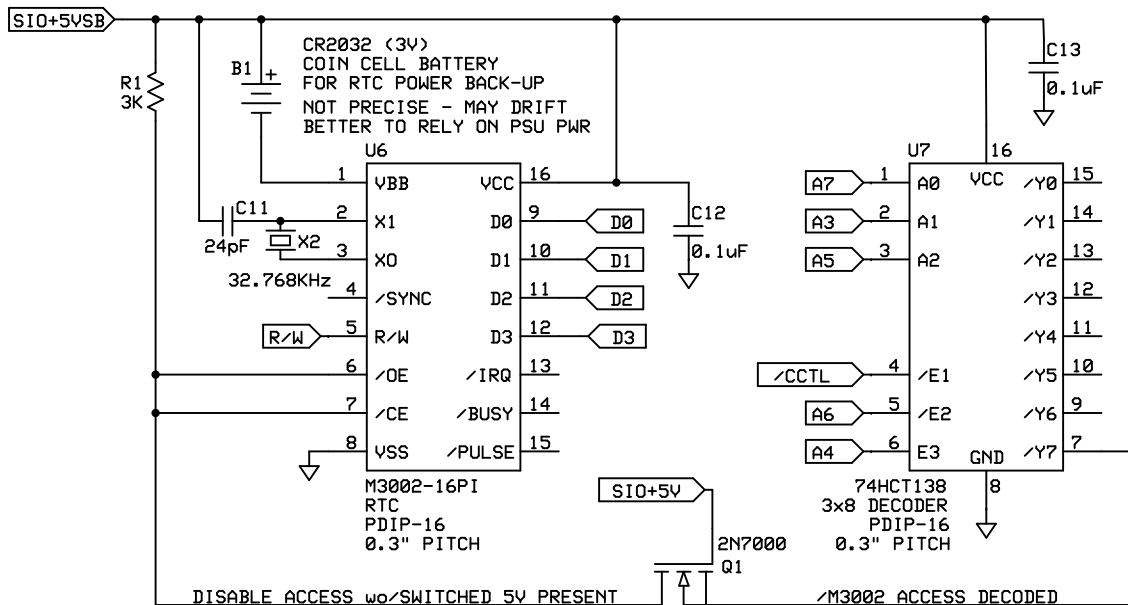


R-Time 8 - Real Time Clock & Calendar



Even though the M3002 RTC continues to run with Standby Power, do not allow read or write to occur if Main Power has been switched off. This prevents garbage data from being written into registers.

The original R-Time 8 Cartridge was developed by ICD in 1985.

The 576NUC+ has a 5V Standby Voltage (+5VSB) which is being used to prolong battery life. So long as the Power Adapter is plugged in irrelevant of the NUC being switched ON, the battery is not used.

