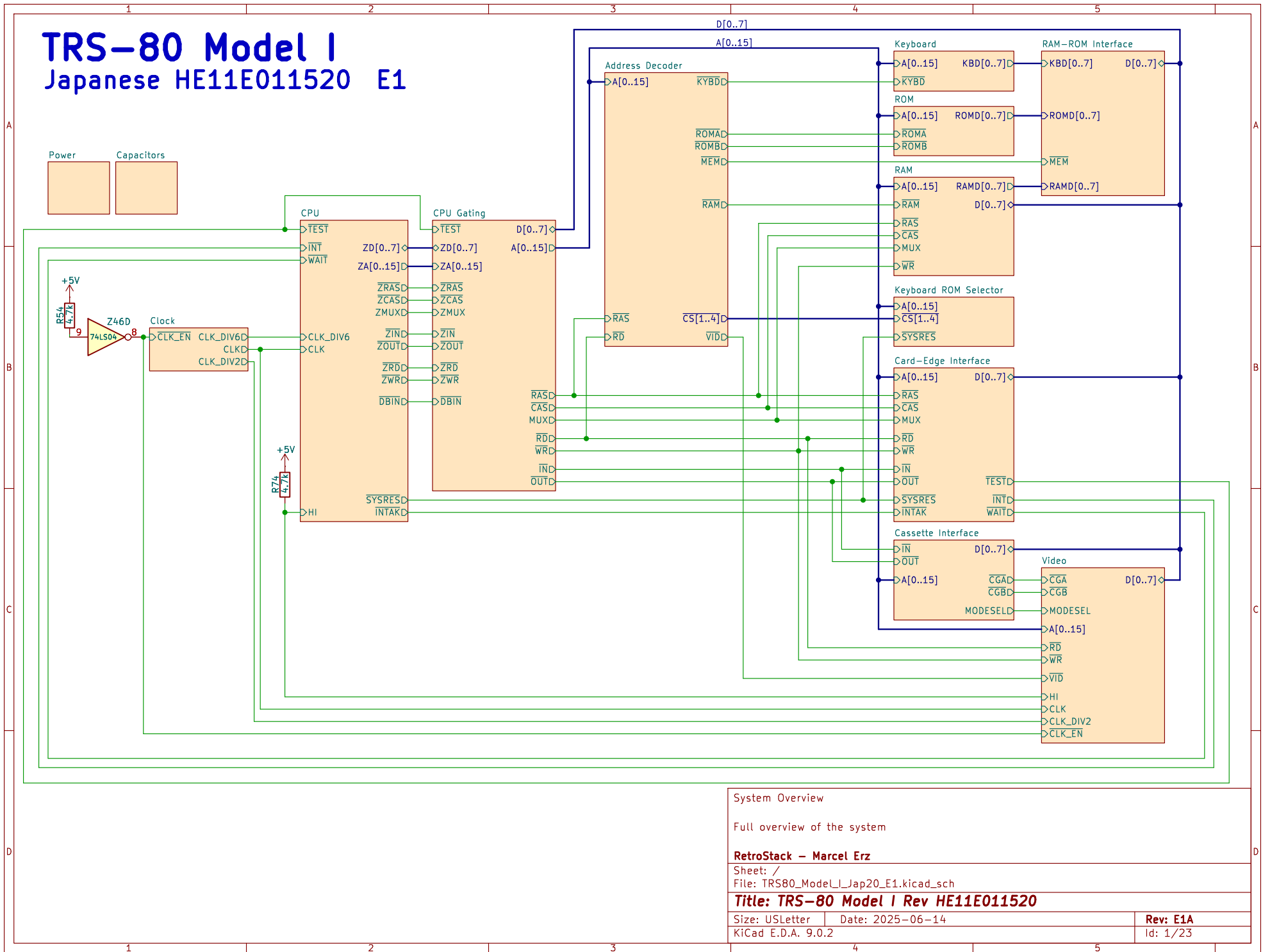
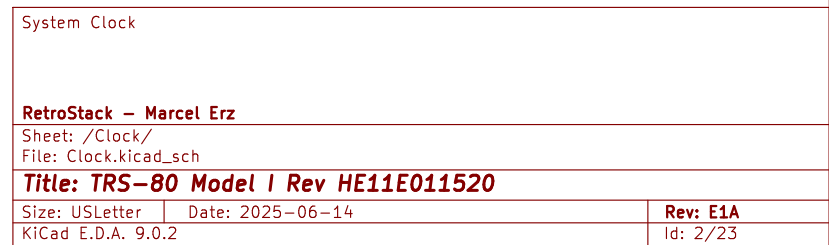
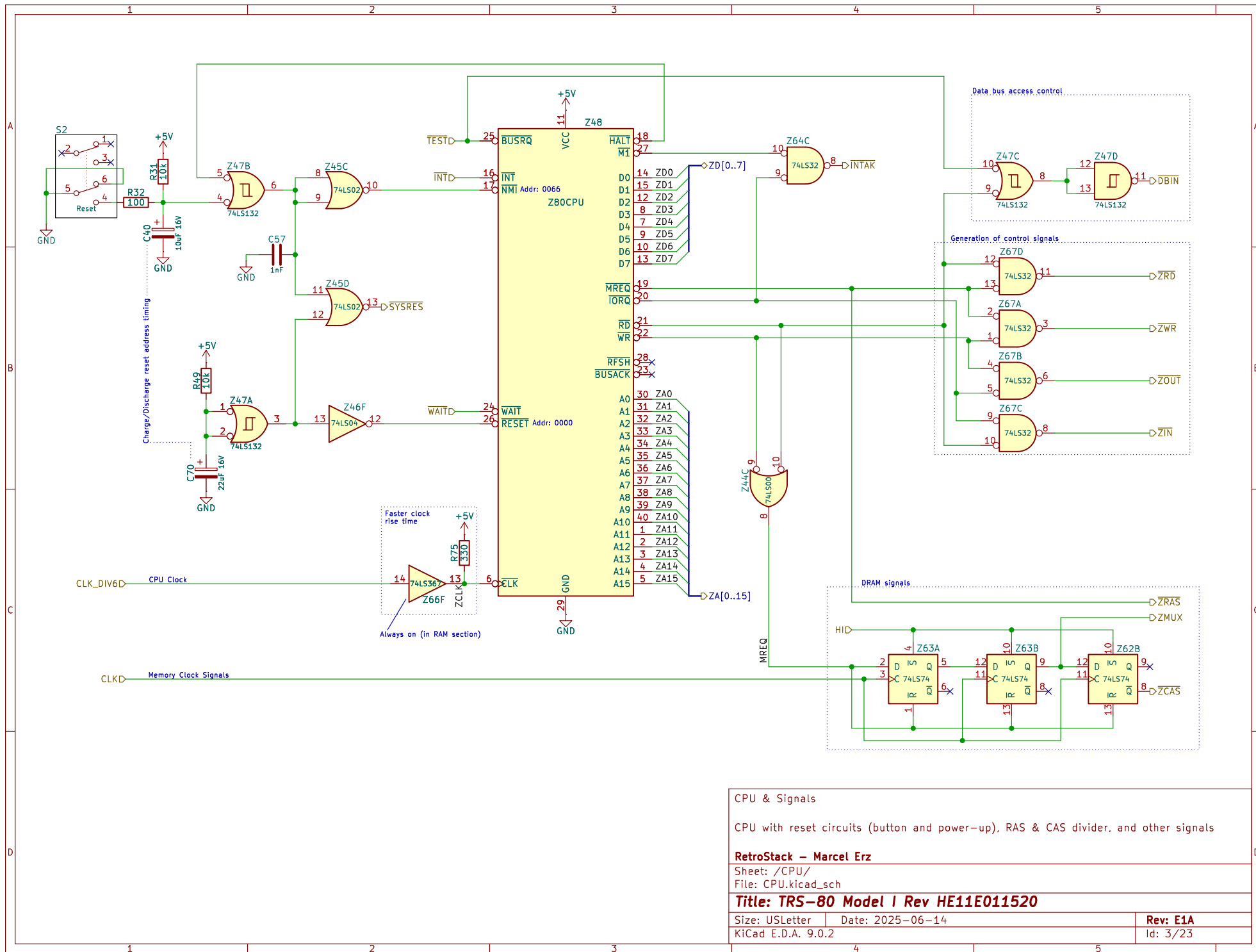


