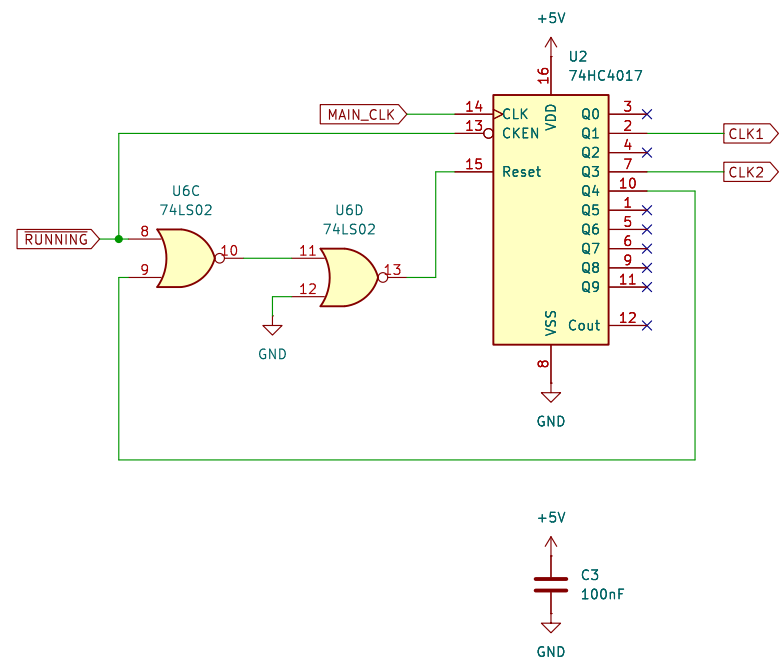
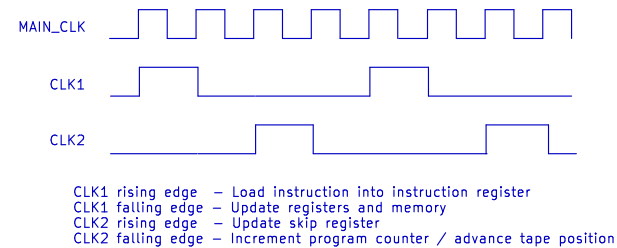
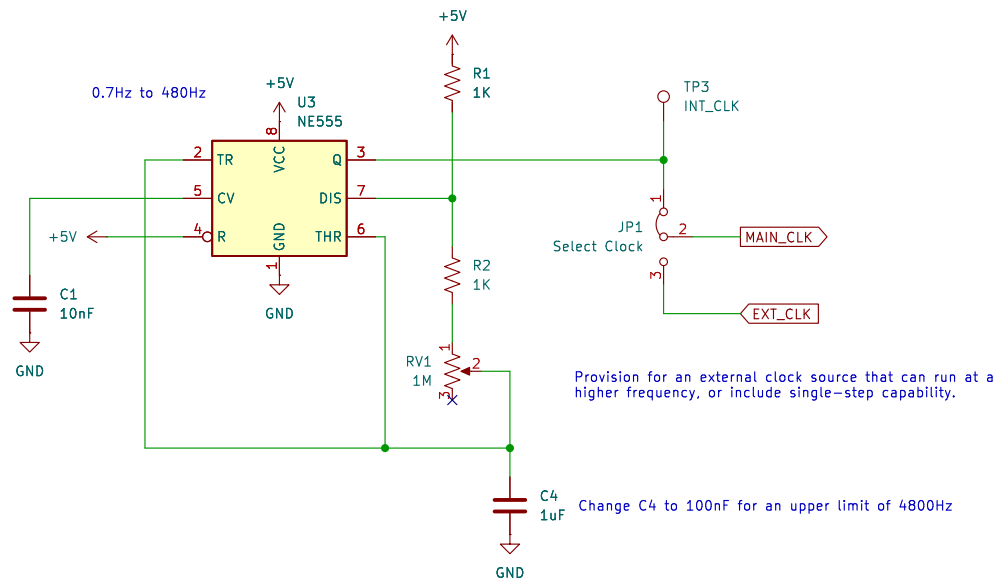


555-based clock generator inspired by Ben Eater's design:
<https://eater.net/8bit/schematics>



Clock

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Sheet: /Clock/
File: clock.kicad_sch

