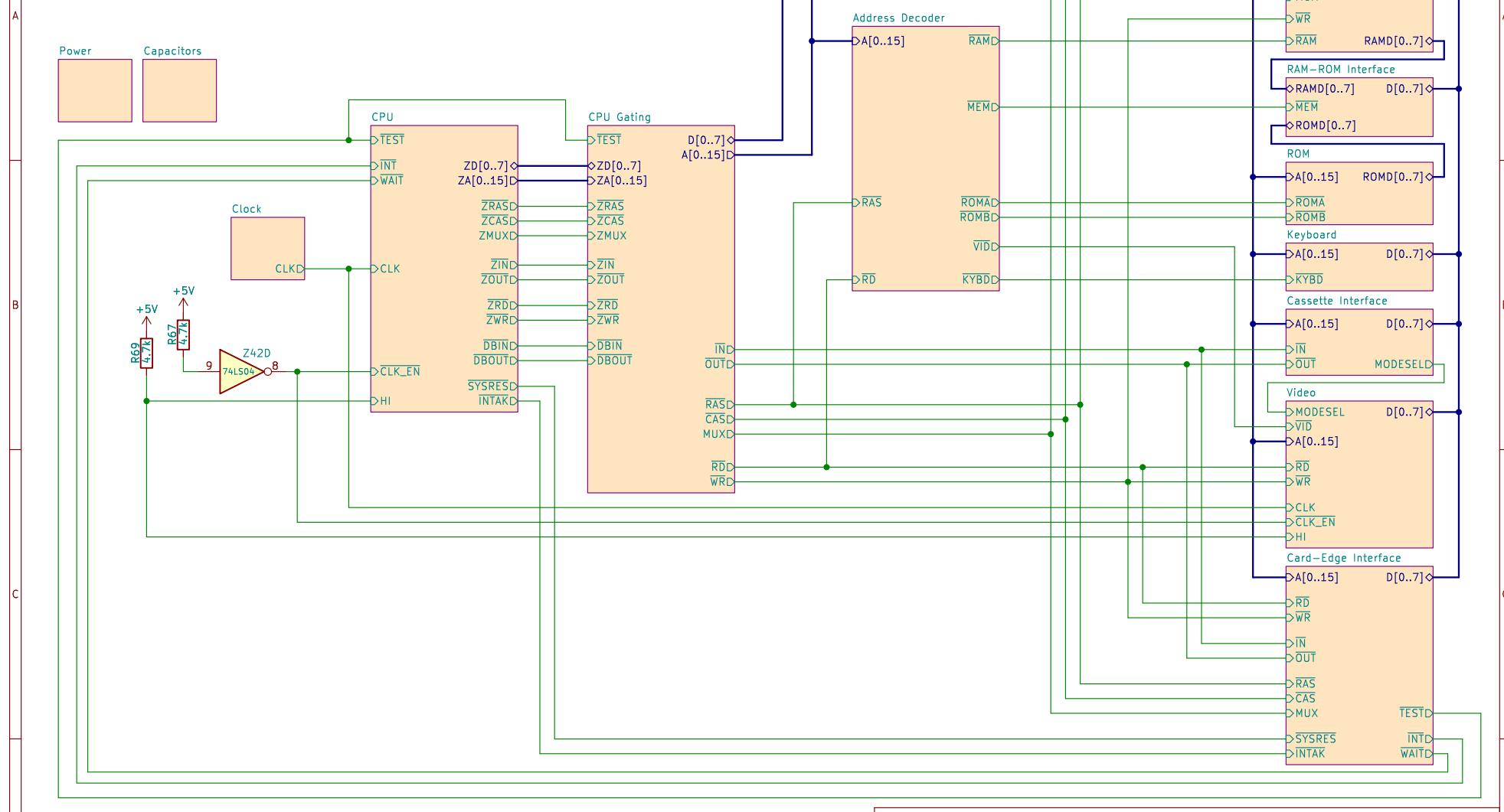


# TRS-80 Model I

## 1700069 G E1



### System Overview

Full overview of the system

### RetroStack – Marcel Erz

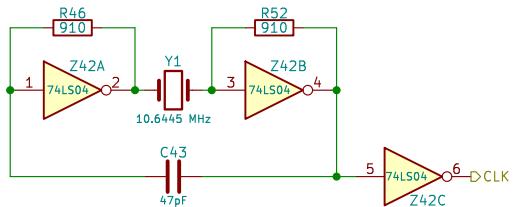
Sheet: /  
File: TRS80\_Model\_I\_G\_E1.kicad\_sch

Title: TRS-80 Model I G

Size: USLetter Date: 2023-12-21  
KiCad E.D.A. kicad 7.0.8

Rev: E1B  
Id: 1/21

1 2 3 4 5



System Clock

RetroStack – Marcel Erz

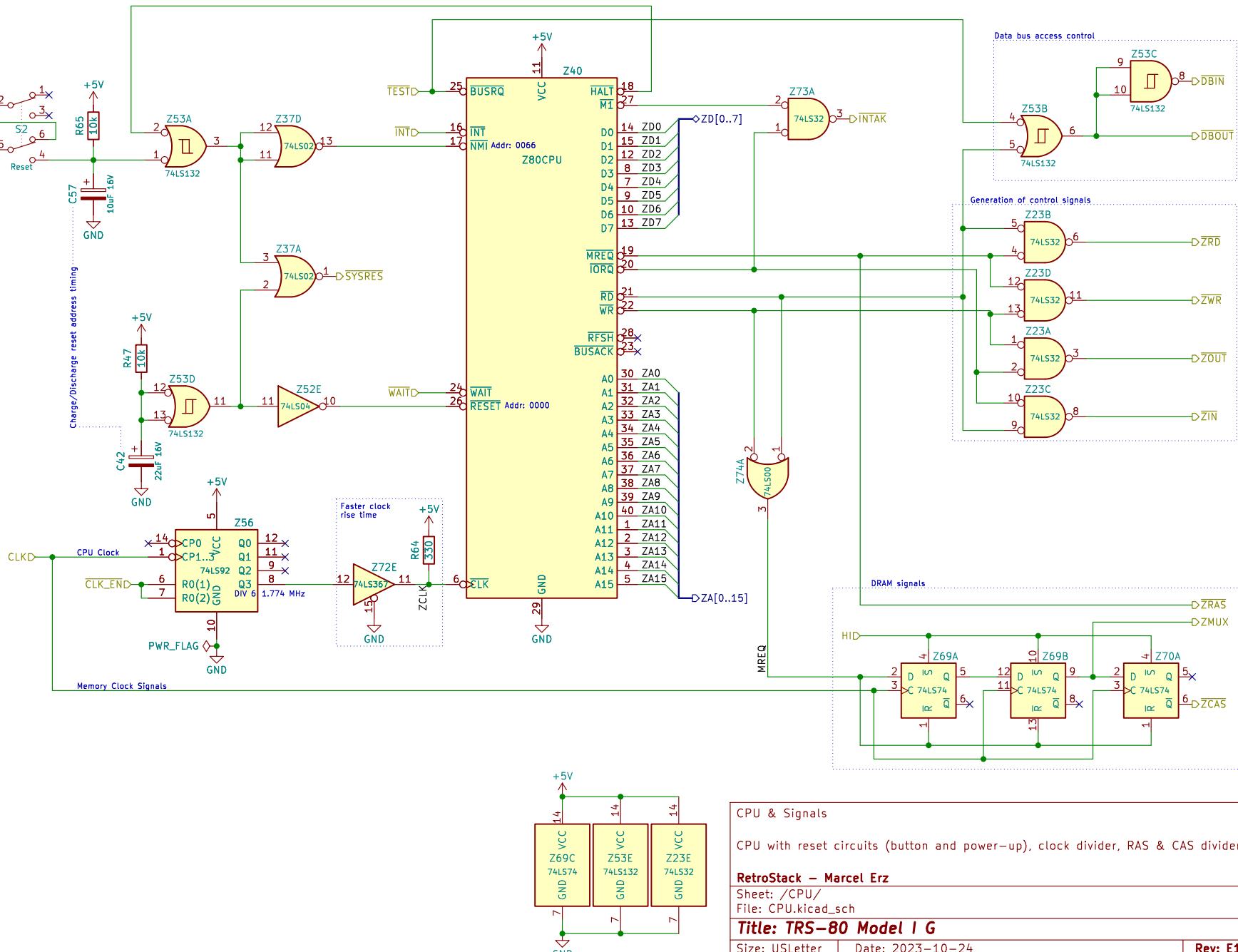
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File: Clock.kicad\_sch