TRS-80 Model I

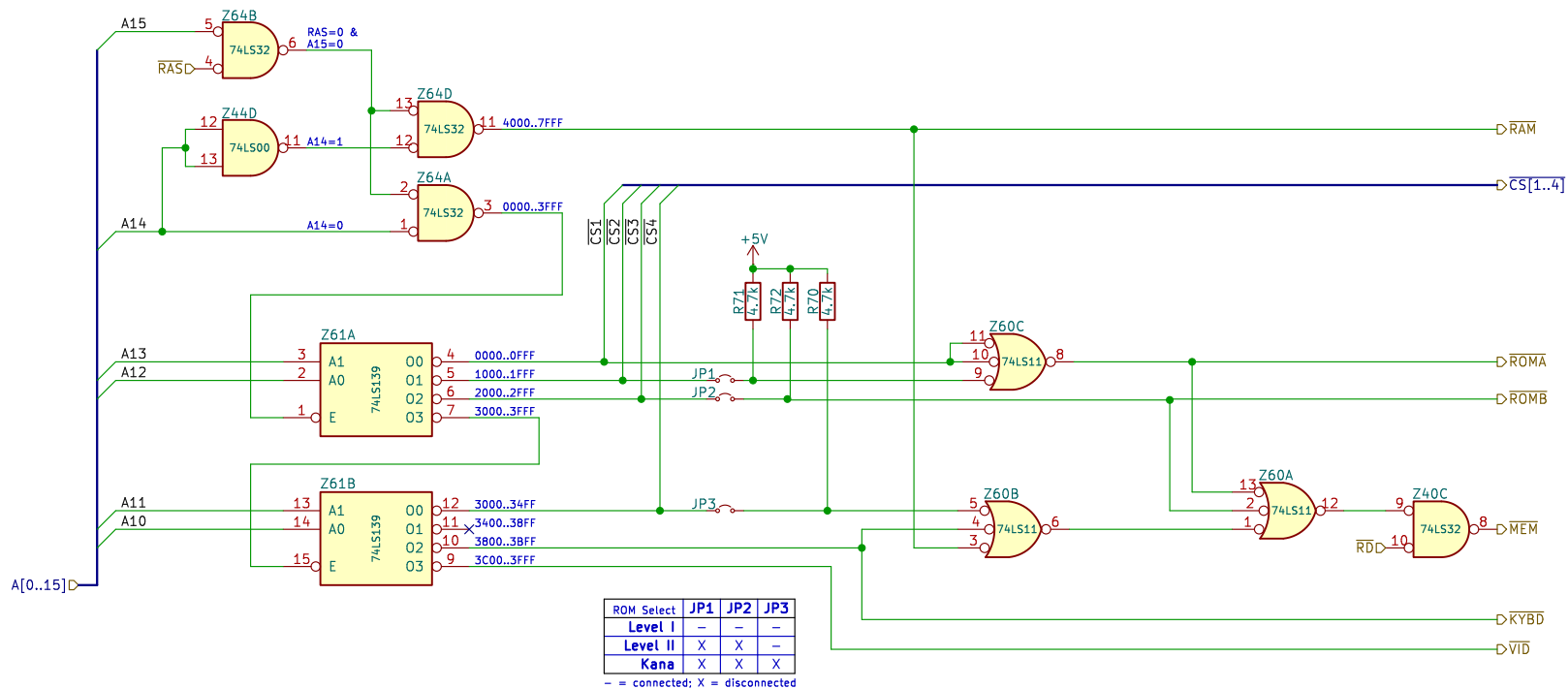
Japanese HE11E011520 E1







CPU & Signals	
CPU with reset circuits (button and power-up), RAS & CAS divider, and other signals	
RetroStack – Marcel Erz	
Sheet: /CPU/	
File: CPU.kicad_sch	
Title: TRS-80 Model I Rev HE11E011520	
Size: USLetter	Date: 2025-06-14
KiCad E.D.A. 9.0.2	Rev: E1A
	Id: 3/23



Address Decoder

Address decoder circuit for main board components (except IO)

RetroStack – Marcel Erz

Sheet: /Address Decoder/

File: AddressDecoder.kicad_sch

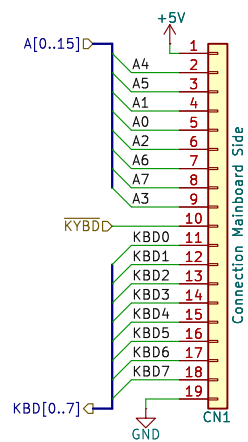
Title: TRS-80 Model I Rev HE11E011520

Size: USLetter Date: 2025-06-14

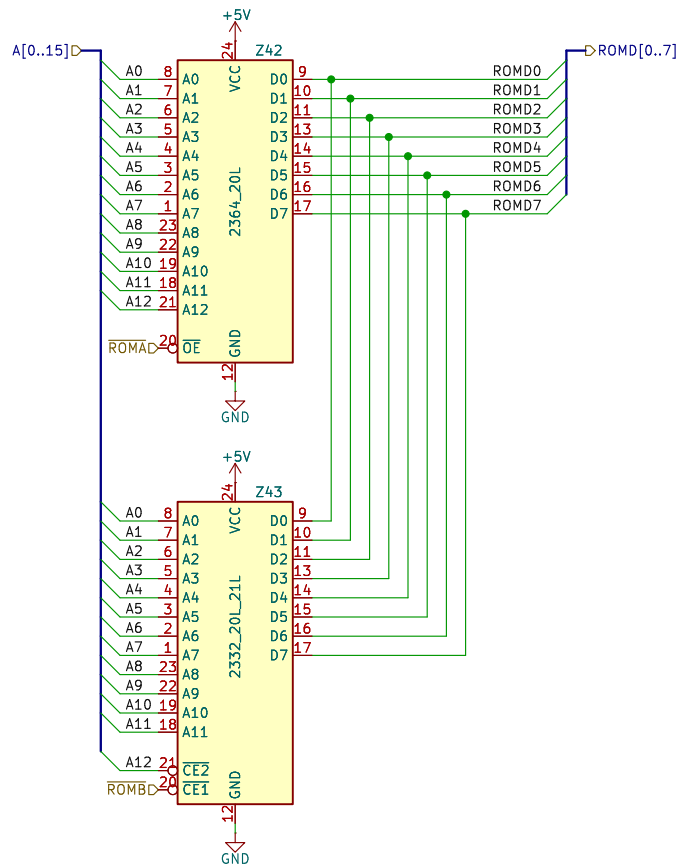
KiCad E.D.A. 9.0.2

Rev: E1A

Id: 5/23



Keyboard & Interface		
Keyboard interface		
RetroStack – Marcel Erz		
Sheet: /Keyboard/		
File: Keyboard.kicad_sch		
Title: TRS-80 Model I Rev HE11E011520		
Size: USLetter	Date: 2025-06-14	Rev: E1A
KiCad E.D.A. 9.0.2		Id: 6/23