Title: UE1-TTL Clock and Front Panel

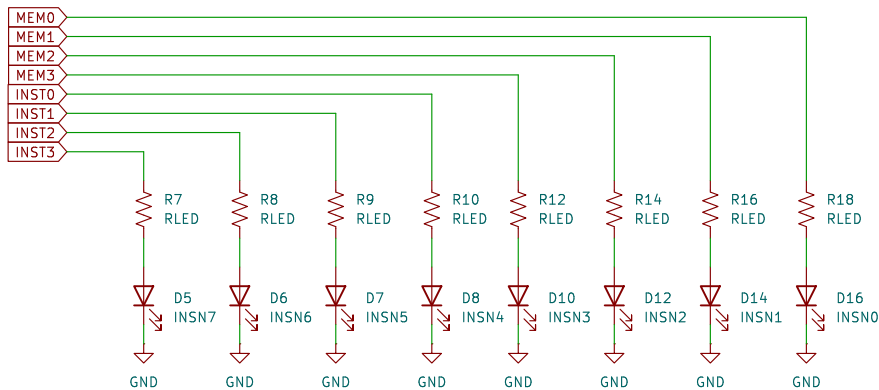
Size: A4	Date: 2025
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KiCad E.D.A. 8.0.9

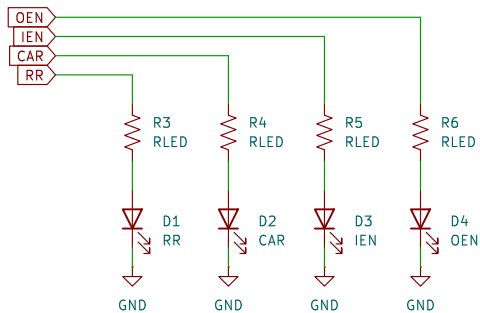
Rev: 2

Id: 2/5

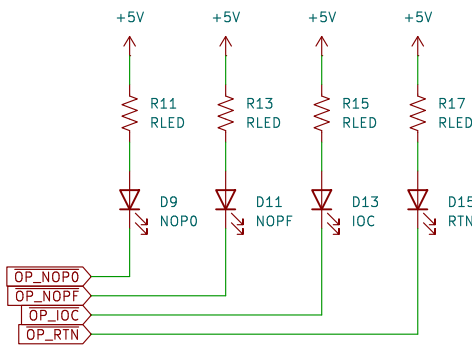
Current instruction being executed



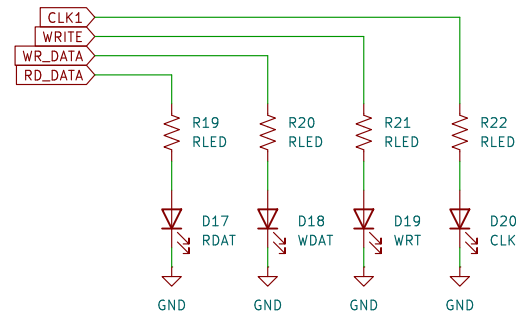
Registers



Special Instructions



Control Lines



Choose RLED values to match the properties of the LED's you are using.

$$RLED = (5 - VLED) / ILED$$

Examples:

VLED = 1.7V, ILED = 15mA, RLED = 220R
VLED = 1.9V, ILED = 2mA, RLED = 1550R (1K8 should be fine)
VLED = 1.9V, ILED = 10mA, RLED = 310R (330R should be fine)

Recommend 2mA LED's to reduce current draw on TTL outputs

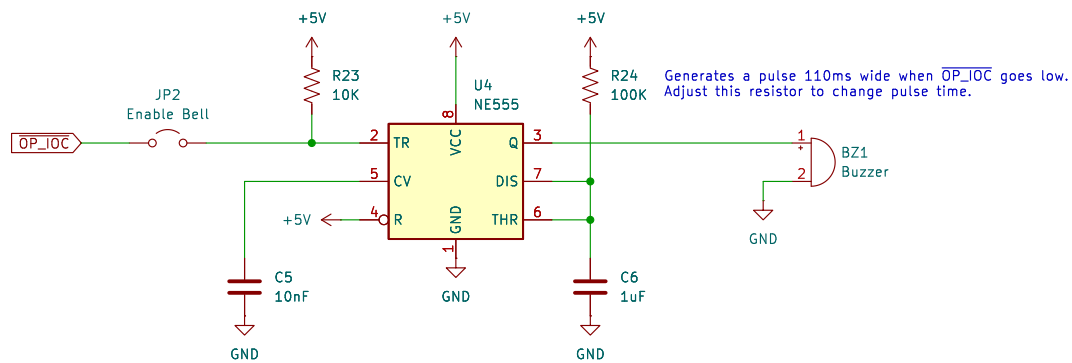
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Sheet: /Status/
File: status.kicad_sch

