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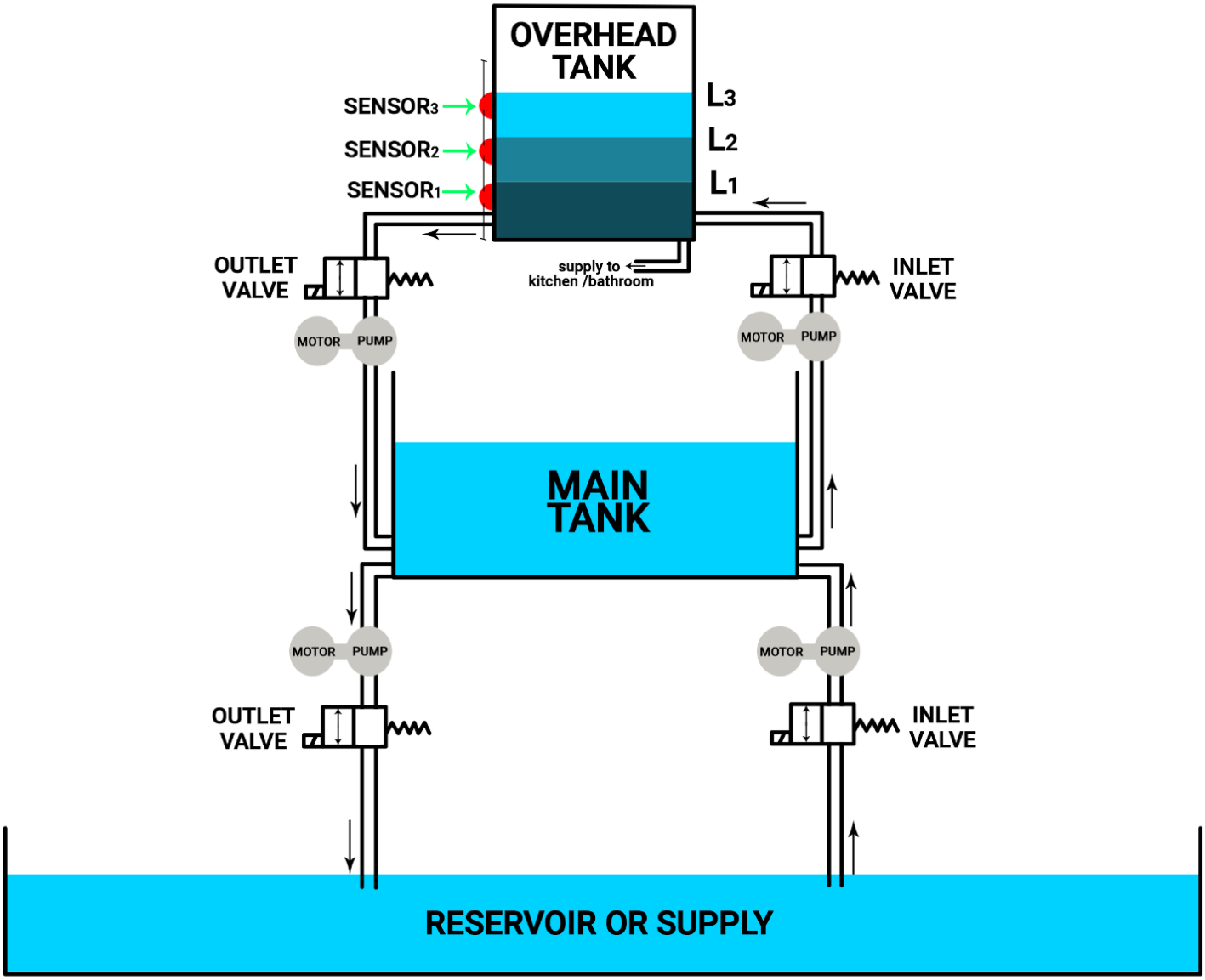
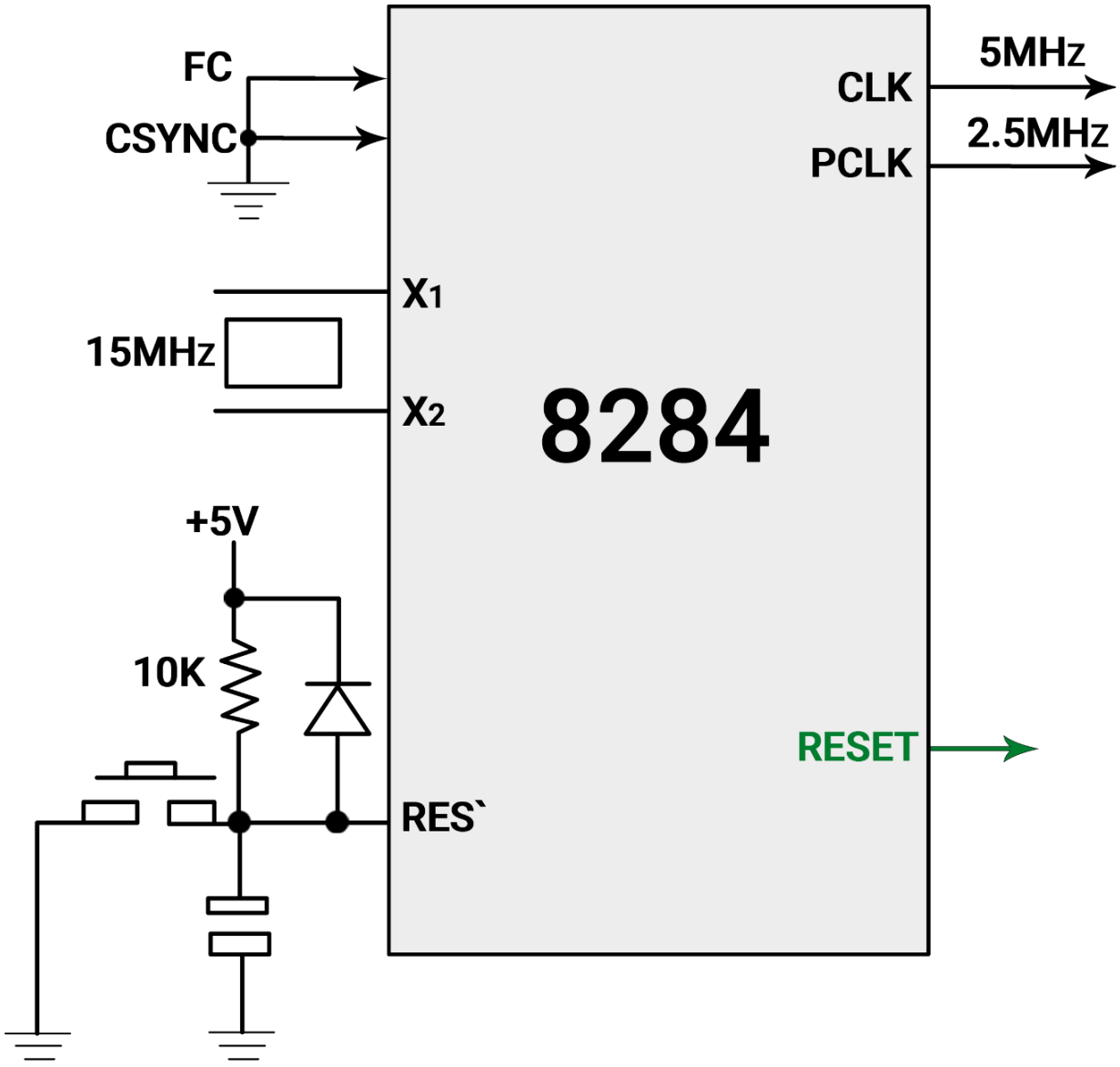