Title: TRS-80 Model I G

Size: USLetter Date: 2023-10-24  
KiCad E.D.A. kicad 7.0.8

Rev: E1B  
Id: 2/21

1 2 3 4 5



#### CPU & Signals

CPU with reset circuits (button and power-up), clock divider, RAS & CAS divider, signals

#### RetroStack – Marcel Erz

Sheet: /CPU/  
File: CPU.kicad\_sch

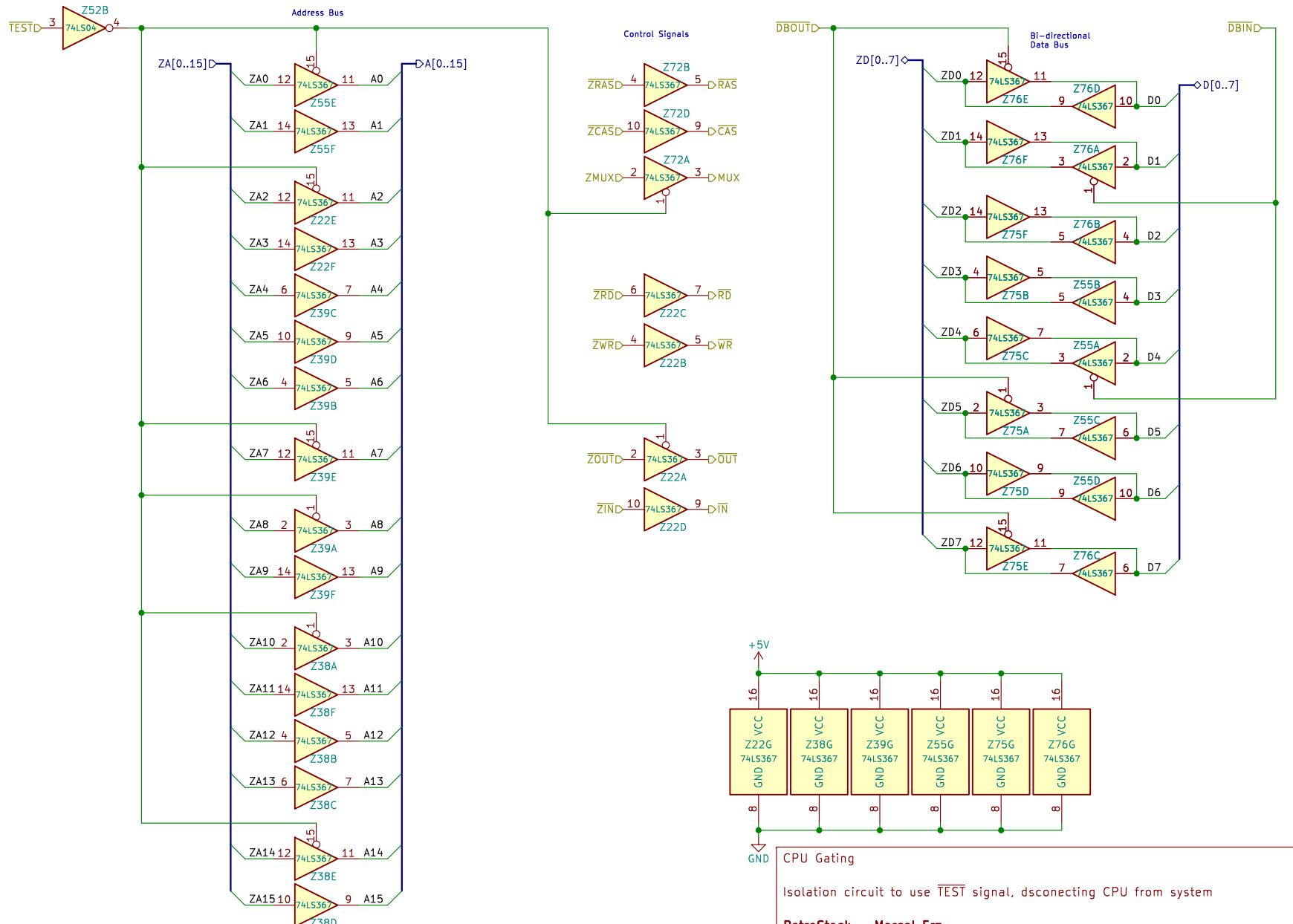