- 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

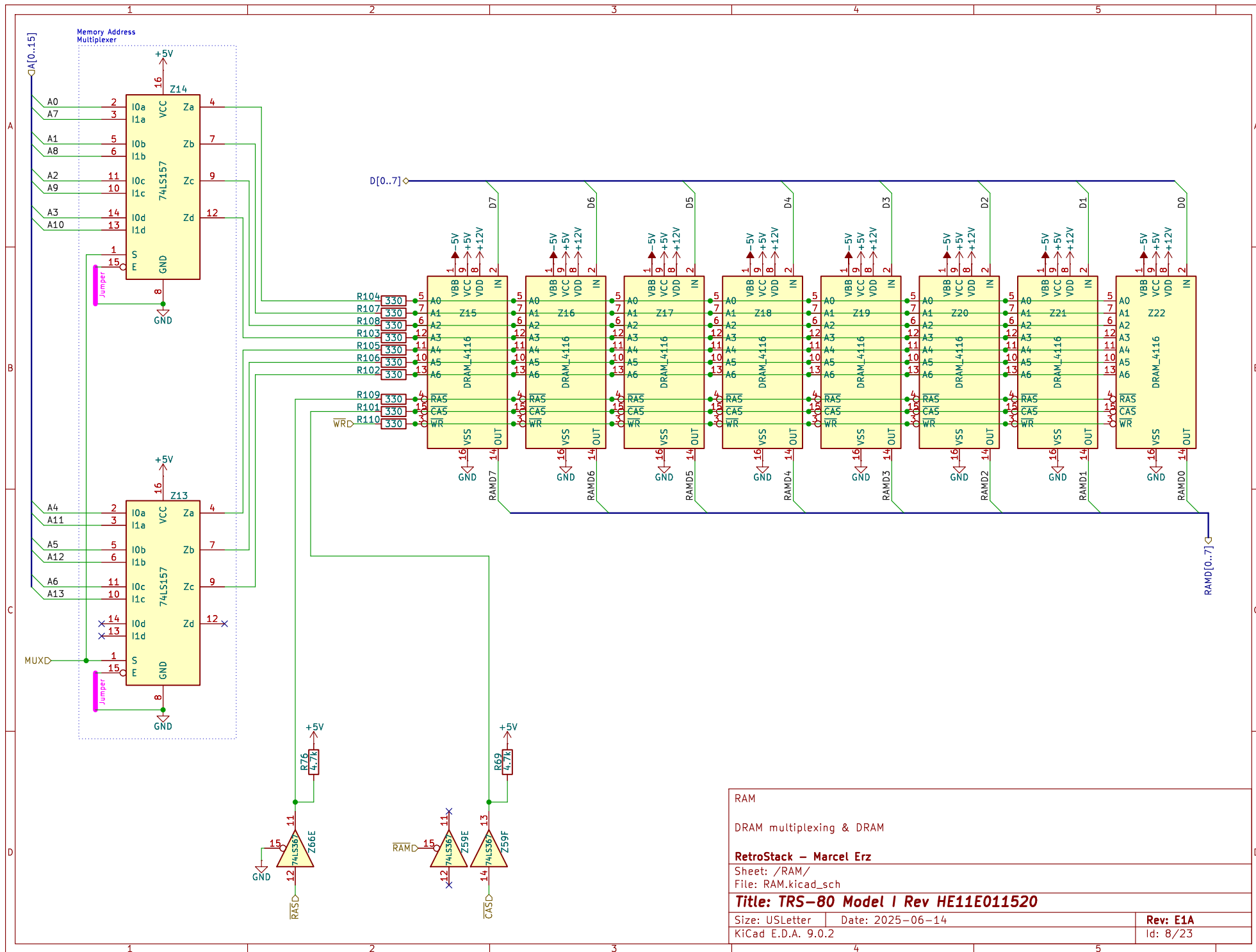
Title: TRS-80 Model I Rev HE11E011520

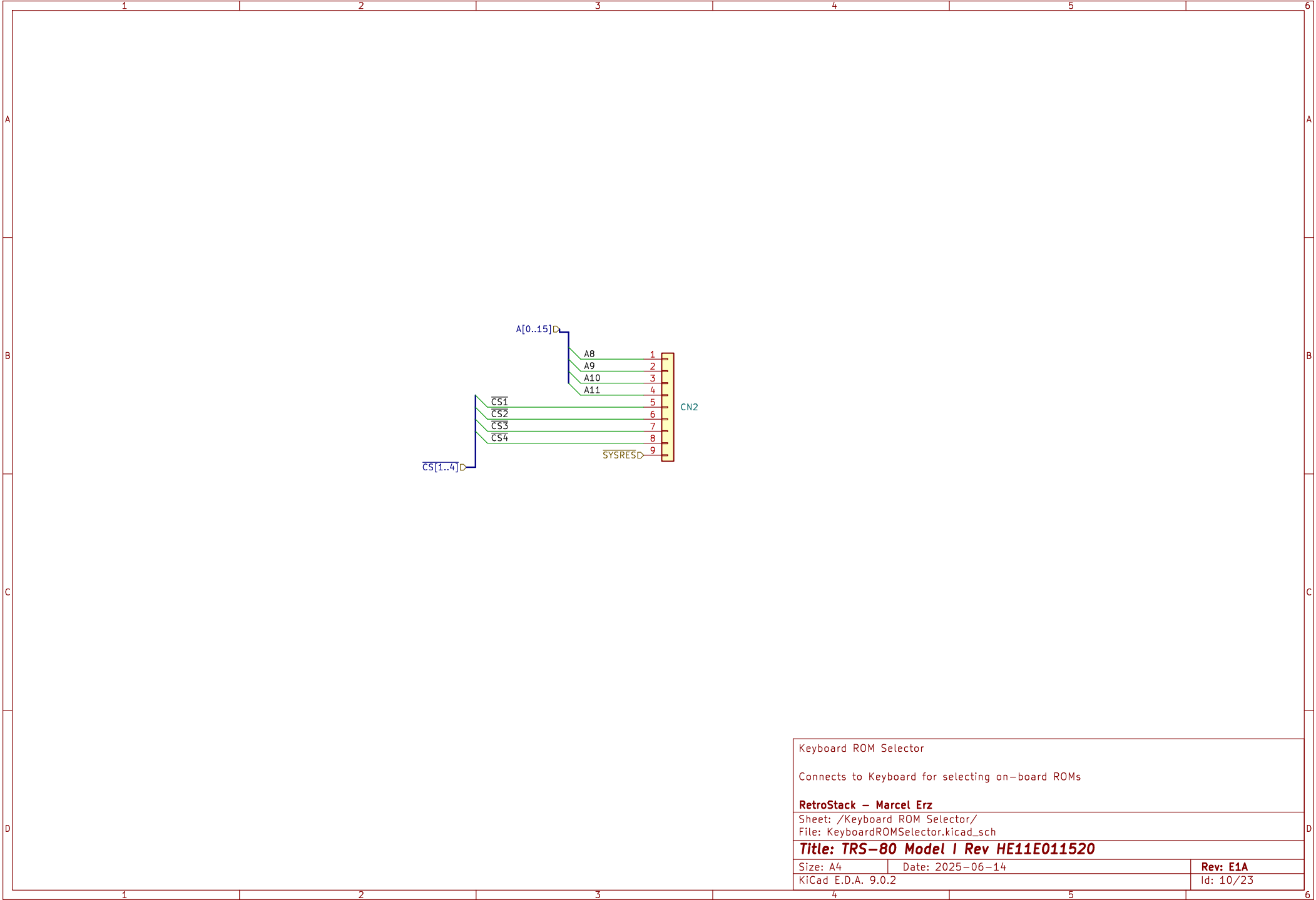
Size: USLetter Date: 2025-06-14

KiCad E.D.A. 9.0.2

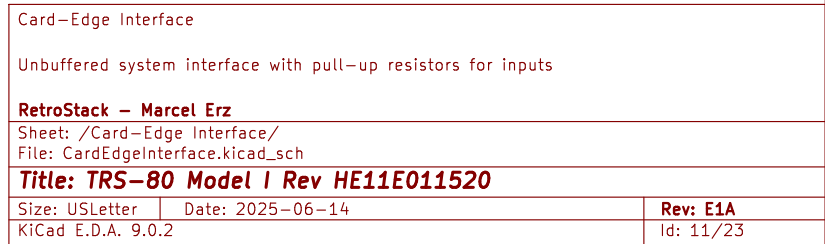
Rev: E1A

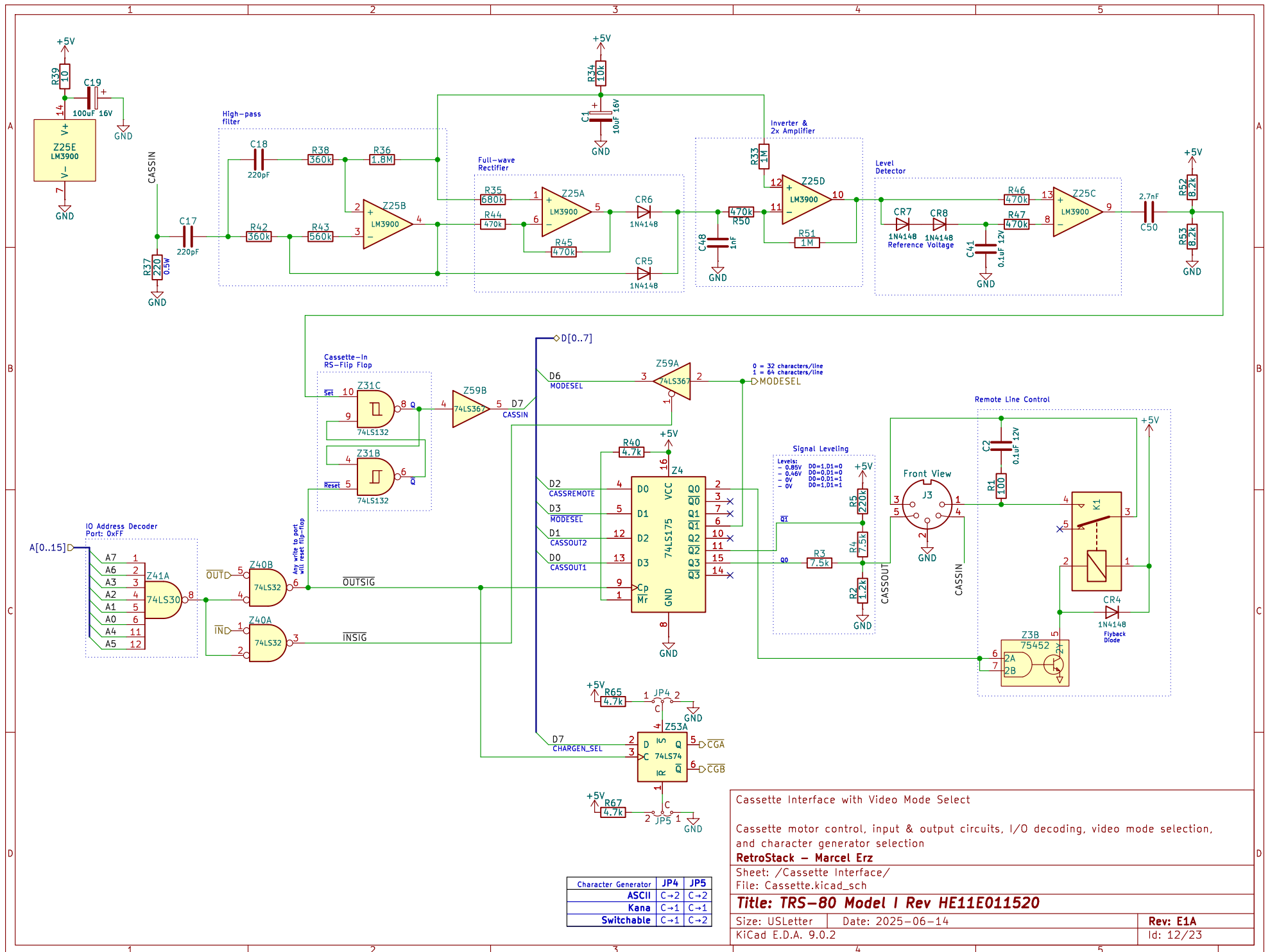
Id: 7/23