NUCplus4 RT8/Pico Cart/SDrive/XRAM
576NUC+ DaughterBoard

An AtariBits Production

MYTEK

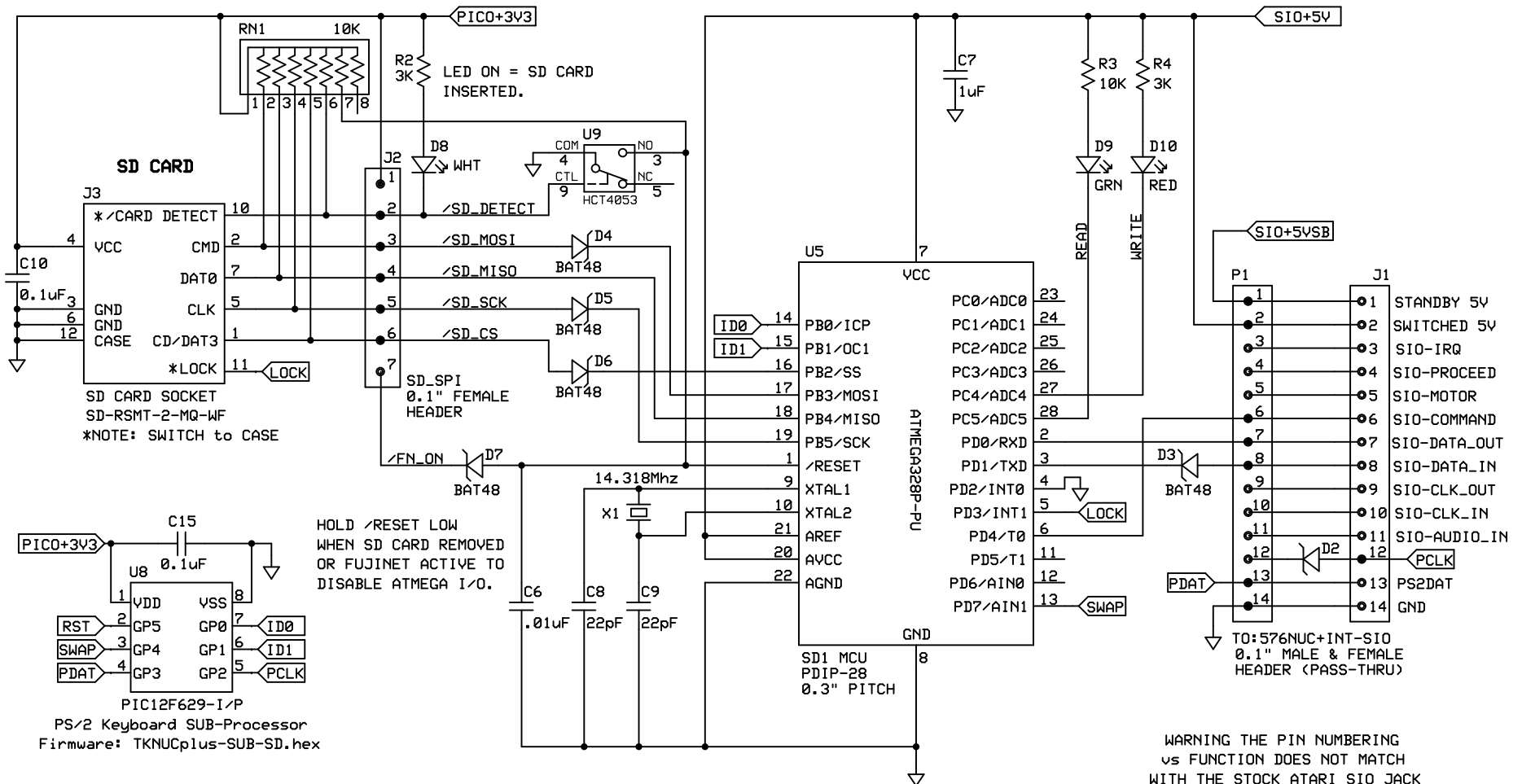
Rev 1.6

06/25/2024

R-TIME 8

The Diodes and 10K Pull-Up Resistor Network to +3.3V Logic create a Level Shift between the ATMEGA 5V Logic and the 3.3V Logic of the SD Card. It also allows SPI bus sharing.

SDrive - Solid State Disk Drive



ATMEGA328P FIRMWARE FLASHING PROCEDURE

- Use TL866II Plus to Flash bootloader-sdNG.hex into ATMEGA328P
- Fuse Settings: Lfuse = 0xFE Hfuse = 0xDB Efuse = 0xFC
- Copy sdrive.bin file to root of SD Card & Insert Card into Drive
- Power up Drive to load Firmware into ATMEGA328P from SD Card
- After R/W LEDs stop flashing remove SD Card & Erase sdrive.bin

SDrive DRIVE#		
D#	ID1	ID0
D1:	OFF	OFF
D2:	OFF	ON
D3:	ON	OFF
D4:	ON	ON

The SDrive was first created by Bob:k (Robert Petruzela) and Raster (Radek Sterba) in 2008 and modified in 2014 by AtariAge member KBr to increase SD Card size and adapt it to ATMEGA328P.