Title: TRS-80 Model I G

Size: USLetter Date: 2023-10-24

KiCad E.D.A. kicad 7.0.8

Rev: E1B

Id: 3/21



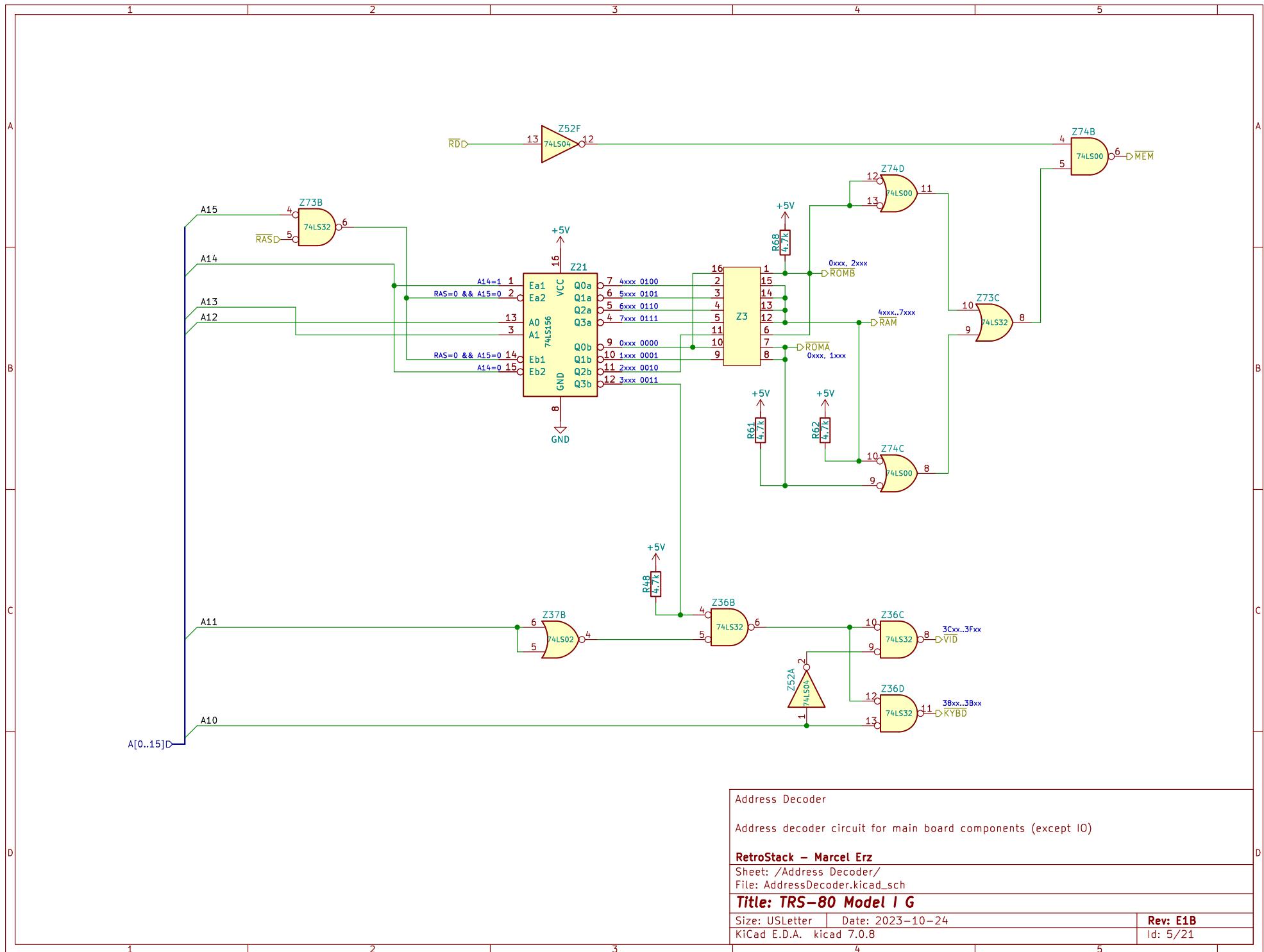
### RetroStack – Marcel Erz

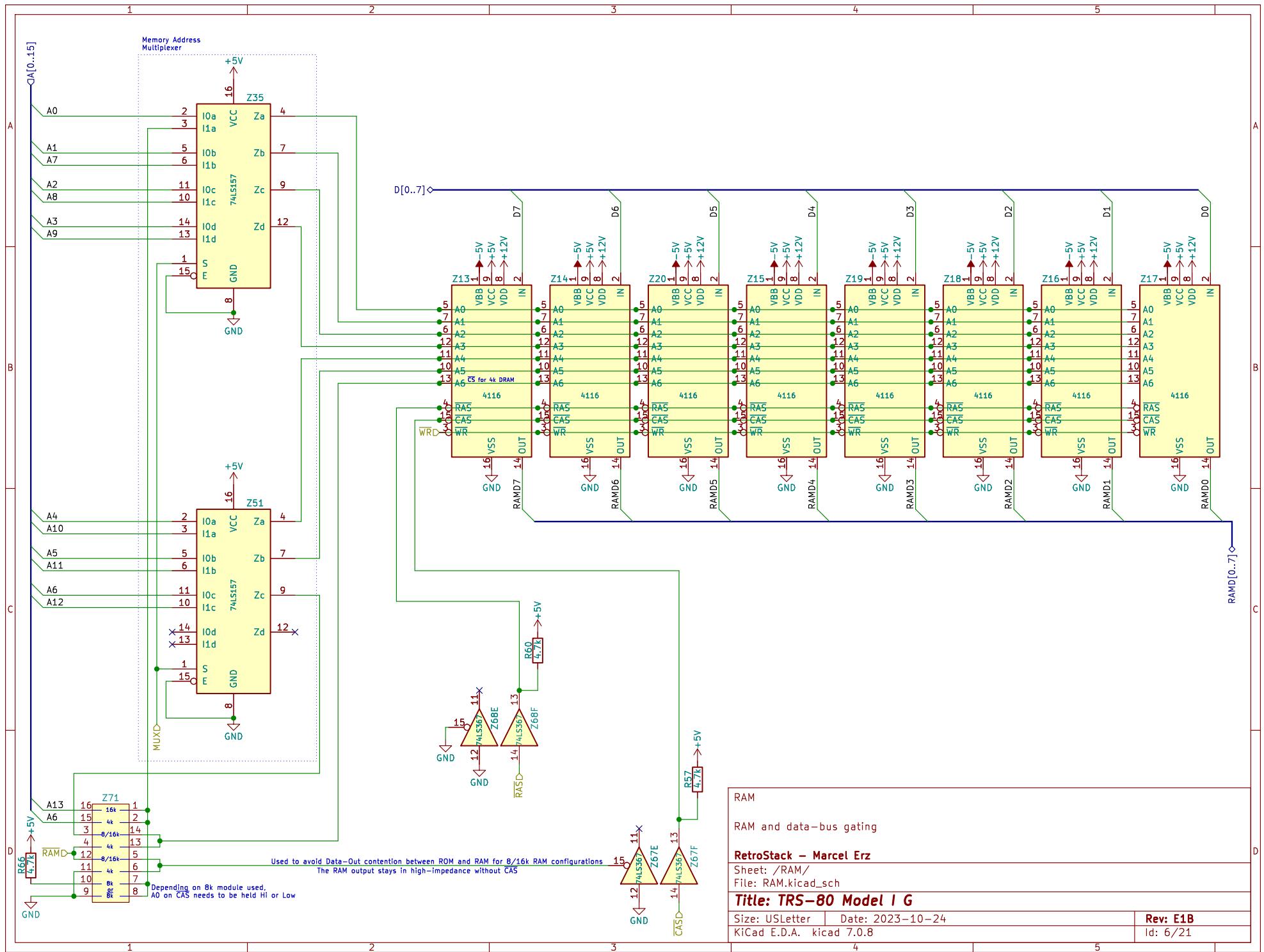
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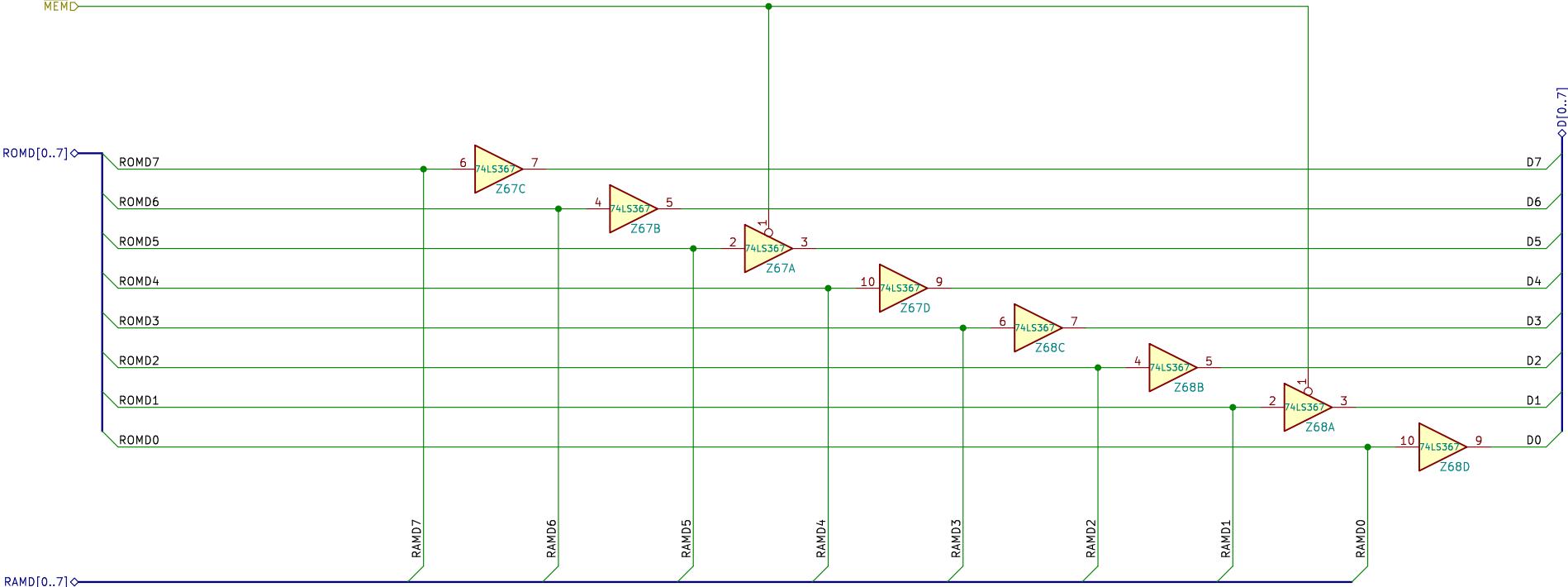
**Title: TRS-80 Model 1 G**

