



CC-218 DISP BOARD

Design



2024/03/21

2024/10/19

Specifications

Performance spec

Display type: dynamic

Scan period: 10msec

Duty ratio: 33%

Key scan: 10msec period, elimination of chattering

Board spec

*** Basic spec**

t=1.6mm, double-sided PCB

Substrate: FR-4

Copper: Tough pitch, t=35um

Track width (signal): 0.152mm (min), 0.2mm (norm)

Track width (power/GND): 0.152mm (min), 0.5mm (norm)

Spacing track to track: 0.152mm

Spacing track to via: 0.304mm

Spacing track to pad: 0.152mm

Small via (for signal track): hole: 0.3mm, width: 0.6mm

Large via (for power/GND track): hole: 0.6mm, width: 1.2mm

*** Dimension**

See the sheet "PcbDesign".

*** Layout of the key parts**

See the sheet "PcbDesign".

Connector spec*** PL101: Control**

Connected with: BD3 MCU Board

Connector: S8B-XH-A (8-pin SIL, 2.5mm spacing)

Pin assignment:

| Pin# | Signal | Function | Note |
|------|--------|--------------------------|------------------------|
| 1 | GND | Ground | |
| 2 | SDA | Serial data I/O | Open drain |
| 3 | SCL | Serial clock input | Open drain |
| 4 | nIRQ | Interrupt request output | Open drain, active low |
| 5 | +5V | Power supply | |
| 6 | +5V | Power supply | |
| 7 | GND | Ground | |
| 8 | GND | Ground | |

*** PL102: Indicator**

Connected with: CC-218 IND (BD2)

Connector: S4B-XH-A (4-pin SIL, 2.5mm spacing)

Pin assignment:

| Pin# | Signal | Function | Note |
|------|-----------|----------------------|-------|
| 1 | LED_PHONO | Light PHONO LED | Seg-a |
| 2 | LED_DAC | Light DAC LED | Seg-b |
| 3 | LED_AUX | Light AUX LED | Seg-c |
| 3 | COM | Cathodes of the LEDs | Dig-2 |

*** PL103: KeyScan**

Connected with: SW1 Rotary SW

Connector: S4B-XH-A (4-pin SIL, 2.5mm spacing)

Pin assignment:

| Pin# | Signal | Function | Note |
|------|----------|--------------------------|-------|
| 1 | SW_PHONO | PHONO selected by switch | Seg-a |
| 2 | SW_DAC | DAC selected by switch | Seg-b |
| 2 | SW_AUX | AUX selected by switch | Seg-c |
| 3 | COM | Common | Key-B |

Display spec

2024/10/18

*** 7-segment LED**

| | Spec | Note |
|--------------------|------------|---|
| Character size | 14.2mm | |
| Number of digits | 2.5 | 7-seg LED x3, highest digit displays Seg-g and -dp only |
| Color | AlGaAs Red | |
| Common electrode | Cathode | |
| Luminous intensity | 16.0mcd | Typ. $I_F=20mA$ |

*** Display controller (AS1115) basic settings**

2024/10/19

I²C Slave address: 0

Number of digits: 3 ... Some segments of Digit-2 are used for CC-218 IND and Rotary SW (SW2).

Seg-a: LED_PHONO, SW_PHONO

Seg-b: LED_DAC, SW_DAC

Seg-c: LED_AUX, SW_AUX

To scan Rotary SW, KEYB is used

No decode mode... F/W directly controls LED segments

Target I_F: 40mA ... This is subject to change after visual check.

[END OF DOCUMENT]