NUCplus4 RT8/Pico Cart/SDrive/XRAM
 576NUC+ DaughterBoard

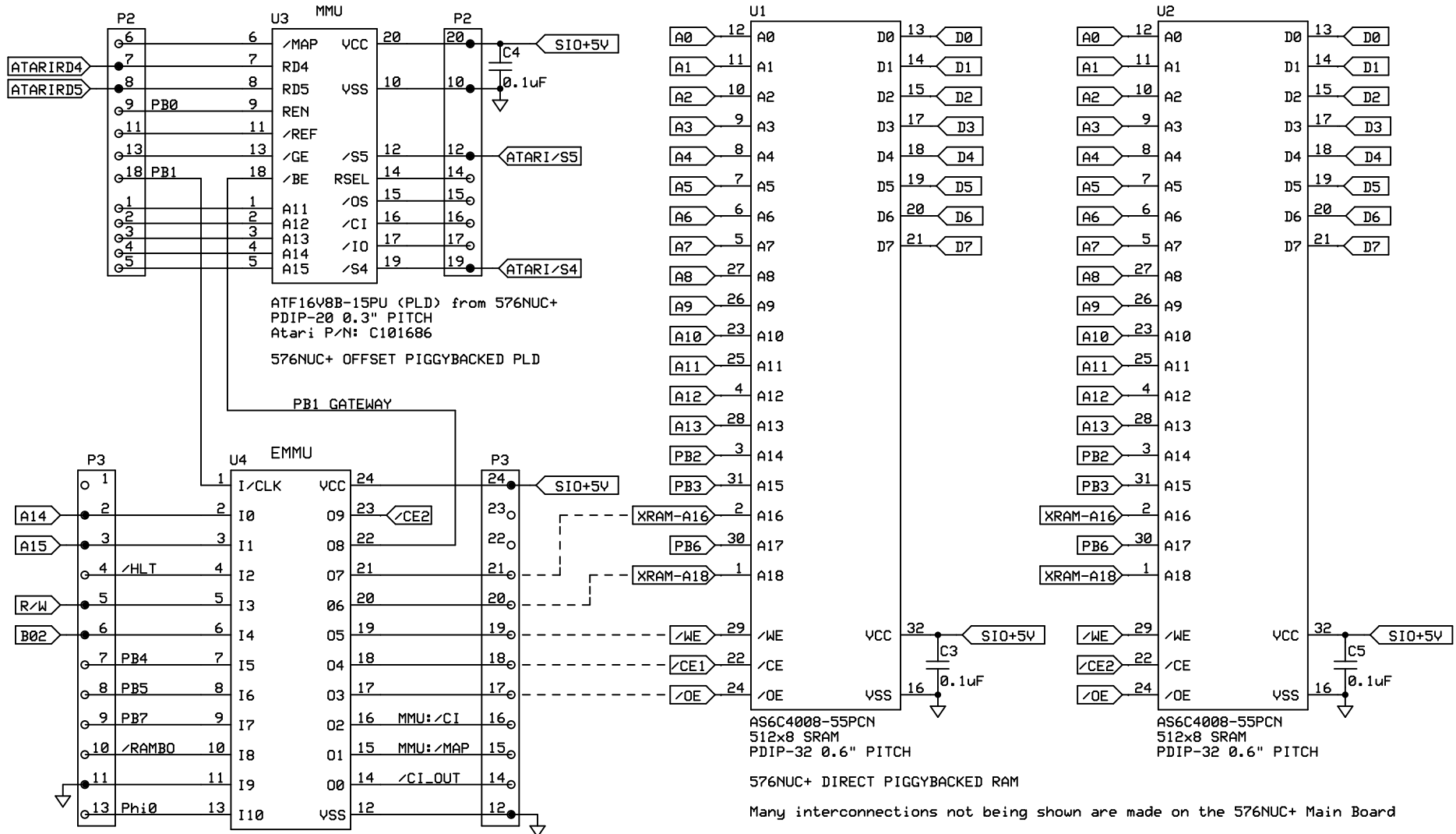
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MYTEK	Rev 1.6	SDRIVE
	06/25/2024	

1024K Extended RAM

LOWER 512K RAM from 576NUC+

UPPER 512K RAM



ATF16V8B-15PU (PLD) from 576NUC+
 PDIP-20 0.3" PITCH
 Atari P/N: C101686
 576NUC+ OFFSET PIGGYBACKED PLD

ATF22V10C-15PU (PLD) from 576NUC+ (requires re-flashing with 1024K JED)
 PDIP-24 0.3" PITCH
 AA: TF_HH CUSTOM
 576NUC+ OFFSET PIGGYBACKED PLD