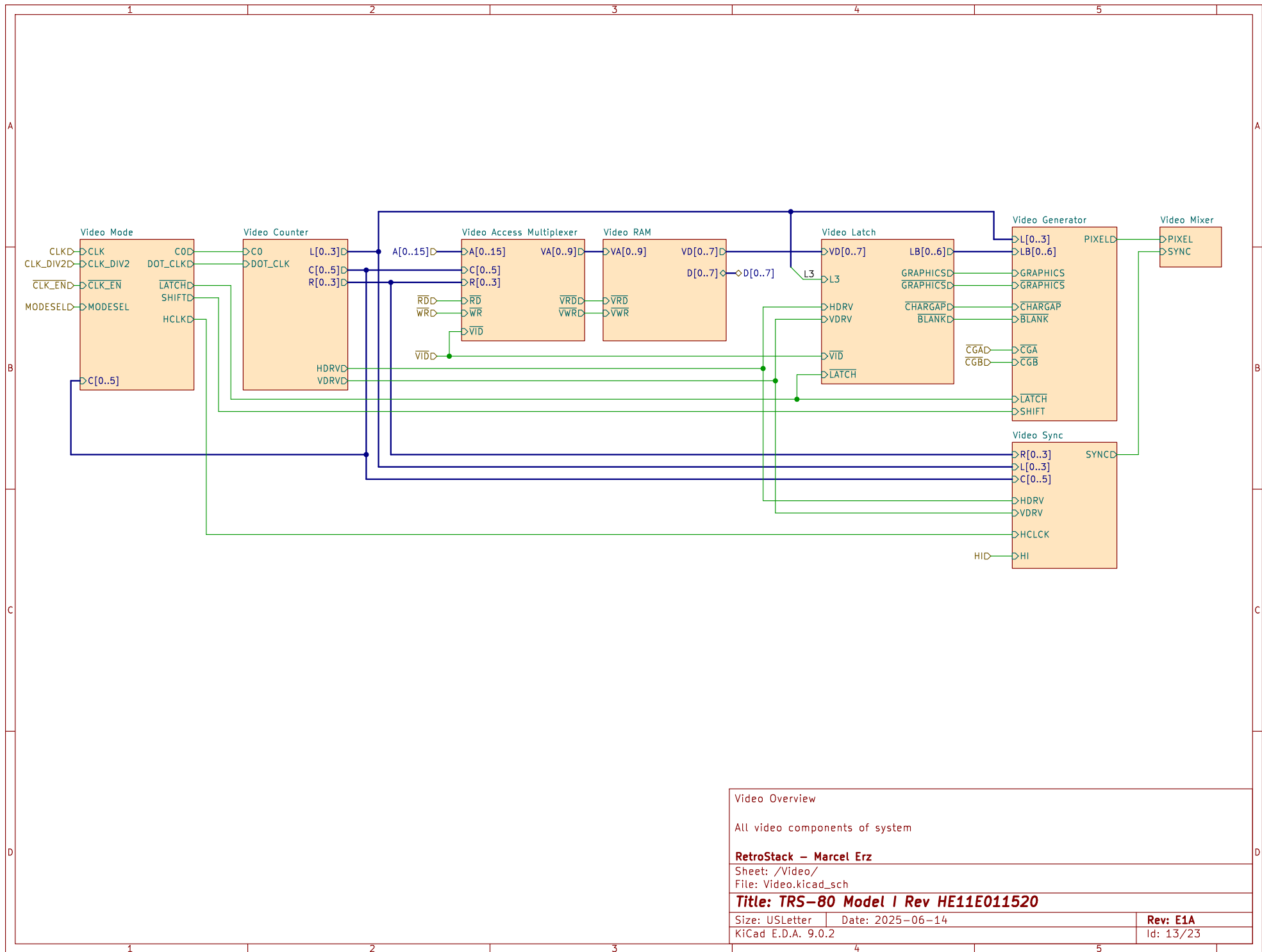




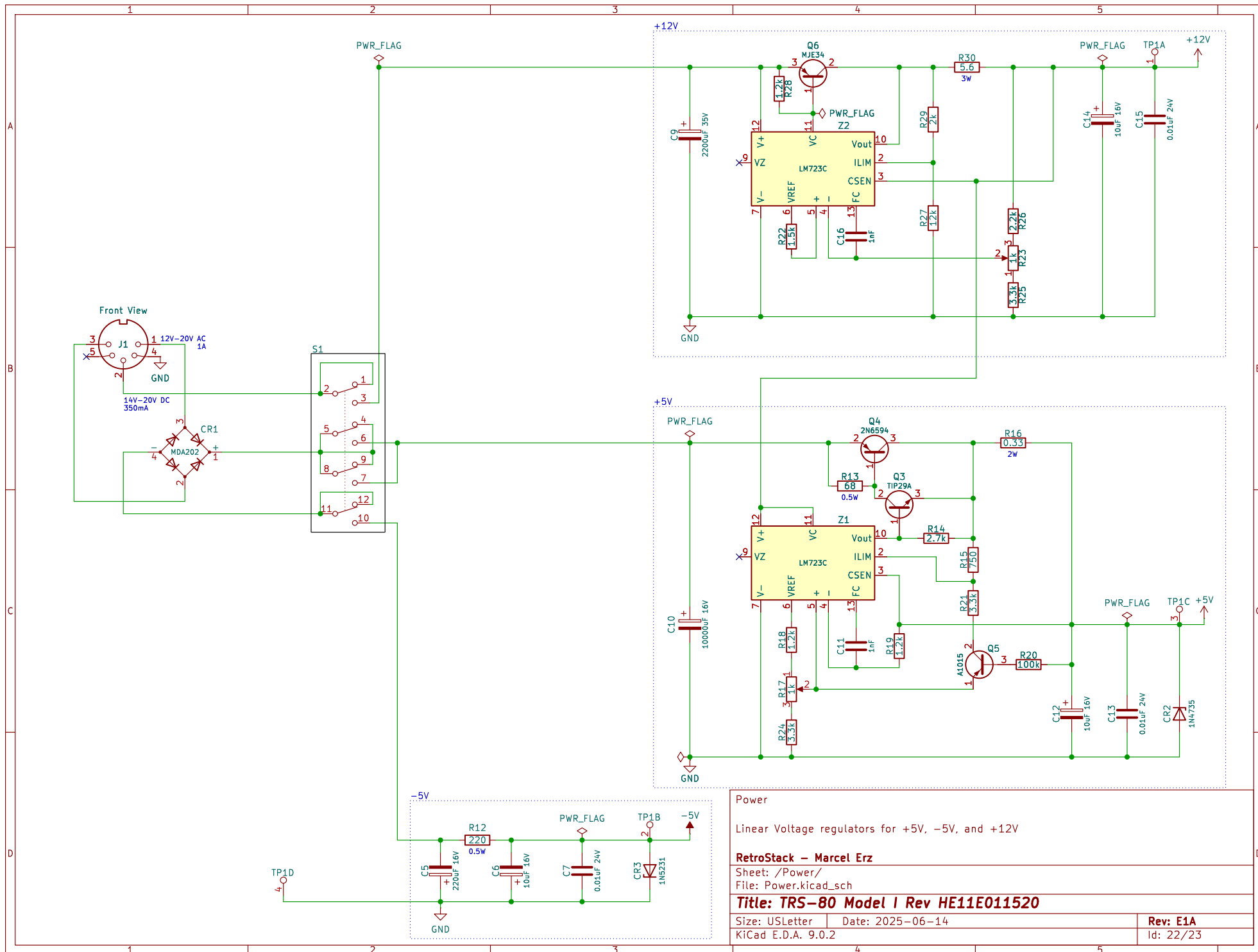
Keyboard ROM Selector		
Connects to Keyboard for selecting on-board ROMs		
RetroStack – Marcel Erz		
Sheet: /Keyboard ROM Selector/ File: KeyboardROMSelector.kicad_sch		
Title: TRS-80 Model I Rev HE11E011520		
Size: A4	Date: 2025-06-14	Rev: E1A
KiCad E.D.A. 9.0.2	Id: 10/23	