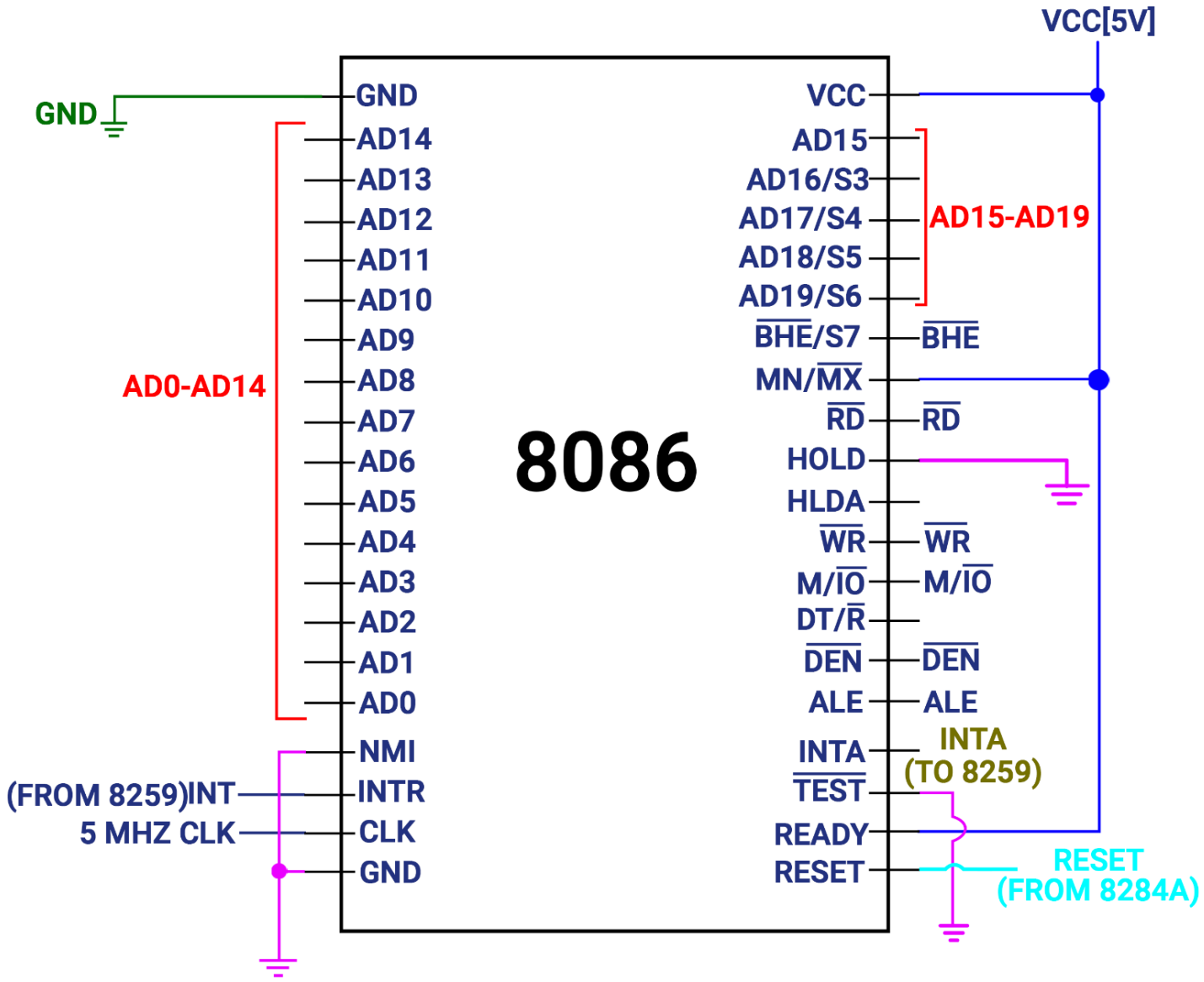
