Example 1

Very simple DCC decoder

File: D97ex1.kicad_sch

Example 2

Simple DCC decoder
/w CV reading on ProgTrack

File: D97ex2.kicad_sch

Example 3

DCC decoder
/w CV reading on ProgTrack
/w Railcom

File: D97ex3.kicad_sch

Example 4

Simplistic DCC decoder
/w CV reading on ProgTrack
/w WS28xx neo pixel

File: D97ex4.kicad_sch

CPU

File: D97cpu.kicad_sch

External Ports

File: D97prt.kicad_sch

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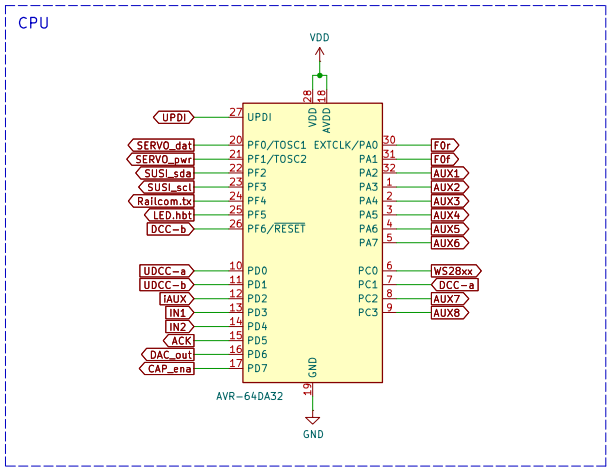
D97.0
'naked' DCC decoder project
Frank Schumacher

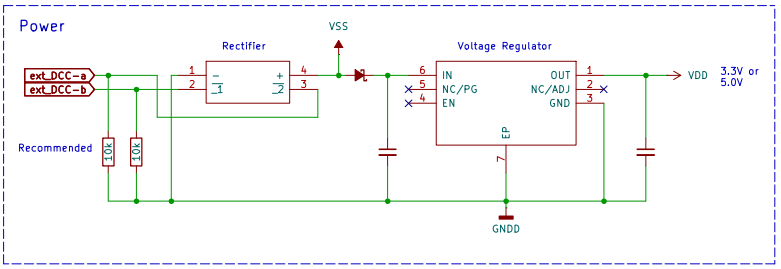
Sheet: /
File: D97.kicad_sch

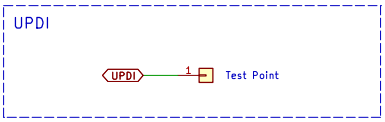
Title: RTB D97 FN Decoder Toolkit

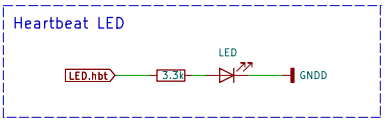
Size: A4	Date: 2025-11-22	**Rev: 0**
KiCad E.D.A. 9.0.5		Id: 1/7