Video Overview			
All video components of system			
RetroStack – Marcel Erz			
Sheet: /Video/			
File: Video.kicad_sch			
Title: TRS-80 Model I Rev HE11E011520			
Size: USLetter	Date: 2025-06-14		Rev: E1A
KiCad E.D.A. 9.0.2			Id: 13/23



Power

Linear Voltage regulators for +5V, -5V, and +12V

RetroStack – Marcel Erz

Sheet: /Power/

File: Power.kicad_sch

Title: TRS-80 Model I Rev HE11E011520

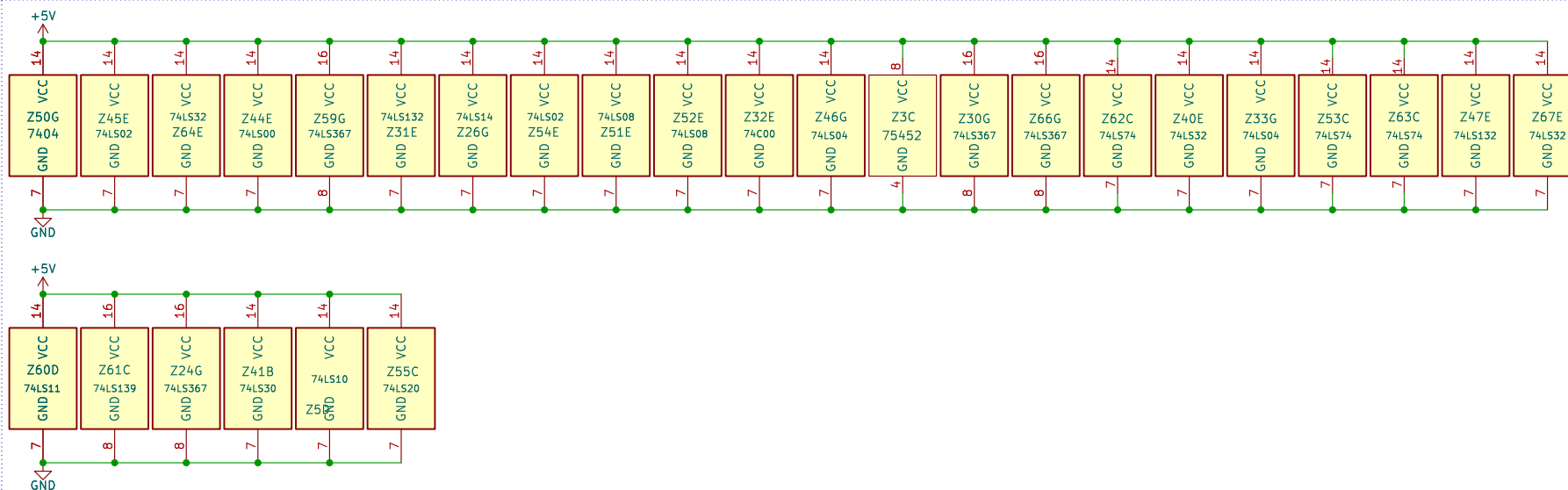
Size: USLetter Date: 2025-06-14

KiCad E.D.A. 9.0.2

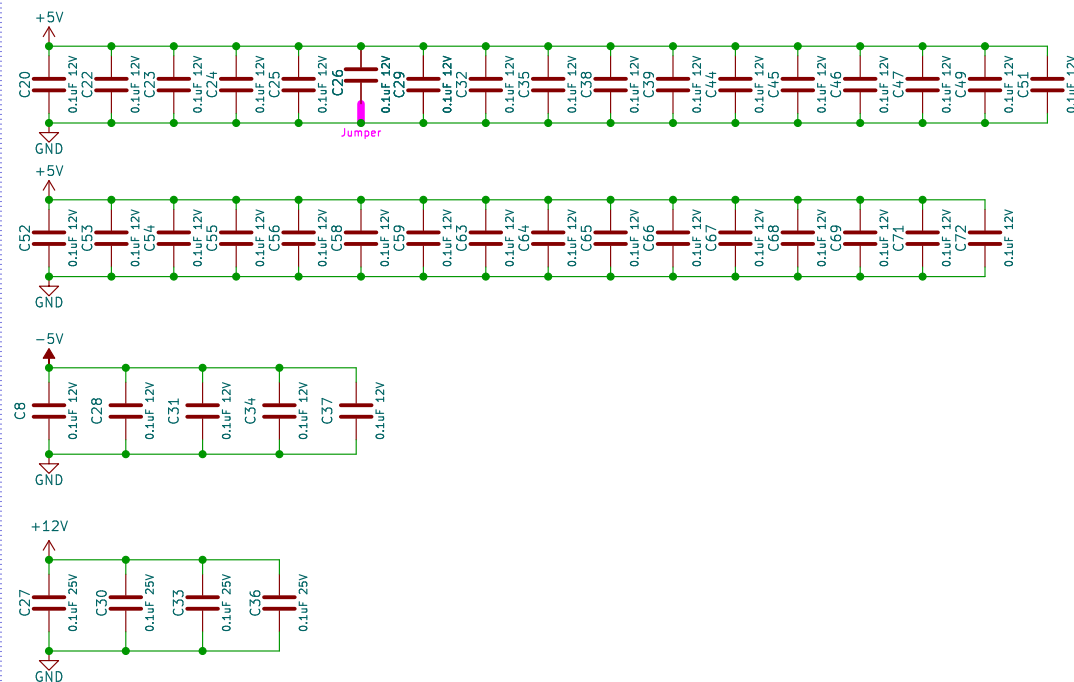
Rev: E1A

Id: 22/23

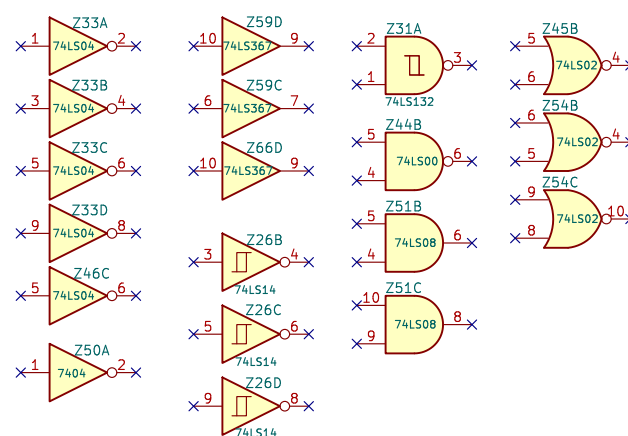
Power Units



Power Rail Capacitors



Unused Units



Capacitors & Others

Power Units, Capacitors, and unused units

RetroStack - Marcel Erz

Sheet: /Capacitors/

File: Capacitors.kicad_sch

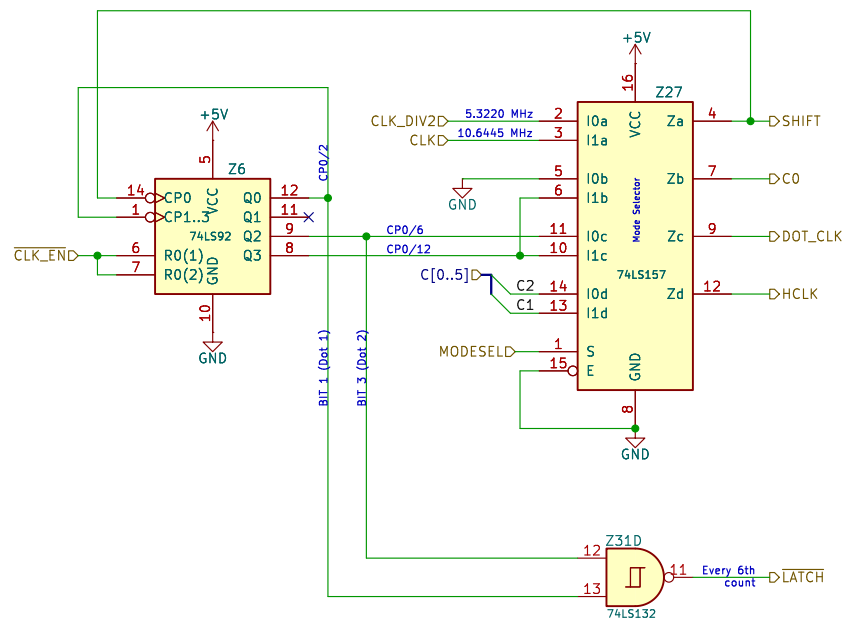
Title: TRS-80 Model I Rev HE11E011520

Size: USLetter Date: 2025-06-14

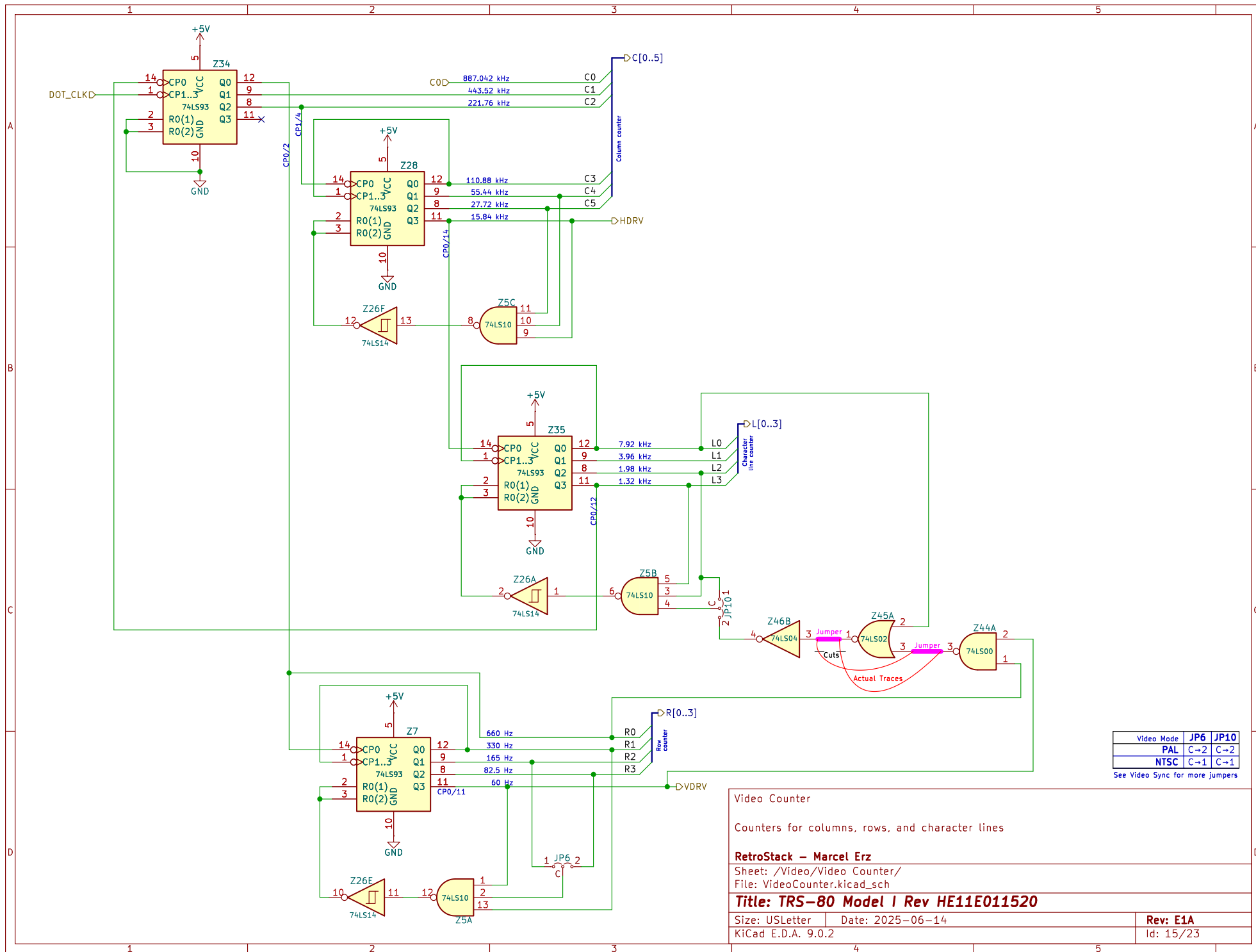
KiCad E.D.A. 9.0.2

Rev: E1A

Id: 23/23



Video Mode		
Defines dot-rate per video mode		
RetroStack – Marcel Erz		
Sheet: /Video/Video Mode/ File: VideoMode.kicad_sch		
Title: TRS-80 Model I Rev HE11E011520		
Size: A4	Date: 2025-06-14	Rev: E1A
KiCad E.D.A. 9.0.2	Id: 14/23	