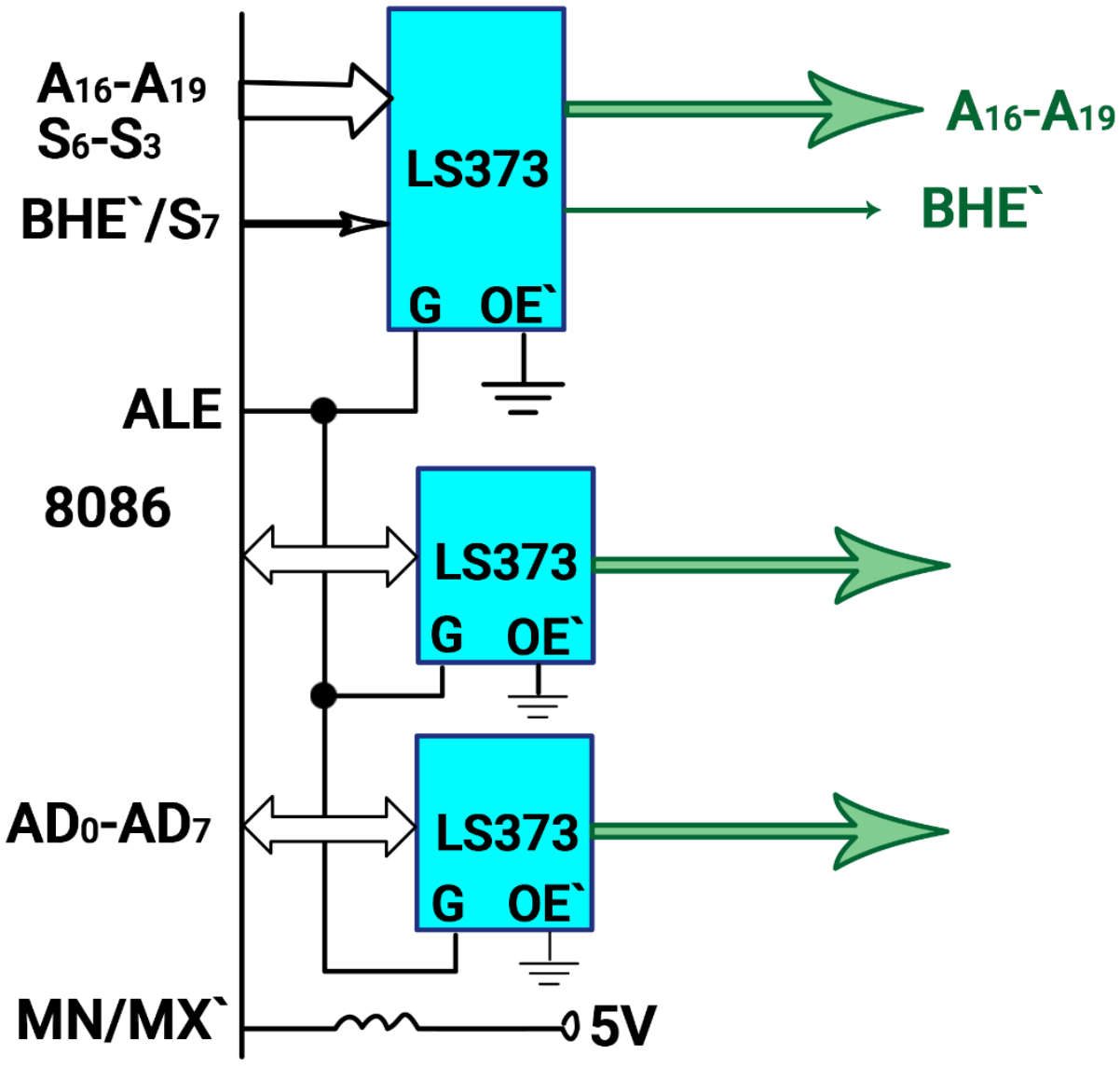
SYSTEM DESIGN