AS6C4008-55PCN
 512x8 SRAM
 PDIP-32 0.6" PITCH
 576NUC+ DIRECT PIGGYBACKED RAM

Many interconnections not being shown are made on the 576NUC+ Main Board

/RAMBO NOW = 512/1024K
 SELECTION

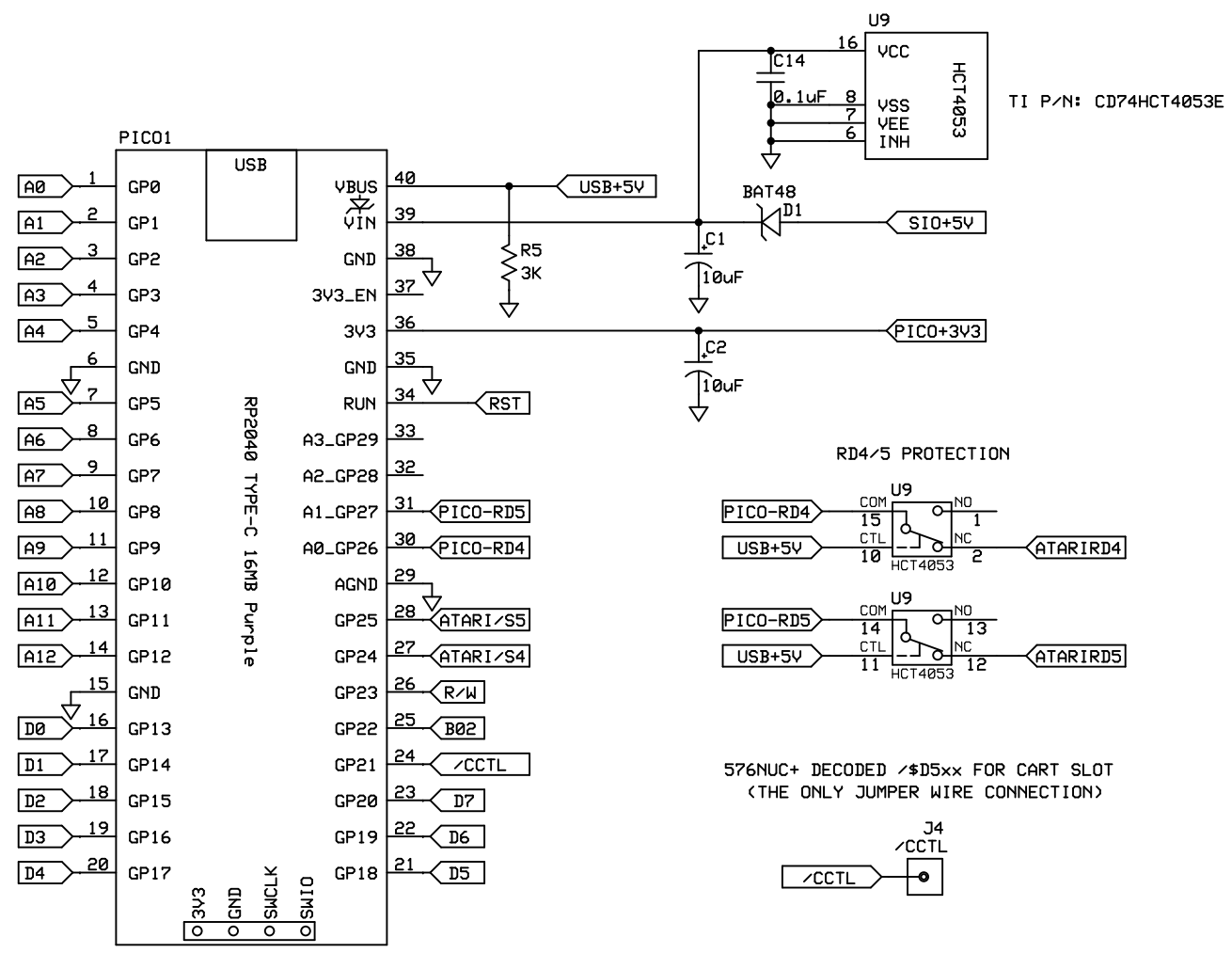
NUCplus4 RT8/Pico Cart/SDrive/XRAM
 576NUC+ DaughterBoard

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MYTEK	Rev 1.6 06/25/2024	XRAM1024K
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The original 512K hardware was based upon Matthias Reichl (HiassoIT at AtariAge) design.
 The 1024K changes were created by Juergen van Radecke (tf_hh at AtariAge) in 2023.