Video Mode	JP6	JP10
PAL	C→2	C→2
NTSC	C→1	C→1

See Video Sync for more jumpers

Video Counter

Counters for columns, rows, and character lines

RetroStack – Marcel Erz

Sheet: /Video/Video Counter/
File: VideoCounter.kicad_sch

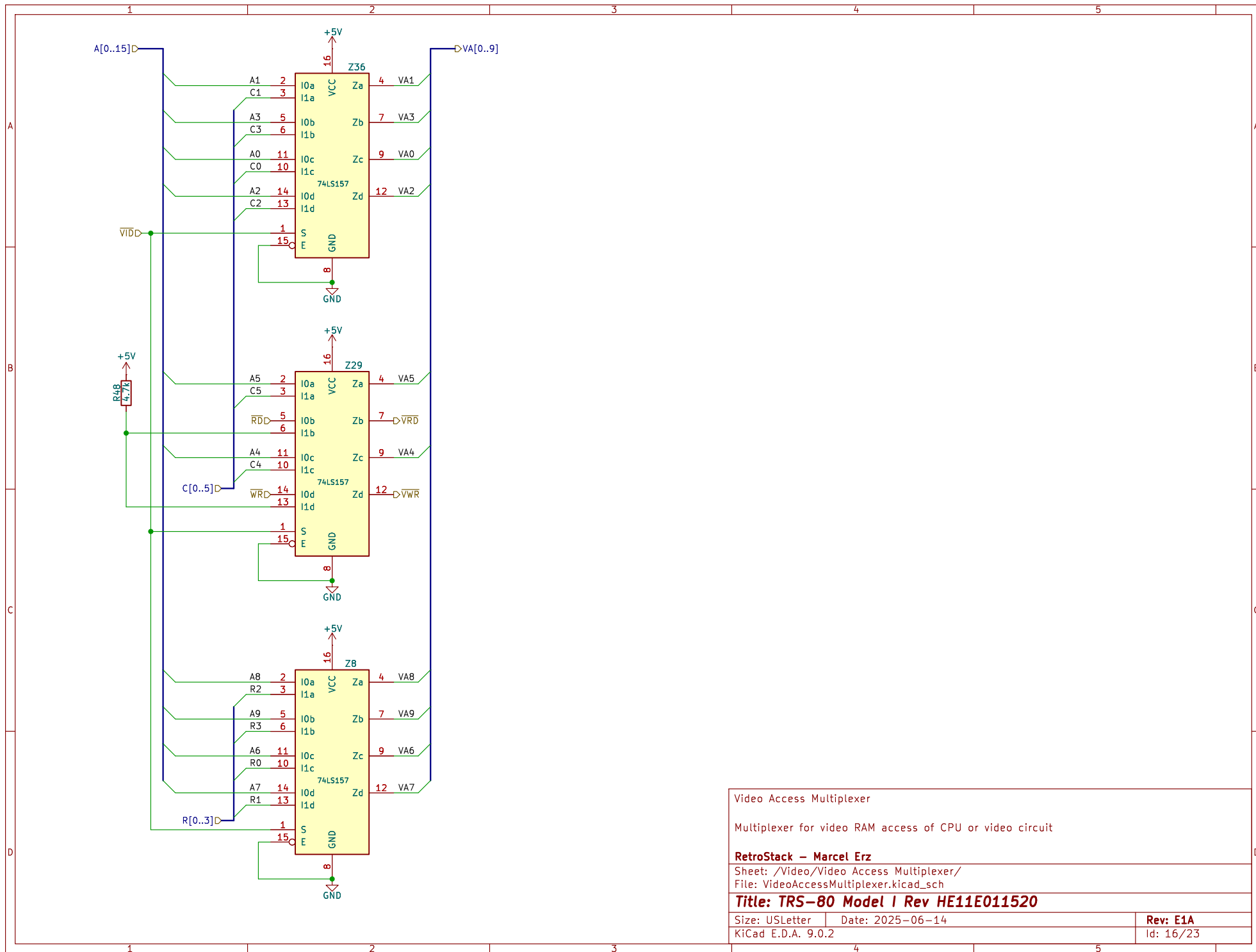
Title: TRS-80 Model I Rev HE11E011520

Size: USLetter Date: 2025-06-14

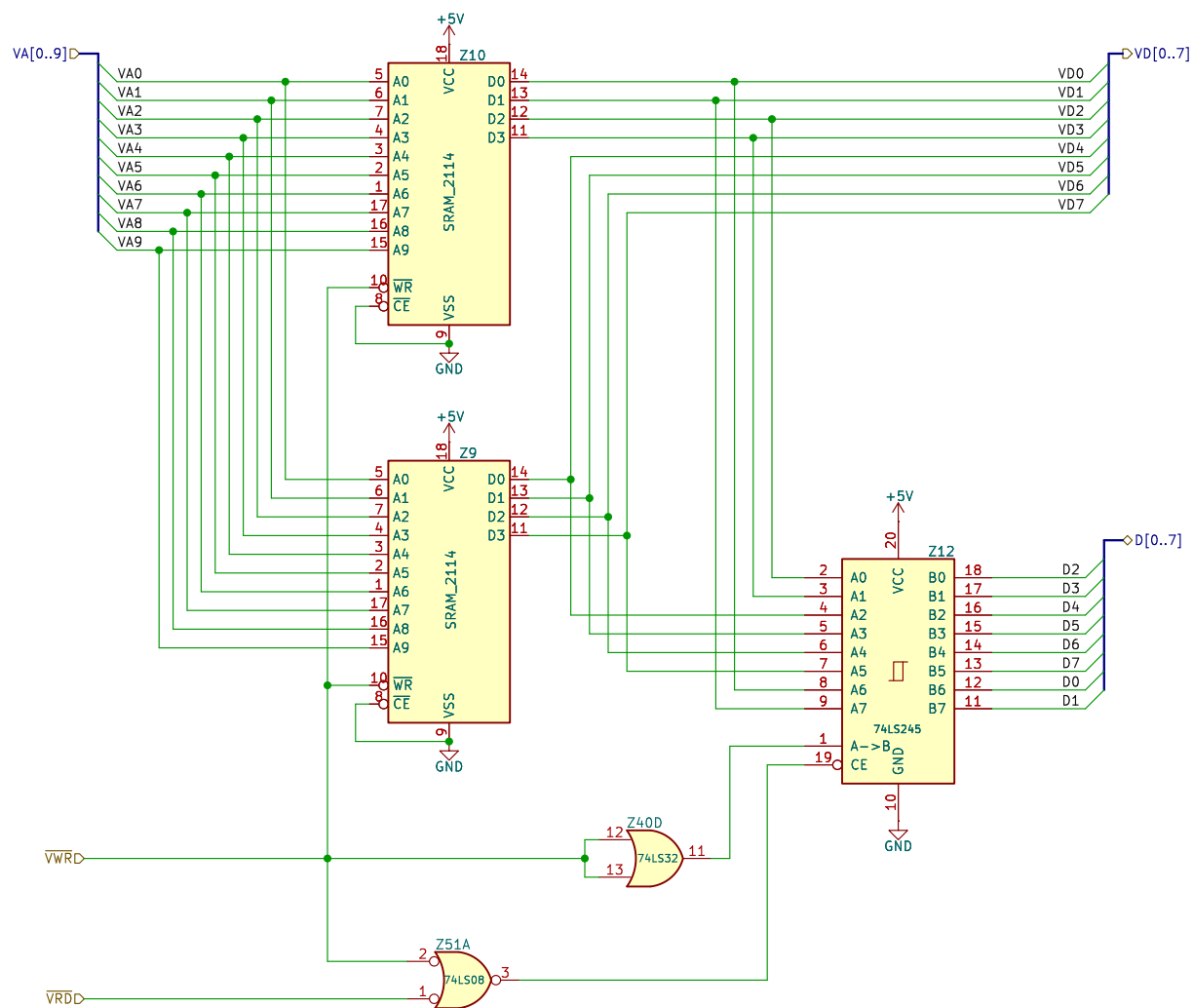
KiCad E.D.A. 9.0.2

Rev: E1A

Id: 15/23



Video Access Multiplexer		
Multiplexer for video RAM access of CPU or video circuit		
RetroStack – Marcel Erz		
Sheet: /Video/Video Access Multiplexer/ File: VideoAccessMultiplexer.kicad_sch		
Title: TRS-80 Model I Rev HE11E011520		
Size: USLetter	Date: 2025-06-14	Rev: E1A
KiCad E.D.A. 9.0.2		Id: 16/23