Size: USLetter | Date: 2023-10-24  
KiCad E.D.A. kicad 7.0.8

Rev: E1B  
Id: 4/21







Sheet: /RAM-ROM Interface/  
File: RAM\_ROM\_Interface.kicad\_sch

**Title:**

Size: A4 | Date:  
KiCad E.D.A. kicad 7.0.8

**Rev:**  
Id: 7/21

A

A

B

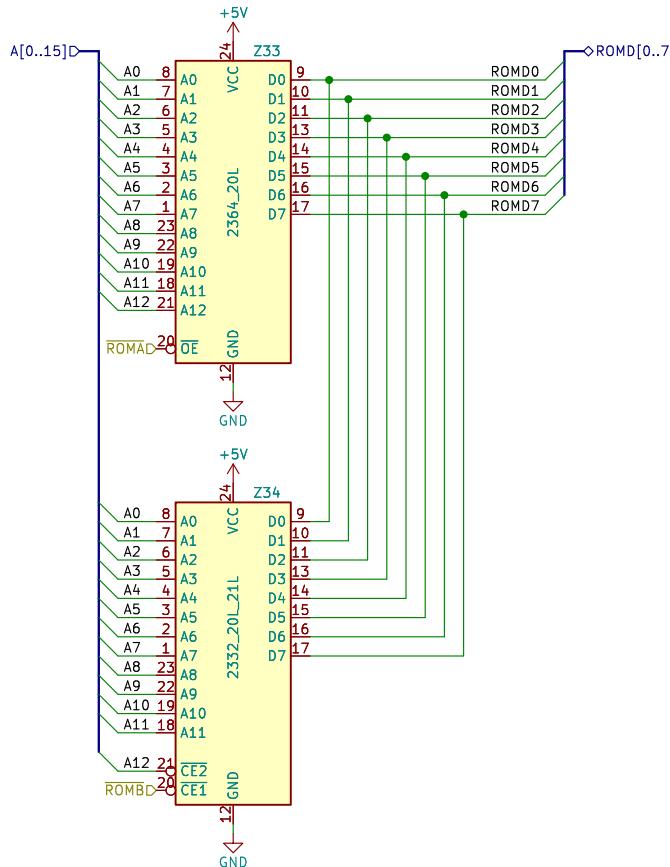
B

C

C

D

D

**Level I ROMs:**

- Intel 2616 EPROM (White Crystal Window)
- National MM2316 ROM (Colored Ceramic) (R/D=ROM A, S/D=ROM B)
- Motorola 7800 Series ROMs (7807=ROM A, 7804=ROM B)
- Motorola 7800 Series ROMs (7809=ROM A & B)

**Level II ROMs:**

- Generic 3 ROMs on separate board with logic chip (each 32kbit/4kb)
- NEC 8043364 & 8043732 (64kbit/8kb & 32kbit/4kb) (early 1979)
- NEC 8044364 & 8044732 (64kbit/8kb & 32kbit/4kb) (early 1980)