Title: UE1-TTL Clock and Front Panel

Size: A4 Date: 2025
KiCad E.D.A. 8.0.9

Rev: 2
Id: 3/5



Bell

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Sheet: /Bell/
File: bell.kicad_sch

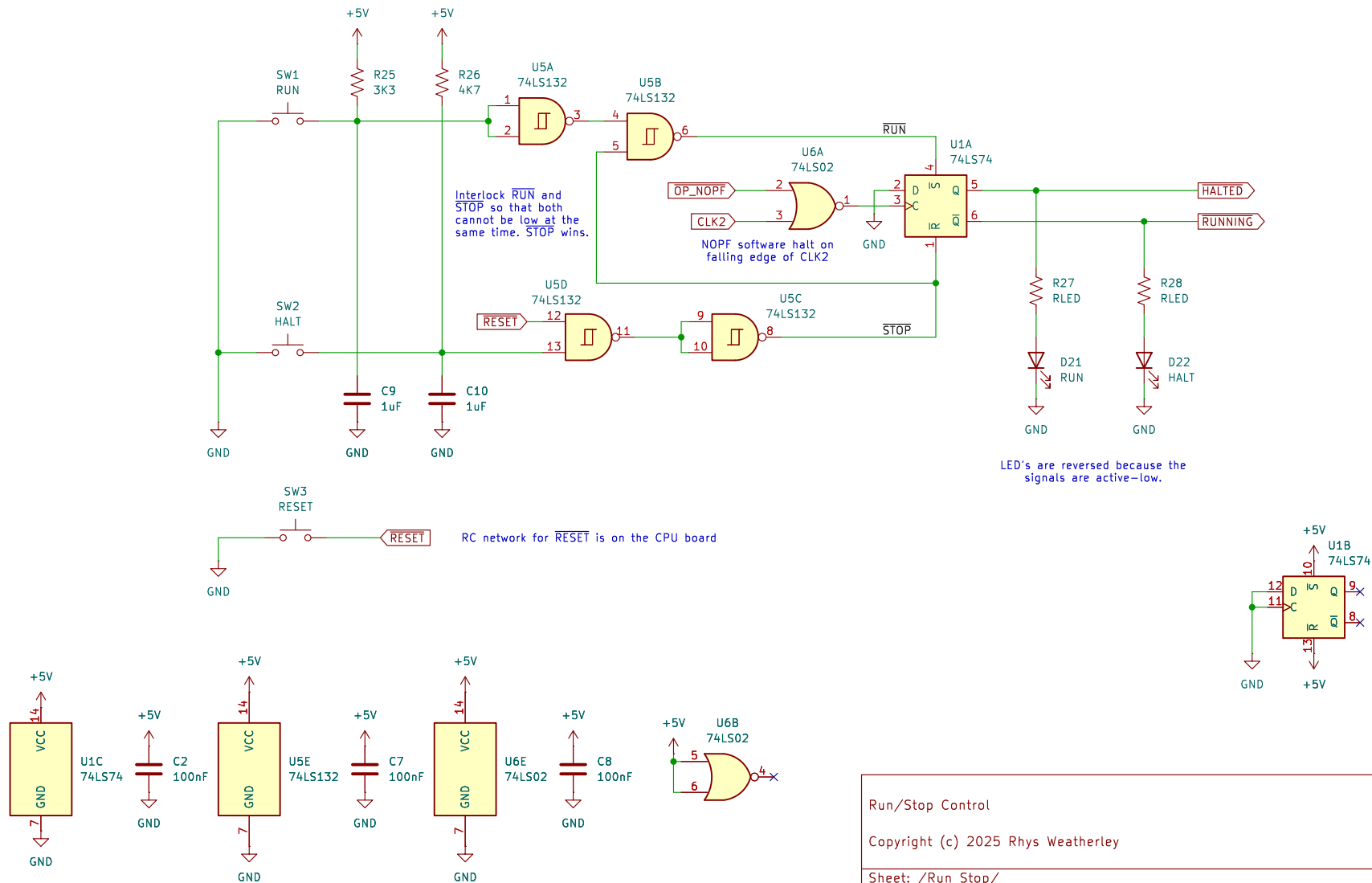
Title: UE1-TTL Clock and Front Panel

Size: A4 Date: 2025

KiCad E.D.A. 8.0.9

Rev: 2

Id: 4/5



Run/Stop Control

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Sheet: /Run Stop/
File: run_stop.kicad_sch

Title: UE1-TTL Clock and Front Panel

Size: A4 Date: 2025
KiCad E.D.A. 8.0.9

Rev: 2
Id: 5/5