

Display Modules

Dumped...

P10 Matrix Display

Useful info for development

[info_p10_display.txt](#)

```
Interface pins:
```

```
[A]
```

```
[B]
```

```
[CLK]
```

```
[SCLK]
```

```
[R]
```

```
[OE]
```

```
16-bit Ribbon-Cable Port:
```

```
[nOE: A]
```

```
[GND: B]
```

```
[GND:N/A]
```

```
[GND:SCK]
```

```
[GND:LCK]
```

```
[GND: R]
```

```
[GND:N/A]
```

```
[GND:N/A]
```

```
Devices:
```

- 74HC245: octal 3-state non-inverting bus transceivers
 - = 20-pins
 - > vcc & gnd (pins 20 & 10)
 - > A1-A8 (pins 2-10)
 - > B1-B8 (pins 11-18)
 - > DIR (pin 1)
 - > OE' (pin 19)
 - = when OE=1: all signal pins (A1-A8,B1-B8) tri-stated
 - = when DIR=1: A->B, DIR=0: A<-B
 - = interface layer
 - > [A] <> A1
 - > [B] <> A2
 - > [OE] <> A3
 - > [CLK] <> A4,A5
 - > [SCLK] <> A6,A7
 - > [R] <> A8

- 74HC138: 3-8 decoder with active low outputs
 - = 16-pins
 - > vcc & gnd (pins 16 & 8)
 - > A0-A2 (pins 1-3)
 - > Y0-Y7 (pins 15-9,7)
 - > G0',G1',G2 (pins 4-6) : enable pins
 - = interface layer
 - > [A] <> A0
 - > [B] <> A1
 - > [OE]' <> G1' ([OE]' is output of 7404 hex inv)
 - > GND <> A2
 - > GND <> G0'
 - > VCC <> G2
 - = basically, only Y0-Y3 will be active based on {B,A} value

- 74HC595: 8-bit shift registers with 3-state output registers
 - = data loader @shifter
 - = 16-pins
 - > vcc & gnd (pins 16 & 8)
 - > QA-QH,QH' (pins 15,1-7,9)
 - > SER (pin 14) : serial in
 - > OE' (pin 13)
 - > RCLK (pin 12) : output register clock (+ve edge)
 - > SRCLK (pin 11) : shift register clock (+ve edge)
 - > SRCLR' (pin 10) : shift register CLR ((active low)
 - = note: RCLK & SRCLK should be non-overlapping
 - = interface layer
 - > [CLK] <> SRCLK
 - > [SCLK] <> RCLK
 - > GND <> OE'
 - > VCC <> SRCLR'
 - > [R] <> SER
 - > [next-SER] <> QH'

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