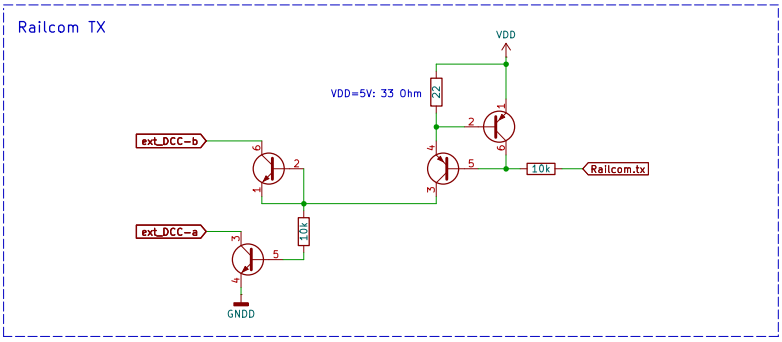
CPU

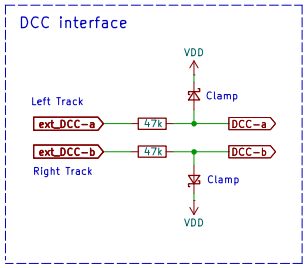


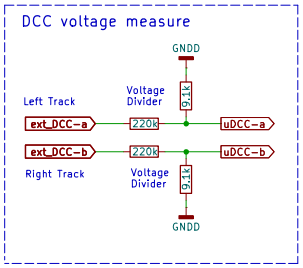


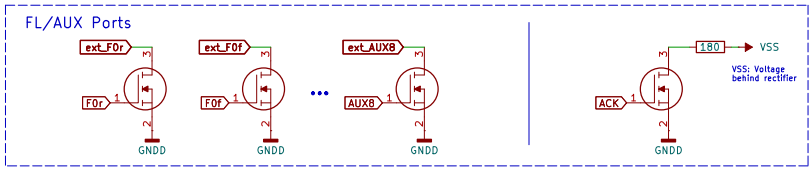












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D97.0
'naked' DCC decoder project

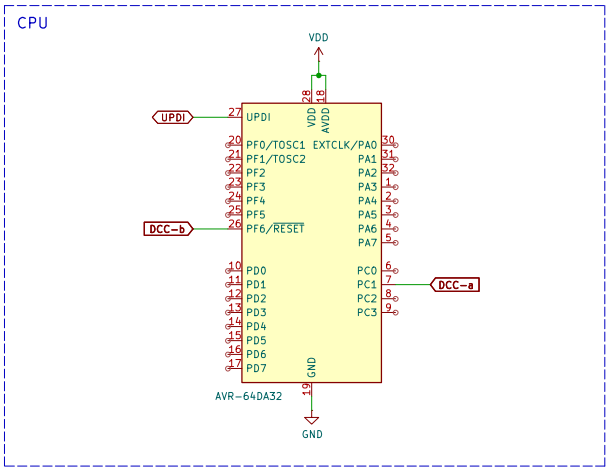
Frank Schumacher

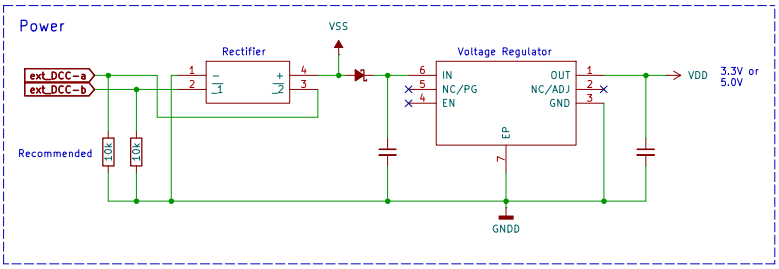
Sheet: /CPU/
File: D97cpu.kicad_sch

Title: RTB D97 FN Decoder Toolkit

Size: A4	Date: 2025-11-22	**Rev: 0**
KiCad E.D.A. 9.0.5		Id: 2/7

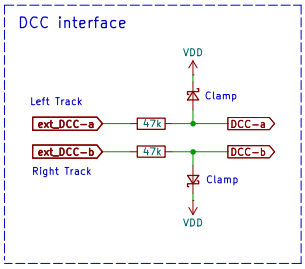
CPU





Example 1

– can only write CVs (no reading)



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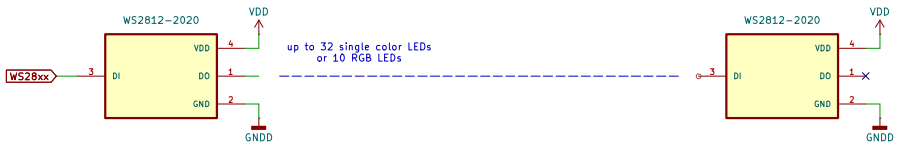
Example 1: Very simple DCC decoder
D97.0
'naked' DCC decoder project
Frank Schumacher
Sheet: /Example 1/
File: D97ex1.kicad_sch
Title: RTB D97 FN Decoder Toolkit

