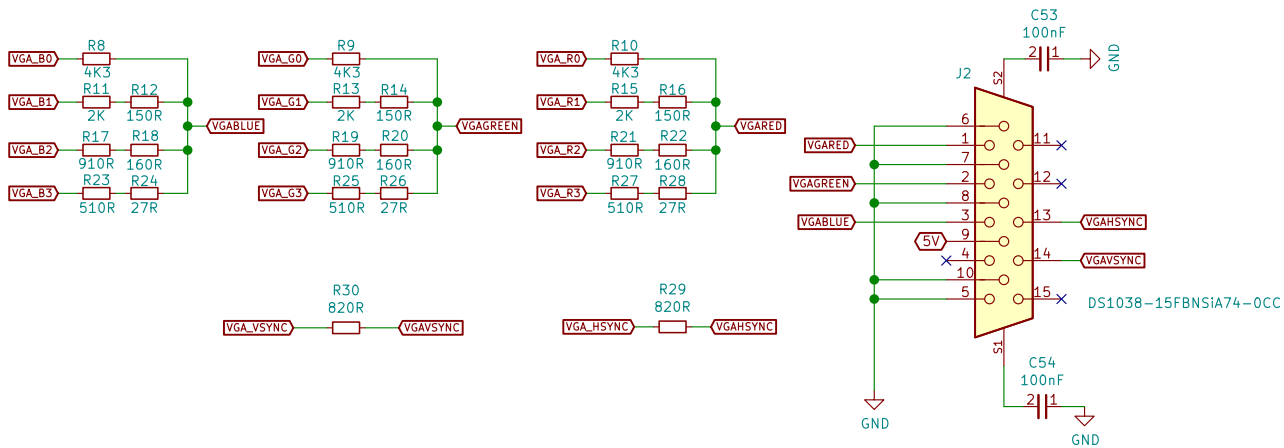
Sheet: /PowerSupply/
File: powersupply.sch

Title: POWERSUPPLY and USB

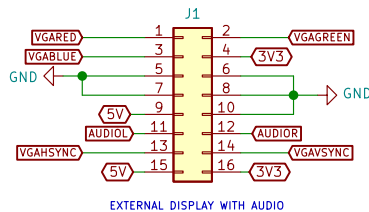
| | |
|--|------------------|
| Size: A4 | Date: 2025-10-17 |
| KiCad E.D.A. kicad 5.1.9+dfsg1-1+deb11u1 | |

Rev: 1.0
Id: 6/7

ANALOG VGA SIGNALS



EXTERNAL VIDEO CONNECTOR



Gianluca Renzi

RetroBit Lab

Sheet: /VGA Analog/

File: vga-analog.sch

Title: ANALOG AND EXTERNAL VIDEO CONNECTOR

Size: A4

Date: 2025-10-17

Rev: 1.0

KiCad E.D.A. kicad 5.1.9+dfsg1-1+deb11u1

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