Pi Pico A8 MultiCart



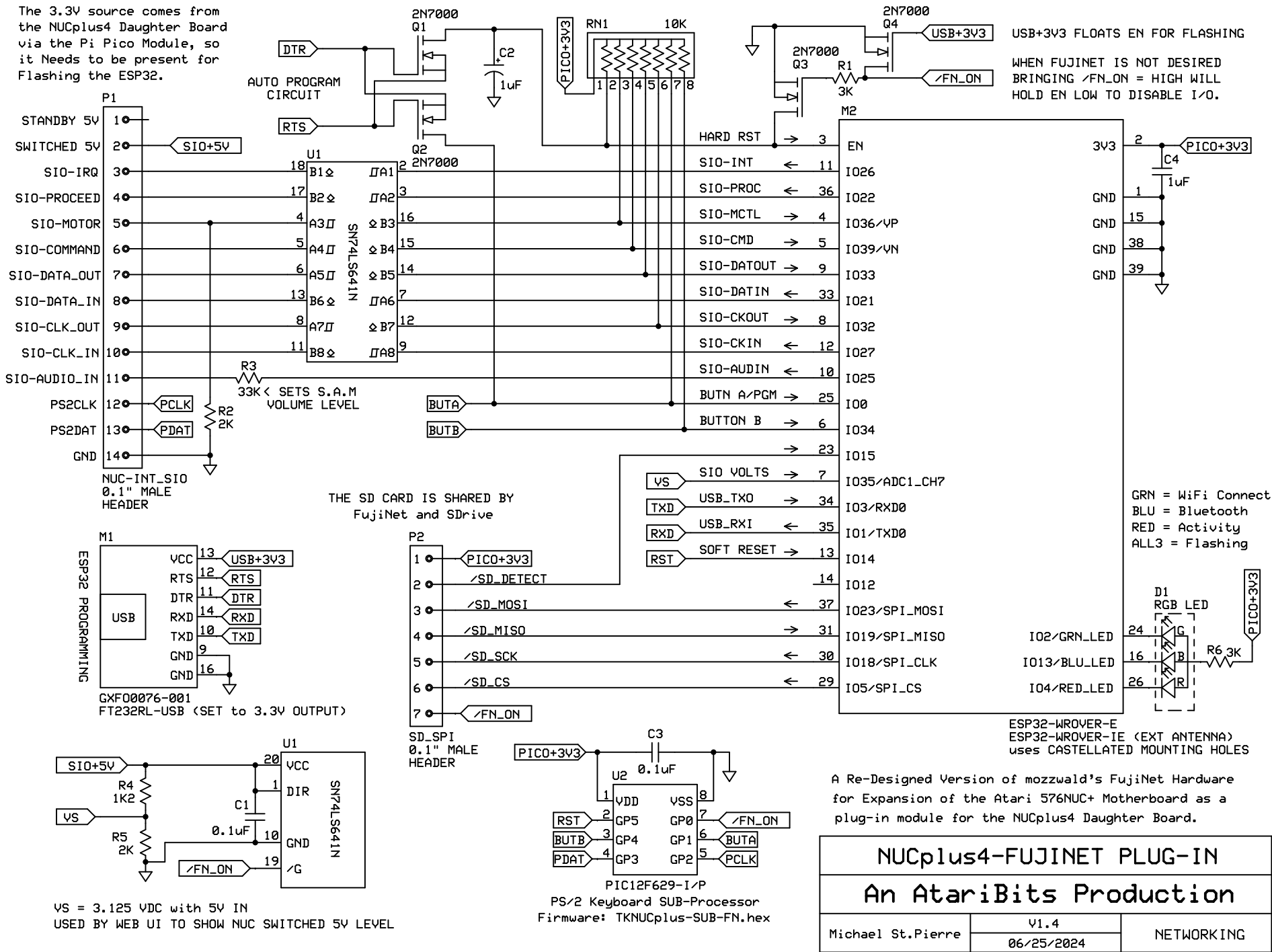
The PICO Board needs to be flashed with firmware prior to use.
<https://github.com/robinhedwards/A8PicoCart/tree/main/firmware>

WARNING: The SDrive will not function without the 3.3V supplied by the PICO Board.

The Pi Pico version of the UNO Cart which this circuit and firmware is based upon was developed in 2023 by Robin Edwards (electrotrains at AtariAge). The Altirra LLE OS was used by permission from Avery Lee (phaeron of AtariAge). The XEX loader and OS modifications were thanks to Jonathan Halliday (flashjazzcat at AtariAge).

NUCplus4		RT8/Pico Cart/SDrive/XRAM
		576NUC+ DaughterBoard
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MYTEK	Rev 1.6	A8PICO
	06/25/2024	

The 3.3V source comes from the NUCplus4 Daughter Board via the Pi Pico Module, so it Needs to be present for Flashing the ESP32.



A Re-Designed Version of mozzwald's FujiNet Hardware for Expansion of the Atari 576NUC+ Motherboard as a plug-in module for the NUCplus4 Daughter Board.

NUCplus4-FUJINET PLUG-IN		
An AtariBits Production		
Michael St.Pierre	V1.4	NETWORKING
	06/25/2024	

VS = 3.125 VDC with 5V IN
USED BY WEB UI TO SHOW NUC SWITCHED 5V LEVEL

PIC12F629-I/P
PS/2 Keyboard SUB-Processor
Firmware: TKNUCplus-SUB-FN.hex

NUC_{plus}4

576NUC+ Computer Expansion System Component ID and Location