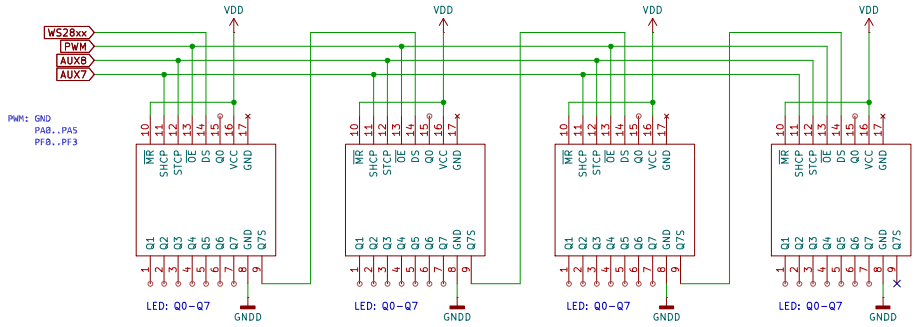
Size: A4	Date: 2025–11–22	**Rev: 0**
KiCad E.D.A. 9.0.5		Id: 3/7

External Ports

WS: Neo Pixel



SR: HC595



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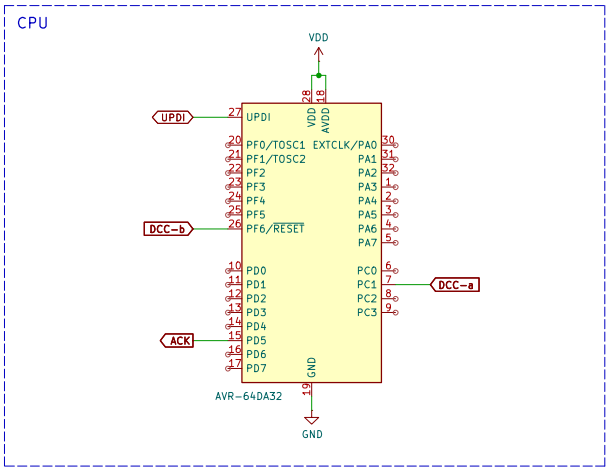
D97.0
'naked' DCC decoder project
Frank Schumacher

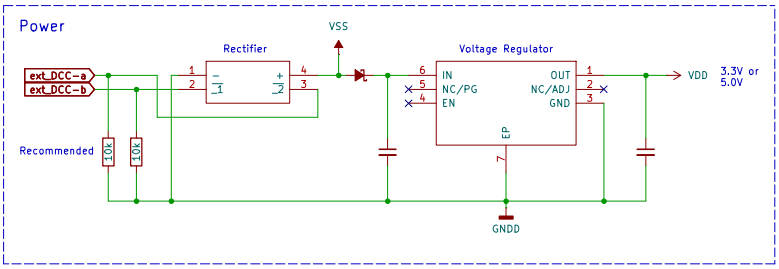
Sheet: /External Ports/
File: D97prt.kicad_sch