**ROM****ROM circuit****RetroStack – Marcel Erz**

Sheet: /ROM/  
File: ROM.kicad\_sch

**Title: TRS-80 Model I G**

Size: USLetter | Date: 2023-10-24  
KiCad E.D.A. kicad 7.0.8

Rev: E1B  
Id: 8/21

A

A

B

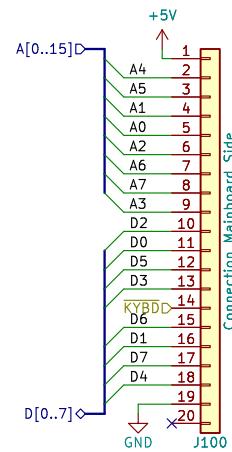
B

C

C

D

D



### Keyboard & Interface

Keyboard interface circuit

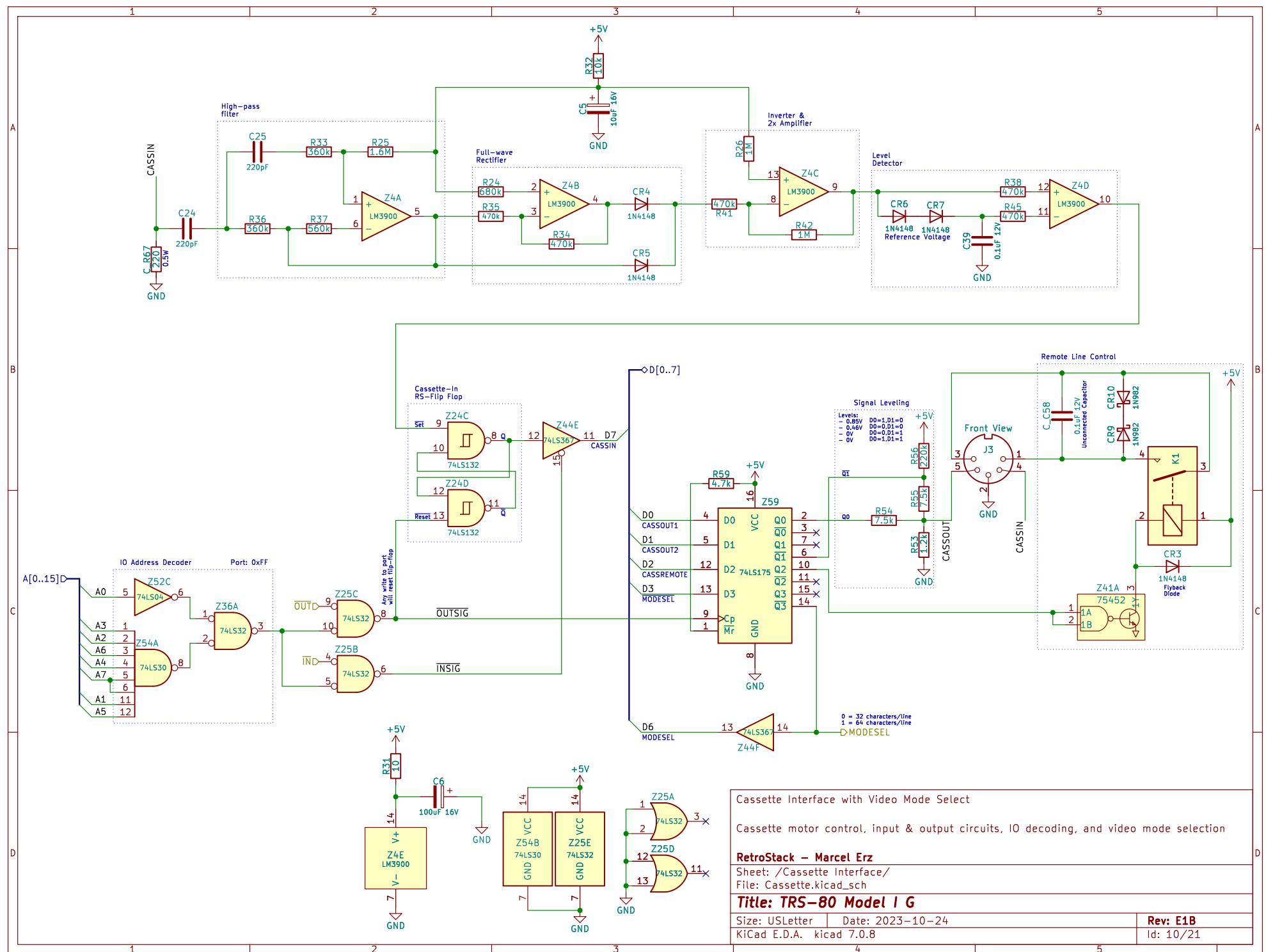
### RetroStack – Marcel Erz

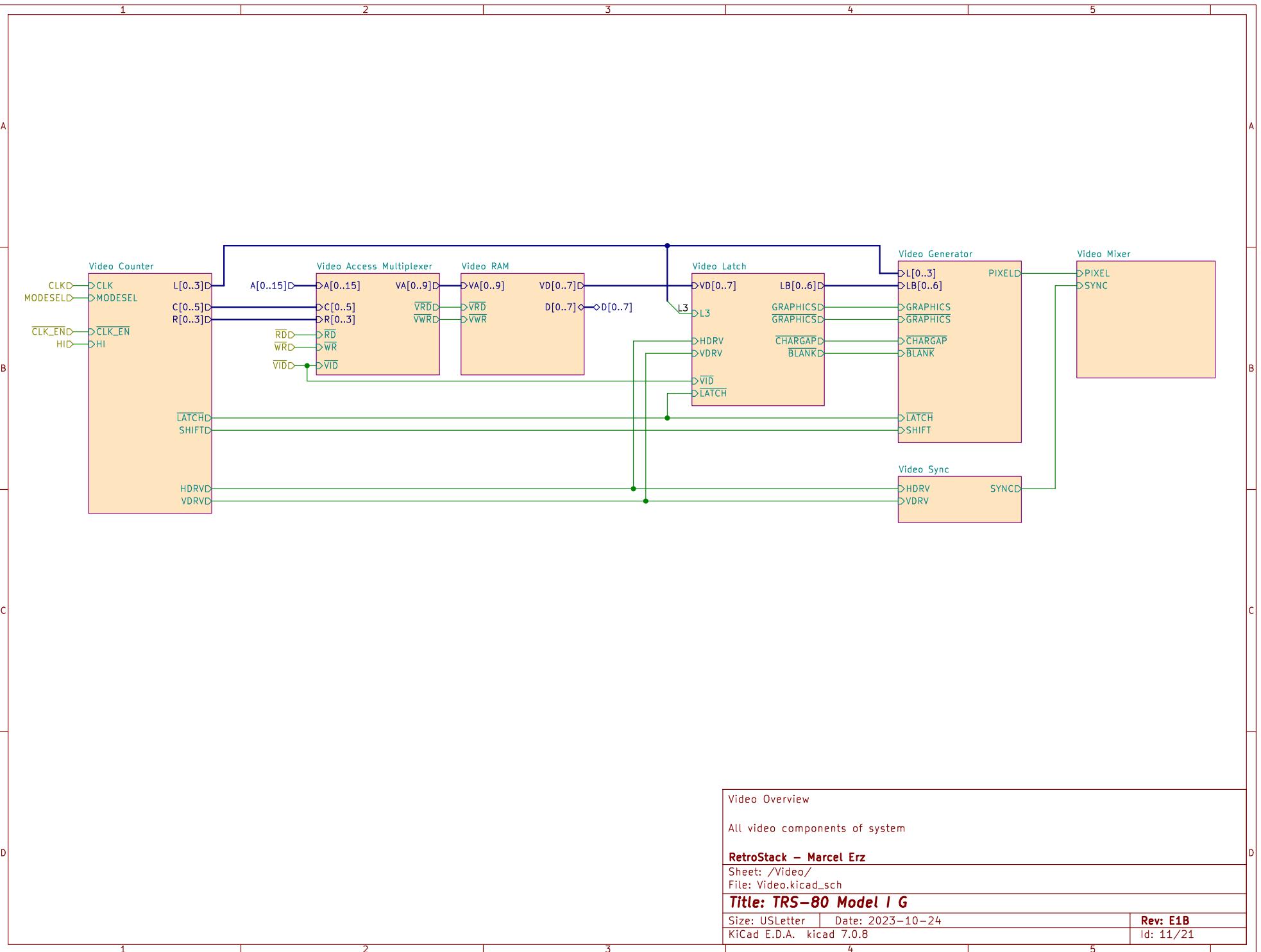
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File: Keyboard.kicad\_sch

