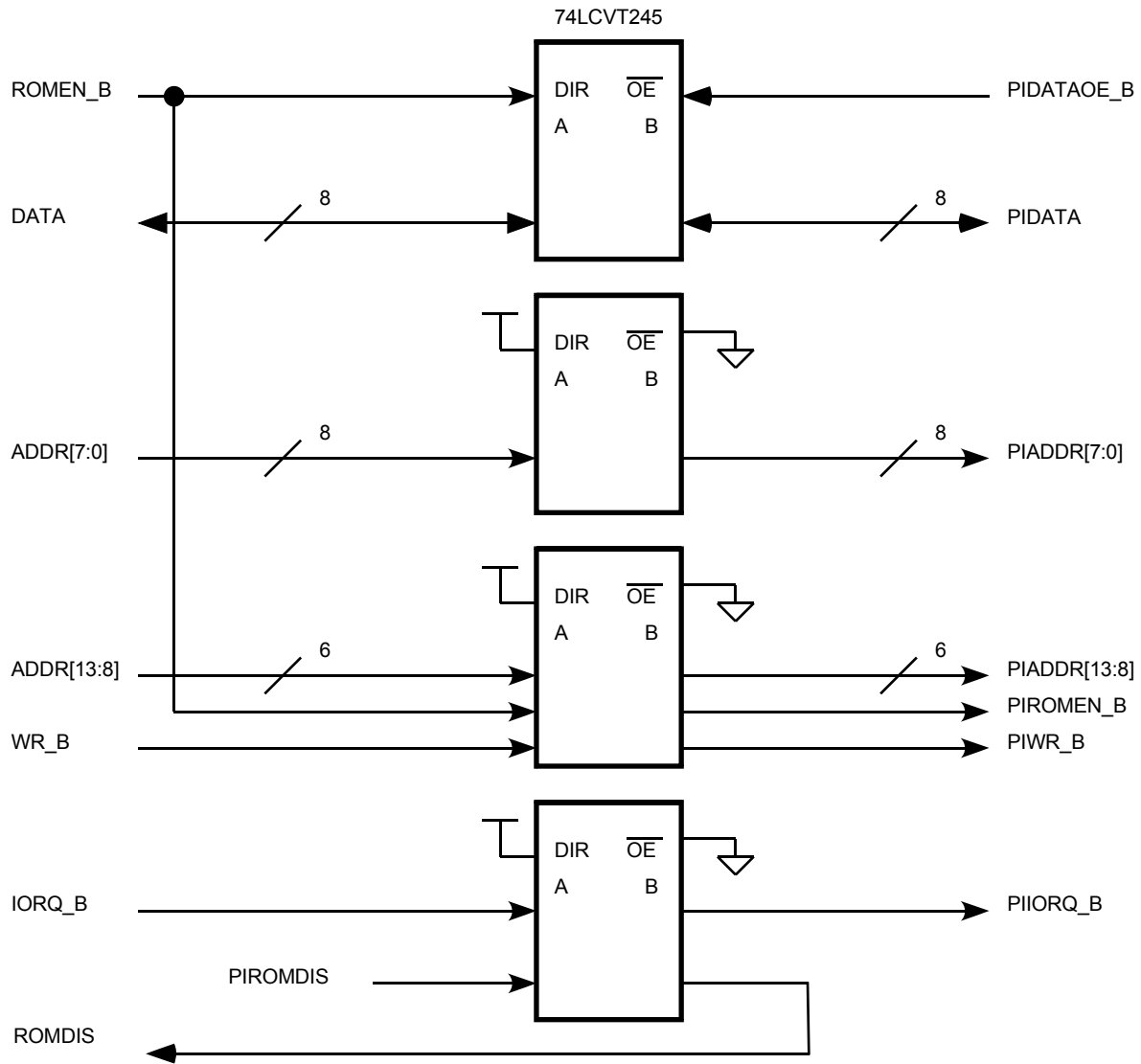


CPiC ROM Box



Notes

To select a ROM the CPU does an IO write to address 16'b110111xxxxxxx but when accessing peripherals only one of the top 6 bits is permitted to be low, so we only need to decode A13 here.

ROMEN_B is always low for ROM reads

ROMDIS must be asserted when a valid ROM has been accessed during a ROM read cycle to disable the internal ROMs.

Pi GPIO Count for this version is 27 - so one spare from the PiZero's 28 !

(Possibly this can be reduced to 26 by leaving the OE* input of the Data '245 permanently at zero and relying only on ROMEN_B to take care of direction)

Pseudo Code

```
romsel = not(PIWR_B | PIIORQ_B | PIADDR[13])
if romsel == 1:
    PIDATAOE_B = 0
    romnum = PIDATA
    PIROMDIS = 0
elif PIROMEN_B == 0:
    PIDATAOE_B = 0
    PIDATA = romdata[romnum][PIADDR]
    PIROMDIS = 1
else
    PIDATAOE_B = 1
    PIROMDIS = 0
```