Title: RTB D97 FN Decoder Toolkit

Size: A4	Date: 2025-11-22	**Rev: 0**
KiCad E.D.A. 9.0.5		Id: 4/7

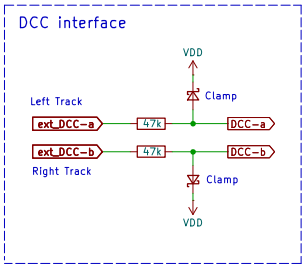
CPU

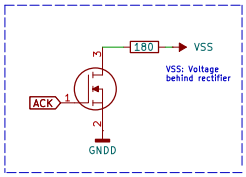




Example 2

– can read/write CVs on Programming Track





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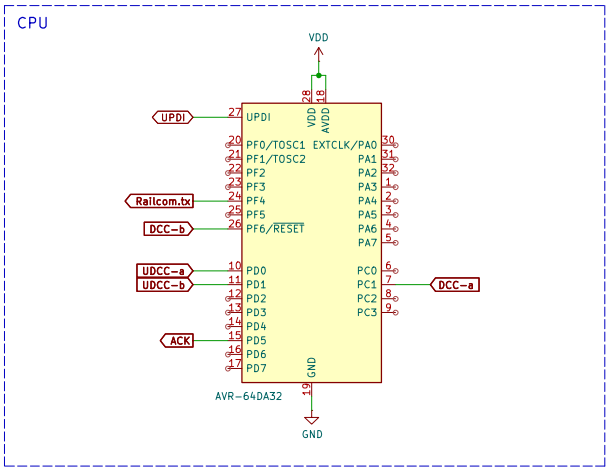
Example 2: Simple DCC decoder /w CV read
D97.0
'naked' DCC decoder project
Frank Schumacher

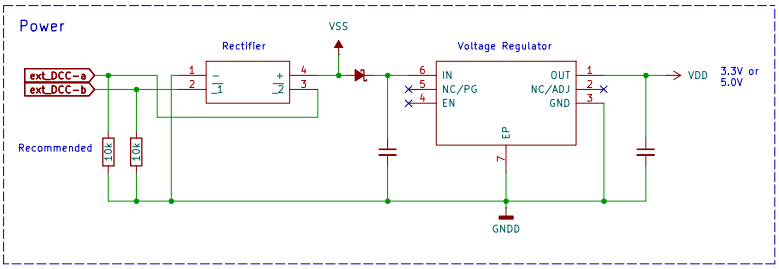
Sheet: /Example 2/
File: D97ex2.kicad_sch

Title: RTB D97 FN Decoder Toolkit

Size: A4	Date: 2025-11-22	**Rev: 0**
KiCad E.D.A. 9.0.5		Id: 5/7

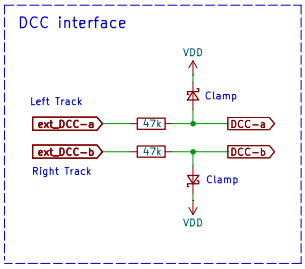
CPU

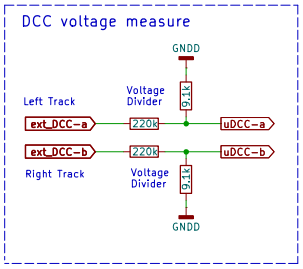


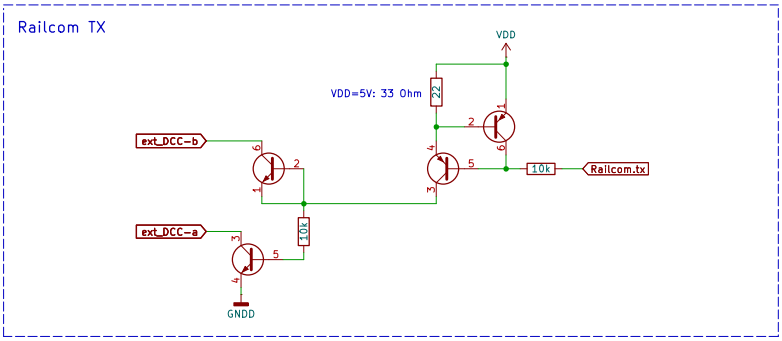


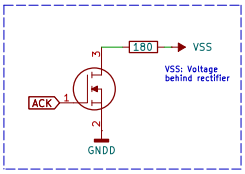
Example 3

- can read/write CVs on Programming Track
- Railcom (Pom, xPom, DCC-A, DCC-R, FW-update)