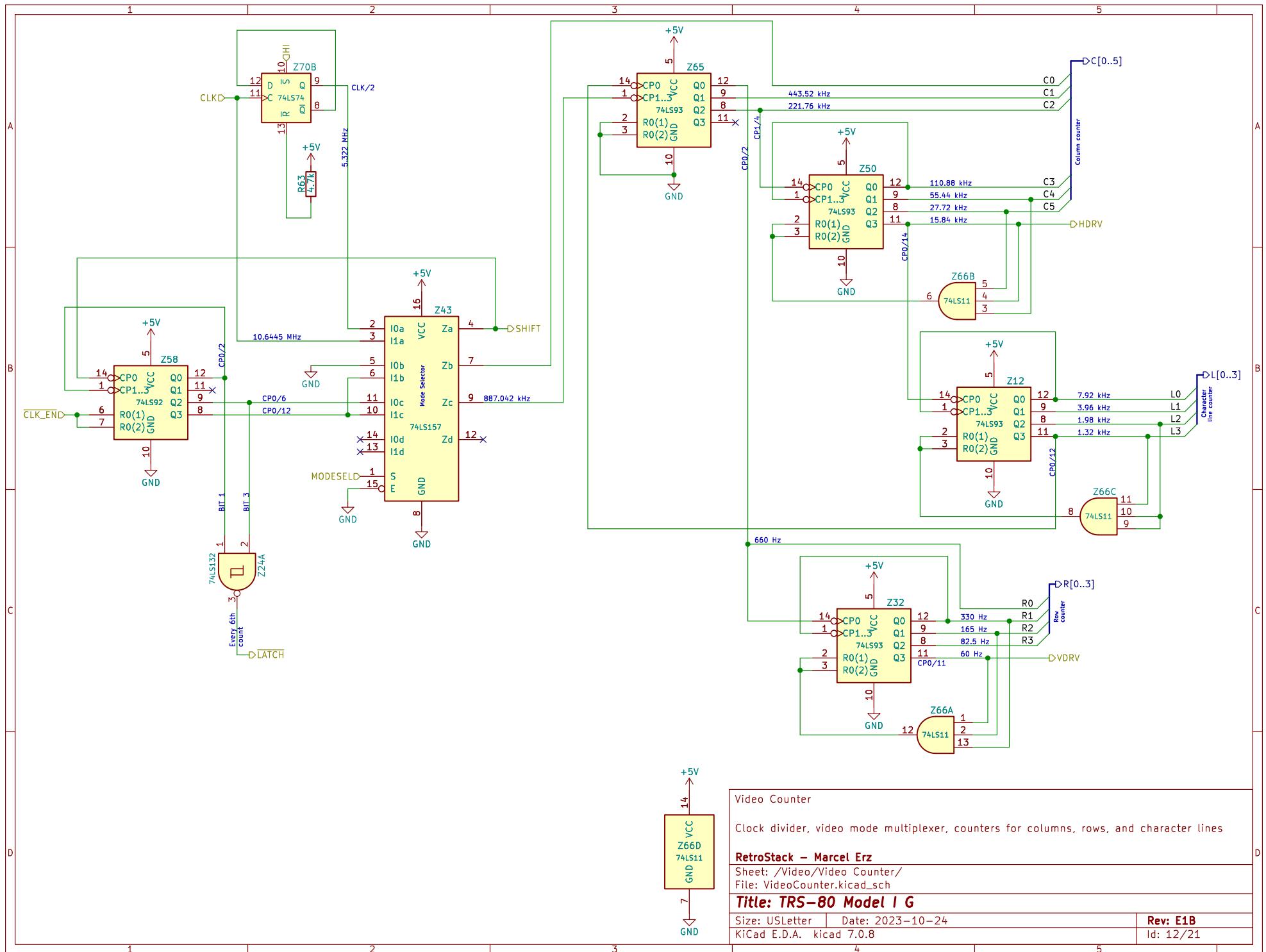
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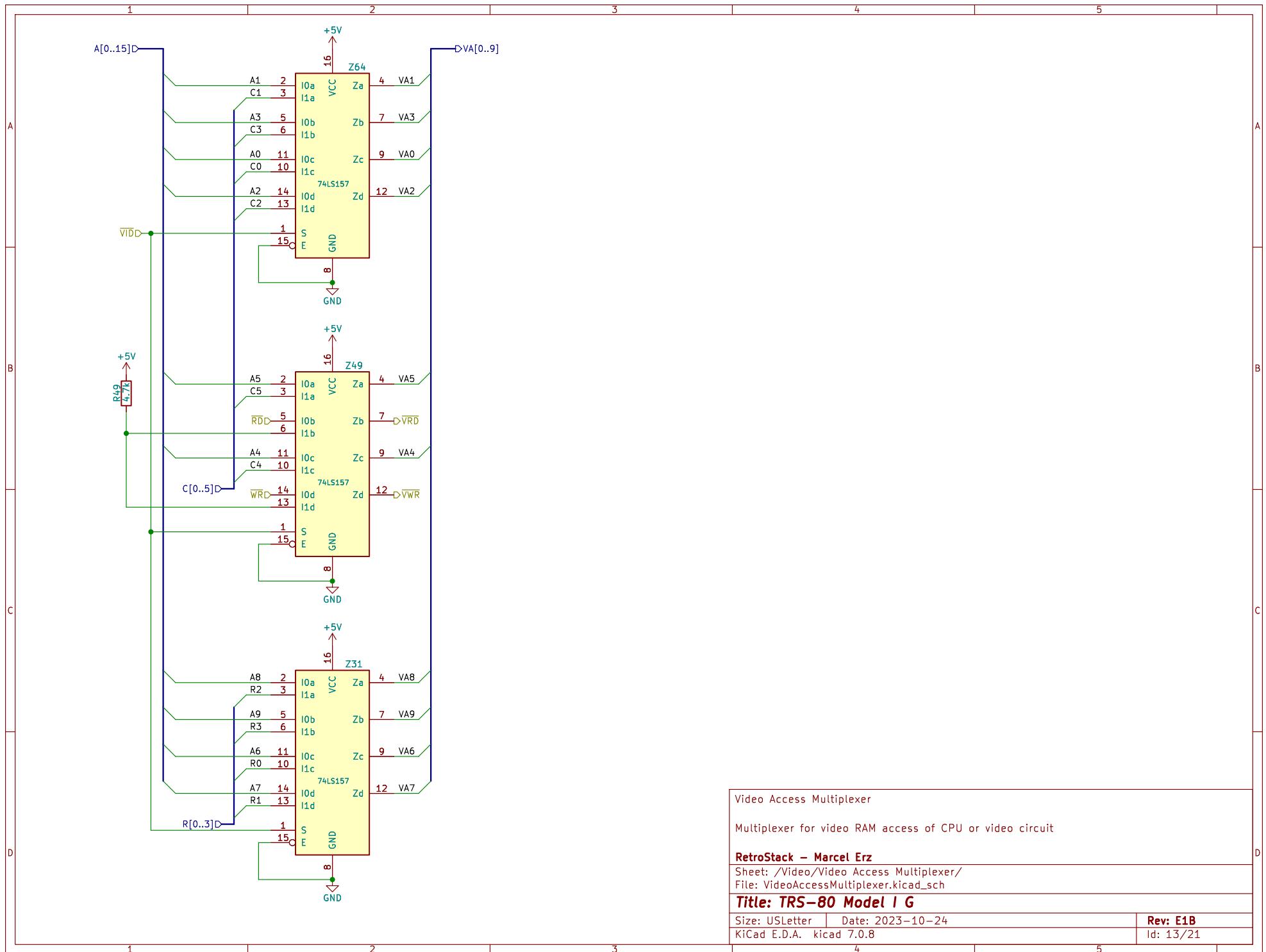
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KiCad E.D.A. kicad 7.0.8