Video RAM & Gating

Video RAM circuit with data-bus gating

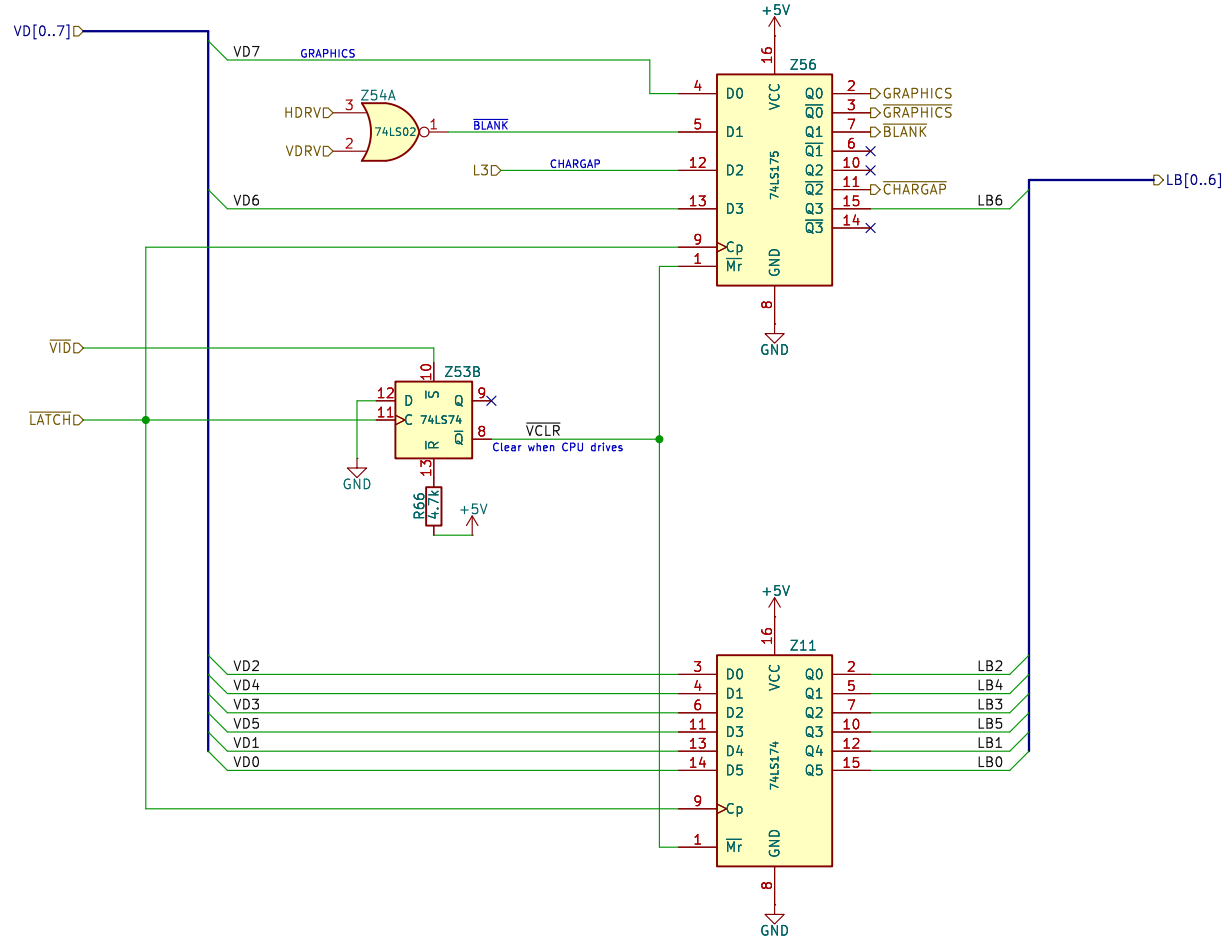
RetroStack – Marcel Erz

Sheet: /Video/Video RAM/
File: VideoRAM.kicad_sch

Title: TRS-80 Model I Rev HE11E011520

Size: USLetter Date: 2025-06-14
KiCad E.D.A. 9.0.2

Rev: E1A
Id: 17/23



Video Latch

Circuit to latch video content addressed in video RAM

RetroStack – Marcel Erz

Sheet: /Video/Video Latch/

File: Video Latch.kicad_sch

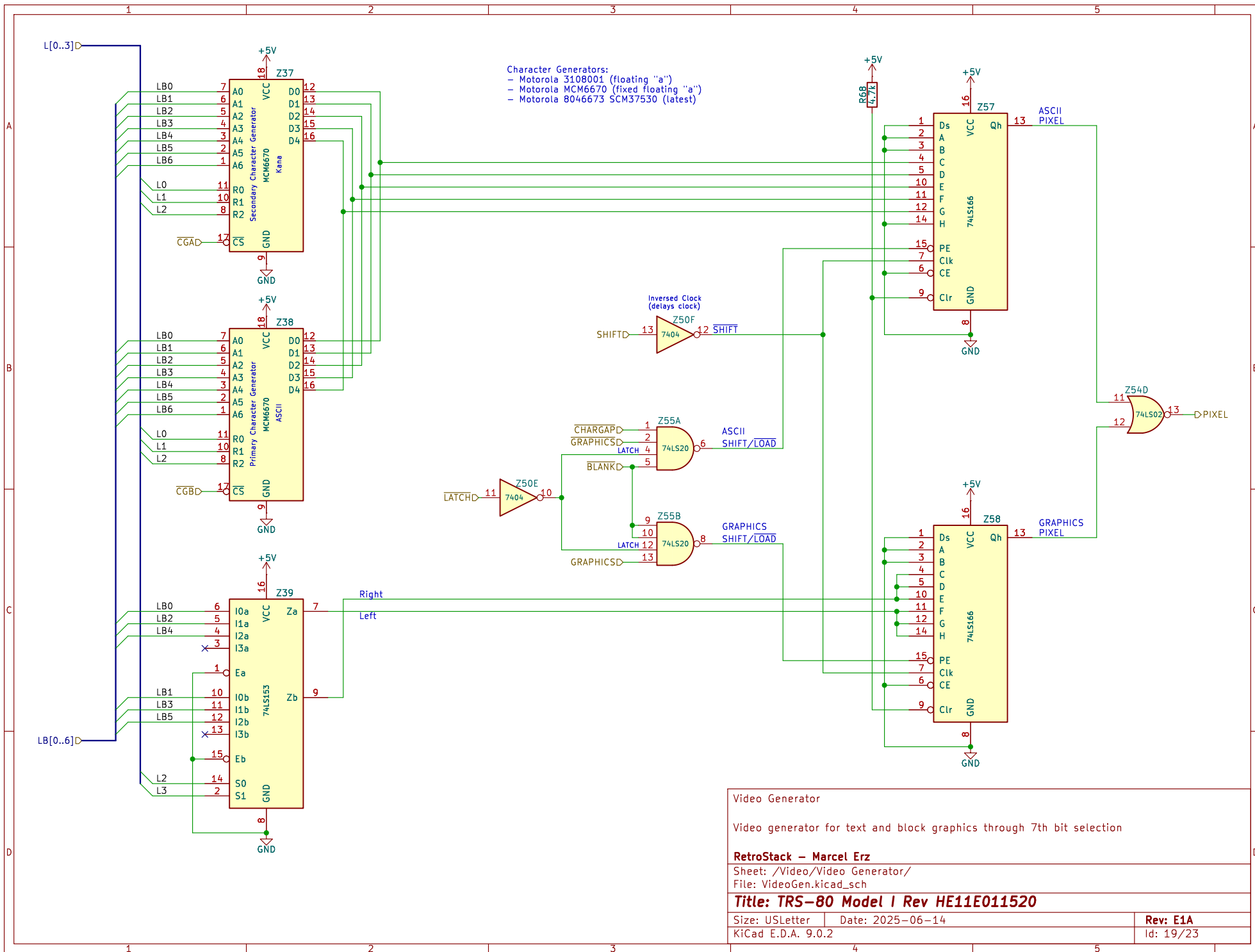
Title: TRS-80 Model I Rev HE11E011520

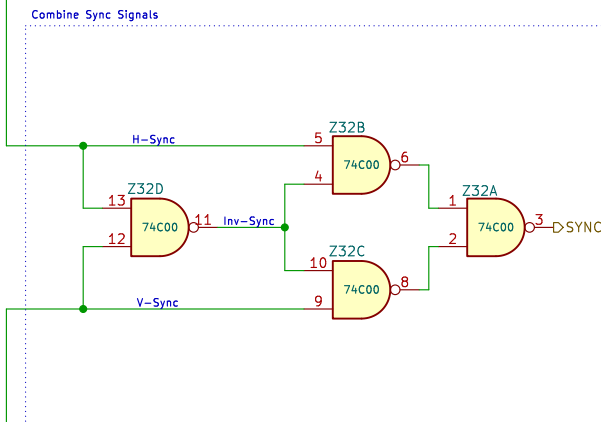
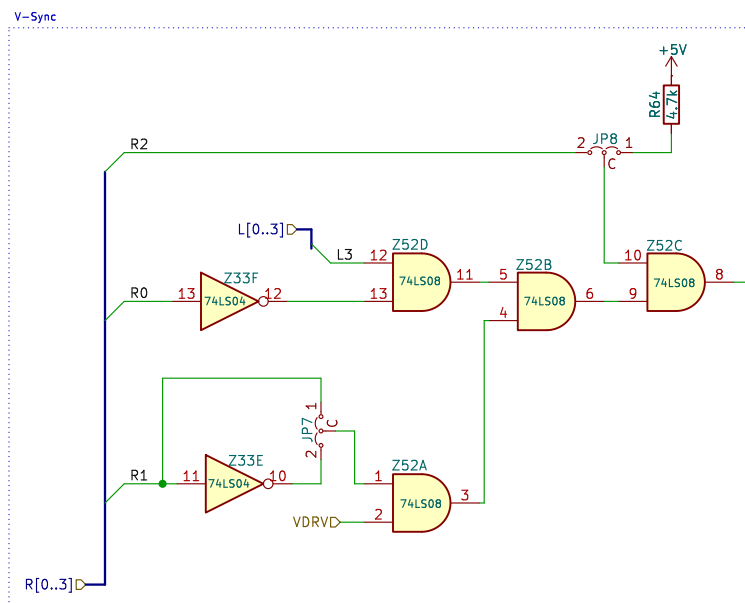
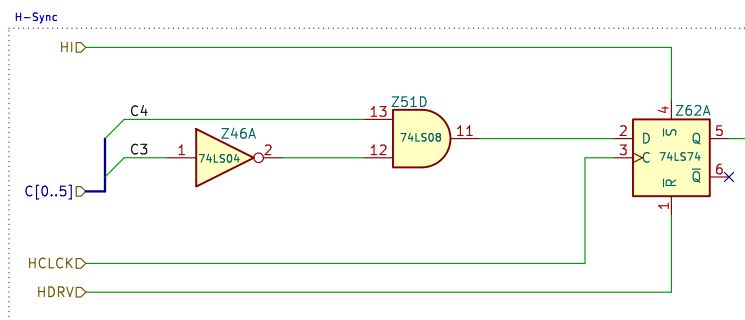
Size: USLetter Date: 2025-06-14

KiCad E.D.A. 9.0.2

Rev: E1A

Id: 18/23