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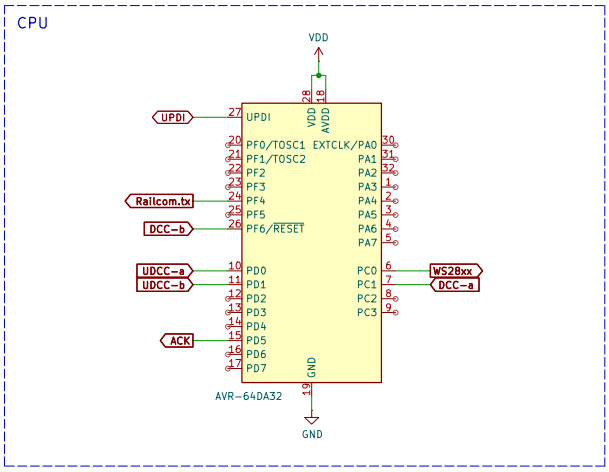
Example 3: DCC Decoder /w Railcom
D97.0
'naked' DCC decoder project
Frank Schumacher

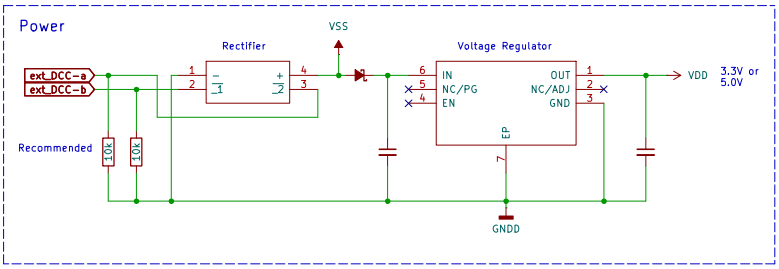
Sheet: /Example 3/
File: D97ex3.kicad_sch

Title: RTB D97 FN Decoder Toolkit

Size: A4	Date: 2025-11-22	**Rev: 0**
KiCad E.D.A. 9.0.5		Id: 6/7

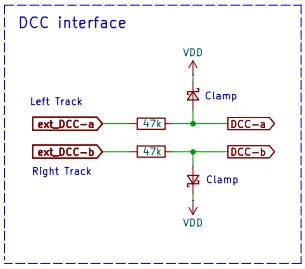
CPU

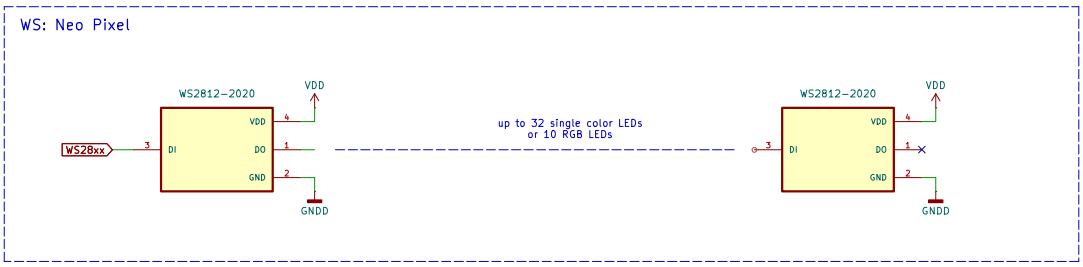


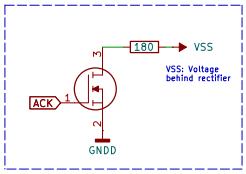


Example 4

- can read/write CVs on Programming Track
- driving WS28xx Neo Pixel LEDs







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Example 4: Simple DCC Decoder /w WS28xx NeoPixel
D97.0
'naked' DCC decoder project

Frank Schumacher

Sheet: /Example 4/
File: D97ex4.kicad_sch

Title: RTB D97 FN Decoder Toolkit

Size: A4	Date: 2025-11-22	**Rev: 0**
KiCad E.D.A. 9.0.5		Id: 7/7