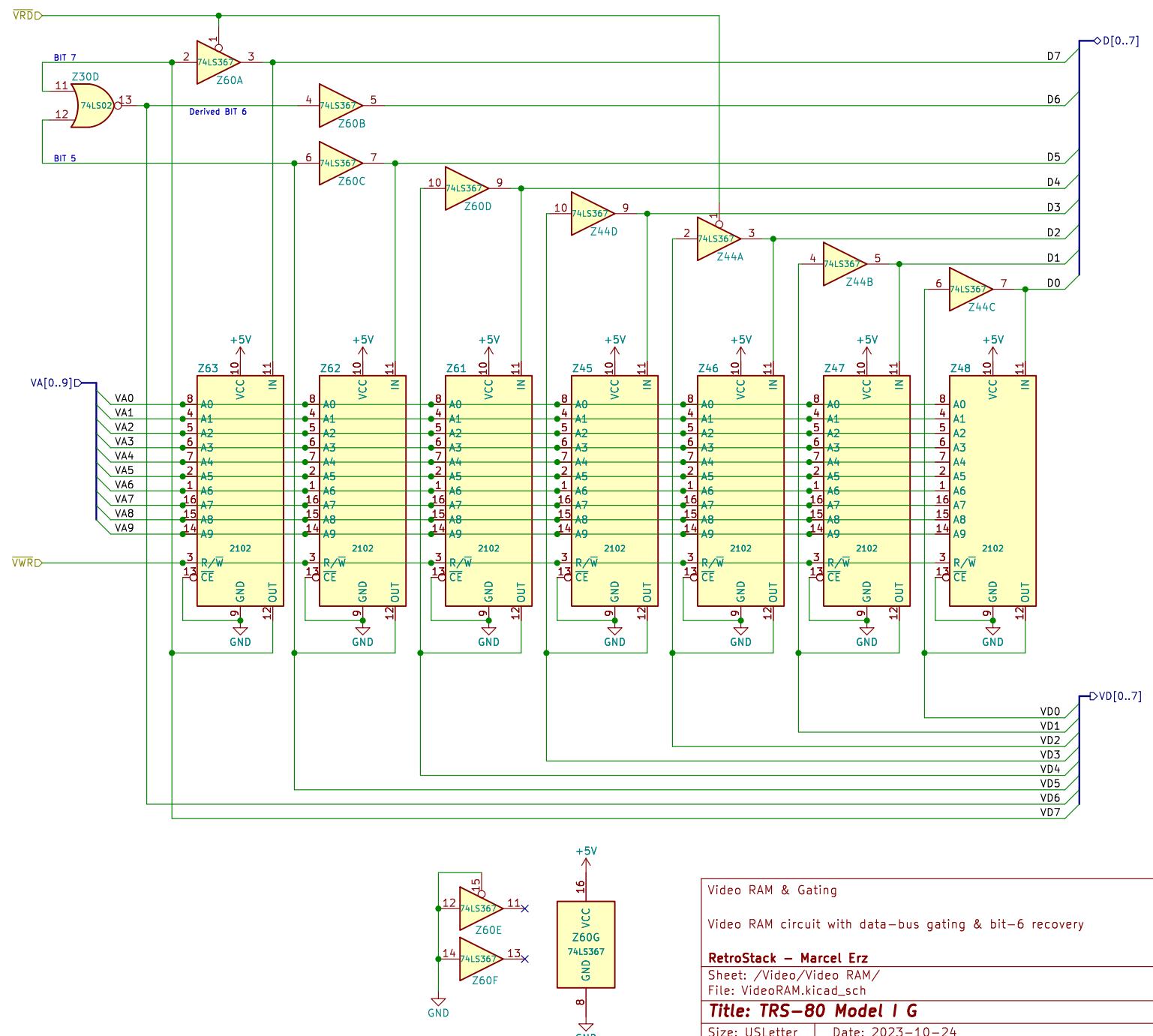
Rev: E1B  
Id: 9/21

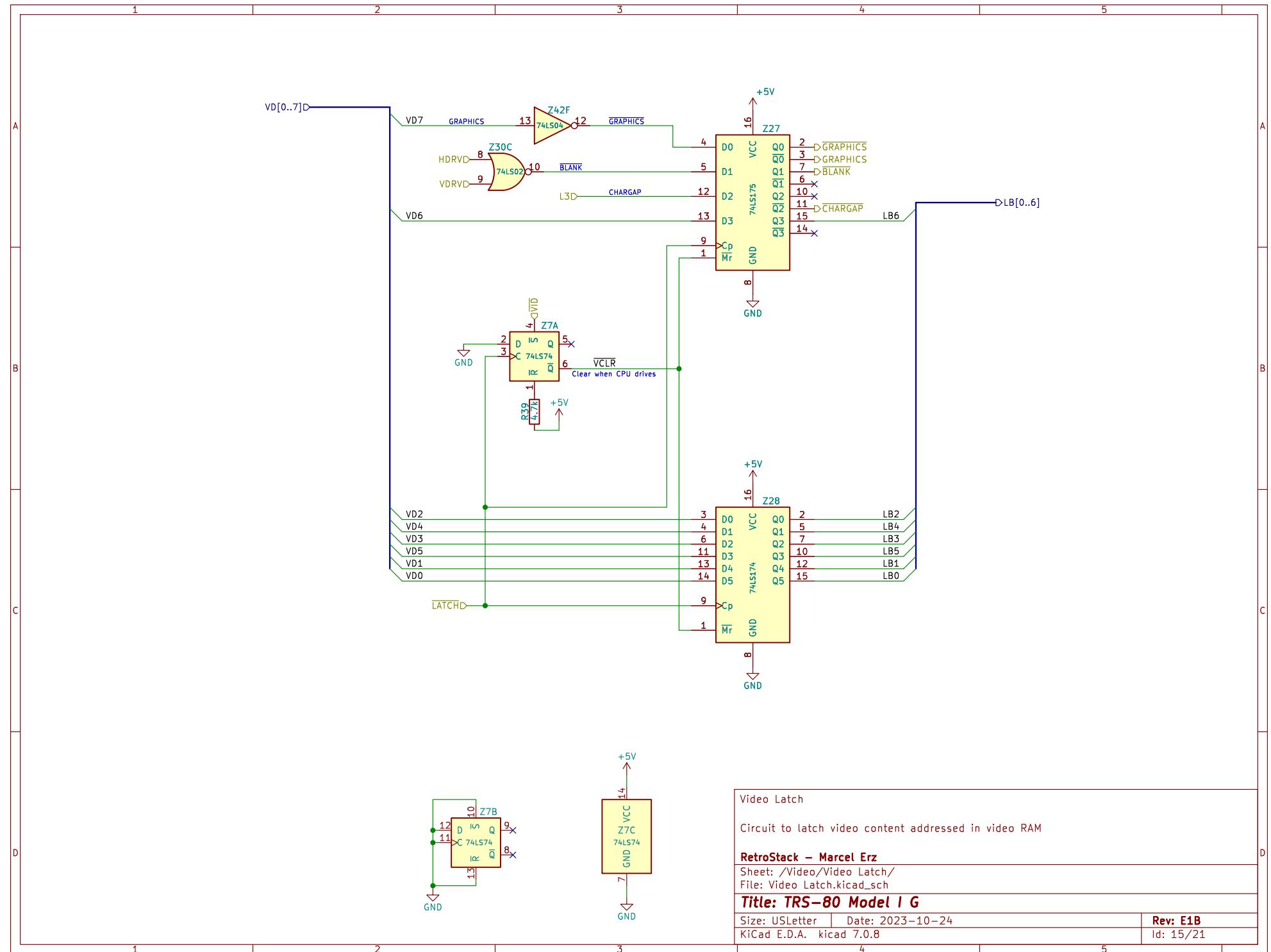


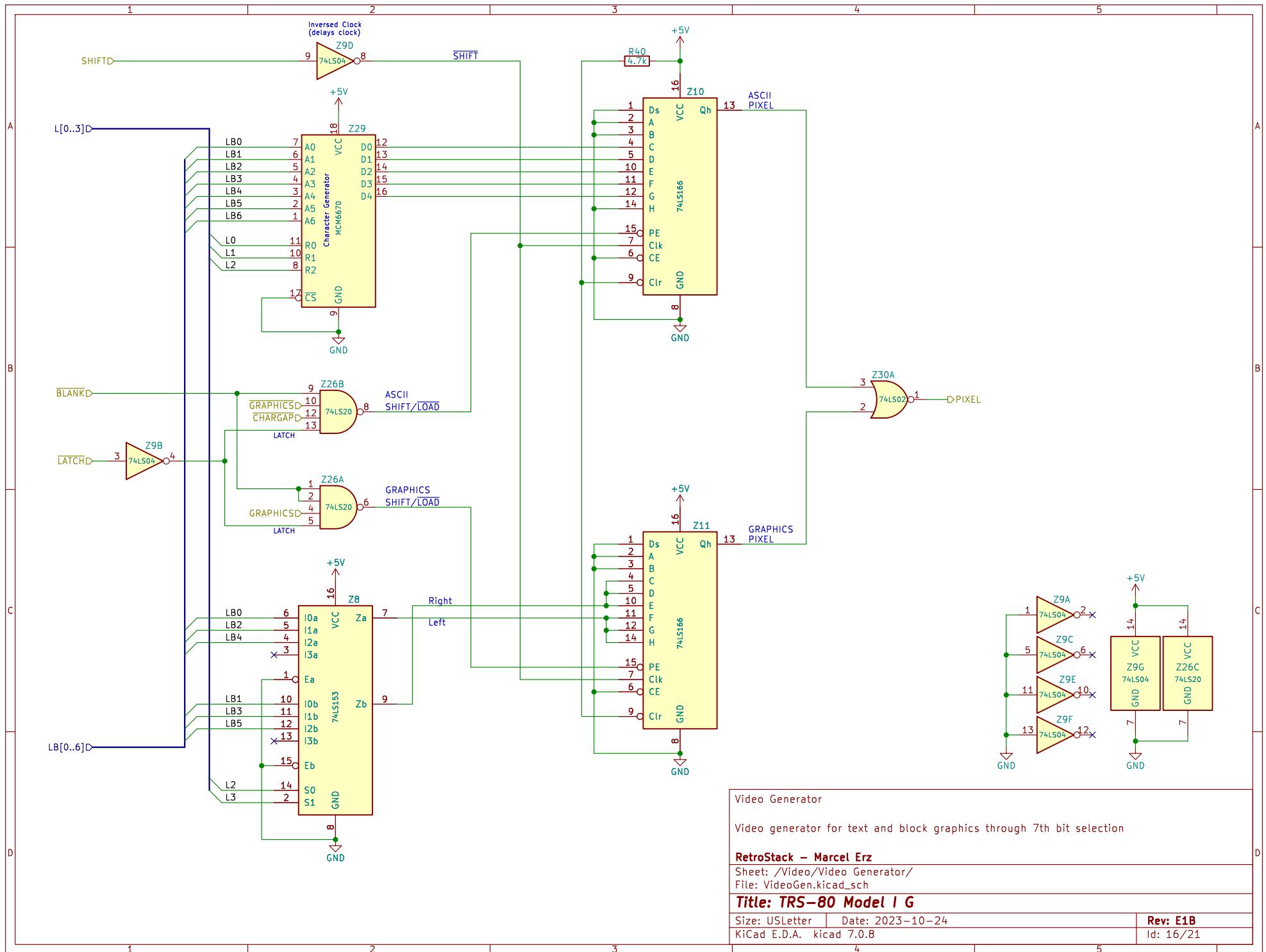












A

A

B

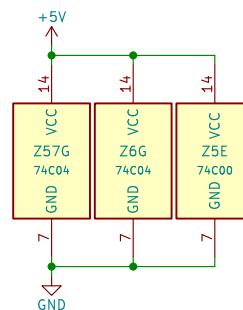
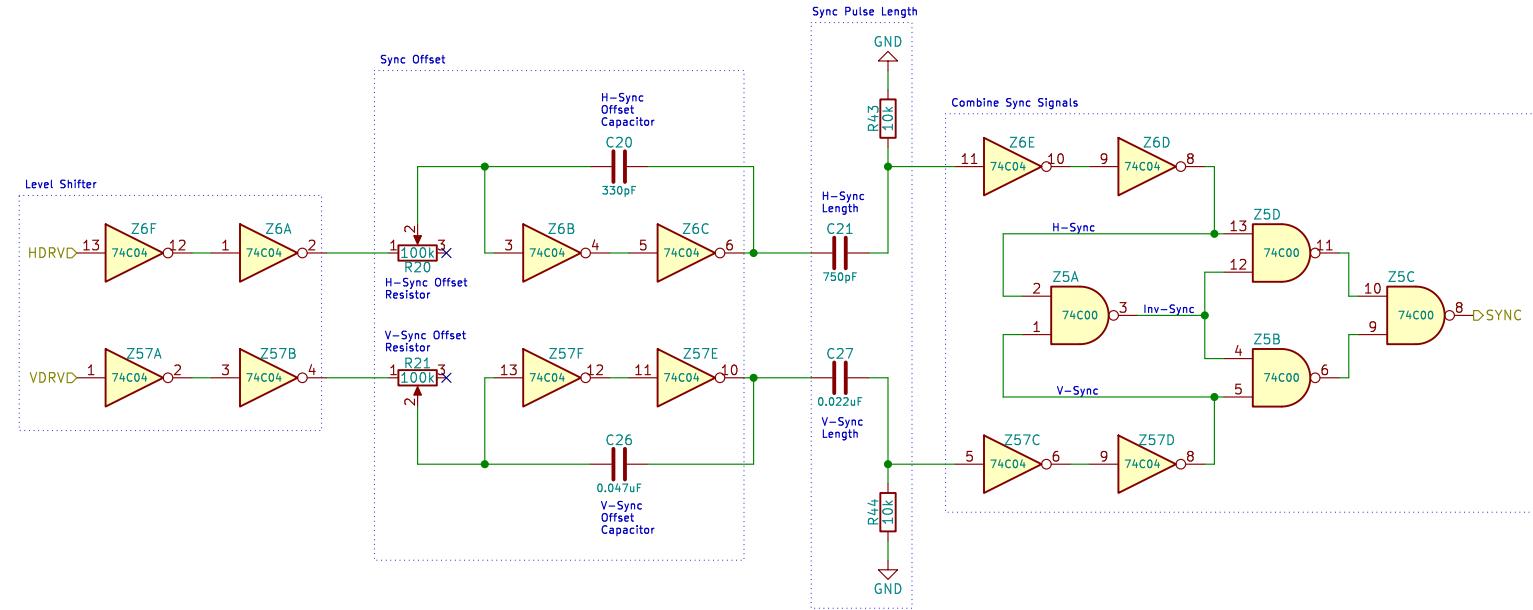
B

C

C

D

D



### Video Sync

Circuit to combine sync signals and defining front- and back-porches in video signal

### RetroStack – Marcel Erz

Sheet: /Video/Video Sync/  
File: VideoSync.kicad\_sch

**Title: TRS-80 Model 1 G**

Size: USLetter Date: 2023-10-24

KiCad E.D.A. kicad 7.0.8

