

DISPLAY – ILI9488 3.95in 320x480

8-bit 8080 parallel interface (mandatory for SNES emulation speed)

Control signals:

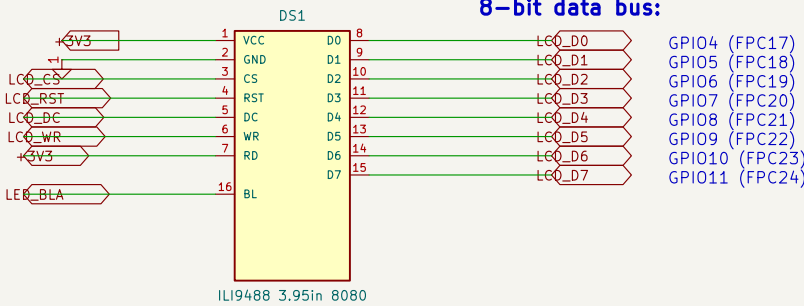
GPIO12 / FPC9
GPIO13 / FPC15
GPIO14 / FPC10
GPIO46 / FPC11
+3V3 (FPC12, R0)

BL via R27 (FPC33)



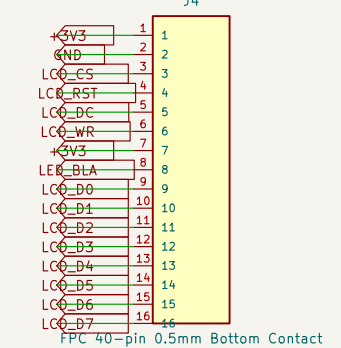
Backlight: $(5.0-3.2V)/20R = 90mA$
(family class 6-LED/90mA)

8-bit data bus:



FPC RIBBON CONNECTOR (J4)

(40P on PCB, 16 active signals shown)



ILI9488 Panel FPC-40P Pin Mapping (source: components.md):

Panel 6,7=VDDI/VDDA(+3V3) 9=CS 10=DC 11=WR 12=RD 15=RESET

Panel 17-24=DB0-DB7 33=LED-A(BL) 34-36=LED-K(GND) 38,39=IM0,IM1(+3V3) 40=IM2(GND)

Interface mode: IM2=0 IM1=1 IM0=1 = 8080 8-bit parallel

- GPIO4-11 form contiguous 8-bit bus for efficient register-level DMA
- WR strobes data on rising edge, RD tied HIGH (+3V3, write-only mode)

□ FPC PIN REVERSAL on PCB: panel pin N ↔ J4 pad (41-N).

e.g. panel pin 17 (DB0) contacts J4 pad 24. See datasheet_specs.py for the connector-side mapping.

Generated by scripts/generate_schematics
ESP32 Emu Turbo – Handheld Retro Console

Sheet: /
File: 03-display.kicad_sch

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