Video Mode	JP7	JP8
PAL	C→2	C→2
NTSC	C→1	C→1

See Video Counter for more jumpers

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

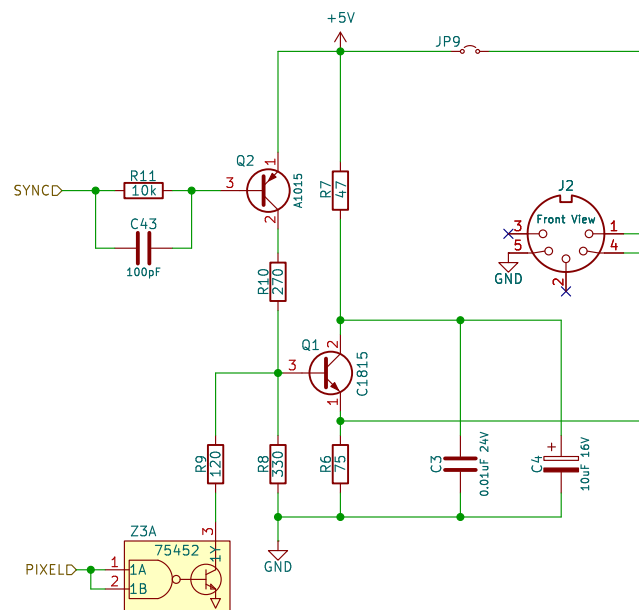
Title: TRS-80 Model I Rev HE11E011520

Size: USLetter Date: 2025-06-14

KiCad E.D.A. 9.0.2

Rev: E1A

Id: 20/23



Q2 open, Z3 any => 0V (sync level)
 Q2 closed, Z3 closed => 1.23V (black level) – R10 with series resistors R8 & R9
 Q2 closed, Z3 open => 2.75V (white level) – Only R8 & R10

Video Mixer	
Mixing circuit for sync and pixel data	
RetroStack – Marcel Erz	
Sheet: /Video/Video Mixer/ File: VideoMixer.kicad_sch	
Title: TRS-80 Model I Rev HE11E011520	
Size: USLetter	Date: 2025-06-14
KiCad E.D.A. 9.0.2	Rev: E1A Id: 21/23