Rev: E1B

Id: 17/21

A

A

B

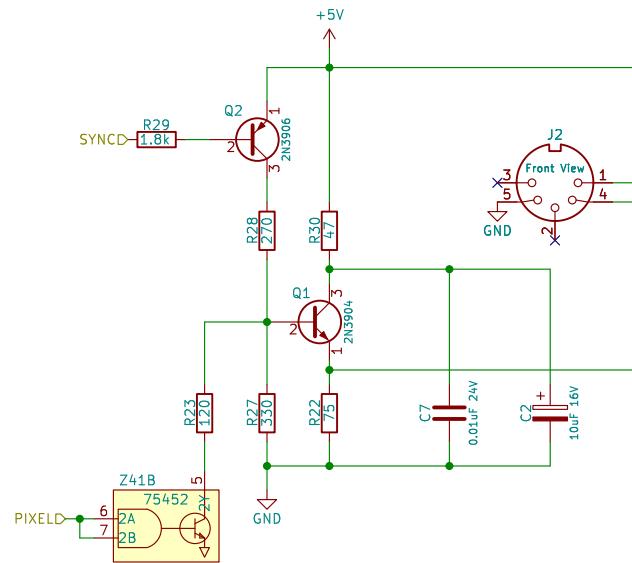
B

C

C

D

D



Q2 open, Z41 any => 0V (sync level)  
 Q2 closed, Z41 closed => 1.23V (black level) – R28 with series resistors R23 & R27  
 Q2 closed, Z41 open => 2.75V (white level) – Only R27 & R28

### Video Mixer

Mixing circuit for sync and pixel data

#### RetroStack – Marcel Erz

Sheet: /Video/Video Mixer/  
 File: VideoMixer.kicad\_sch

**Title: TRS-80 Model 1 G**

Size: USLetter | Date: 2023-10-24  
 KiCad E.D.A. kicad 7.0.8

Rev: E1B  
 Id: 18/21