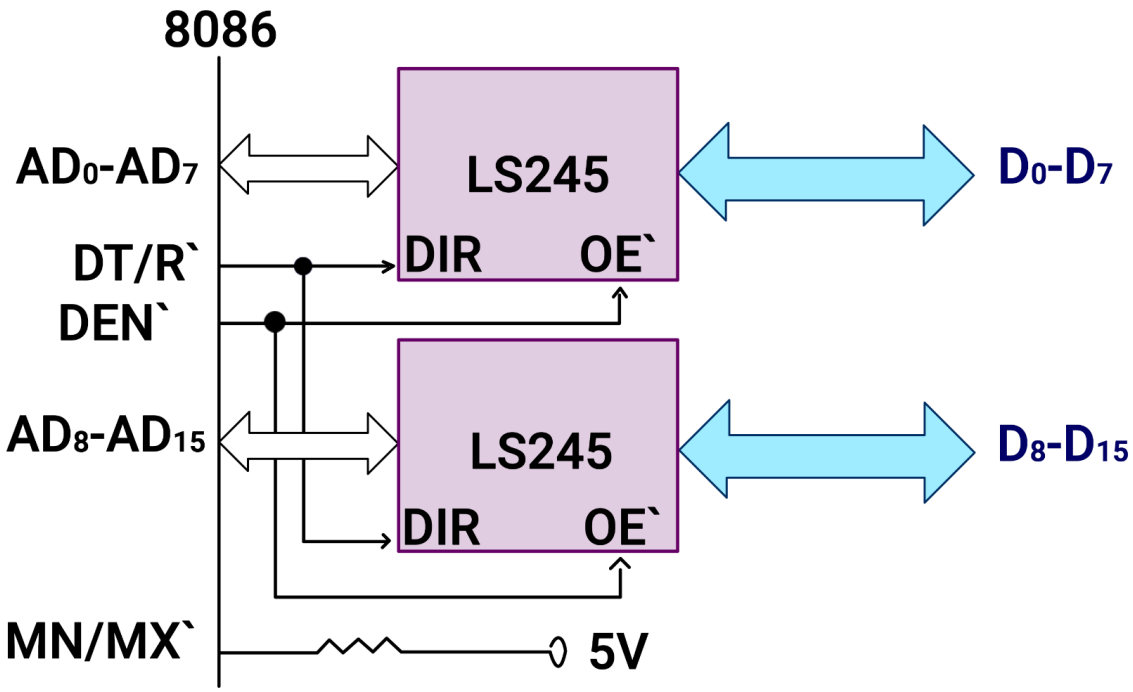

FC
CSYNC
X1
15MHz
X2
8284
+5V
10K
RES`
CLK
5MHz
PCLK
2.5MHz
RESET


VCC[5V]
GND
GND
AD14
AD13
AD12
AD11
AD10
AD9
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0
AD0-AD14
NMI
INTR
CLK
GND
(FROM 8259)INT
5 MHZ CLK
8086
VCC
AD15
AD16/S3
AD17/S4
AD18/S5
AD19/S6
AD15-AD19
BHE/S7
BHE
MN/MX
RD
RD
HOLD
HLDA
WR
WR
M/IO
M/IO
DT/R
DEN
DEN
ALE
ALE
INTA
INTA
(TO 8259)
TEST
READY
RESET
RESET
(FROM 8284A)

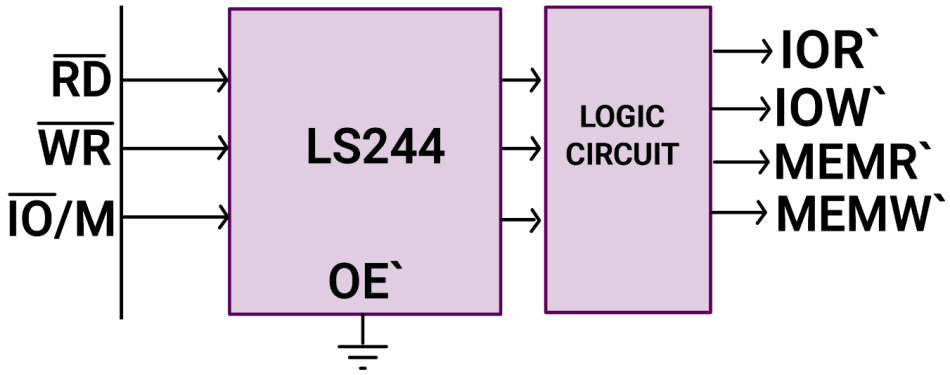
ADDRESS BUS OF 8086

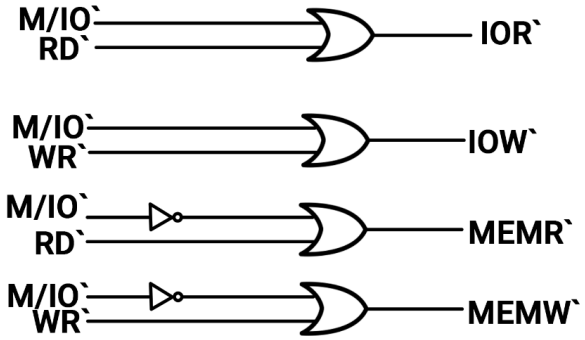


DATA BUS OF 8086



CONTROL BUS OF 8086





Memory Map

ROM1 - E : 00000 - 00FFE
ROM1 - 0 : 00001 - 00FFF
RAM1 - E : 01000 - 01FFE
RAM1 - 0 : 01001 - 01FFF
ROM2 - E : FF000 - FFFFE
ROM2 - 0 : FF001- FFFFF

ROM1

A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	1	1	1	1	1	1	1	1	1	1

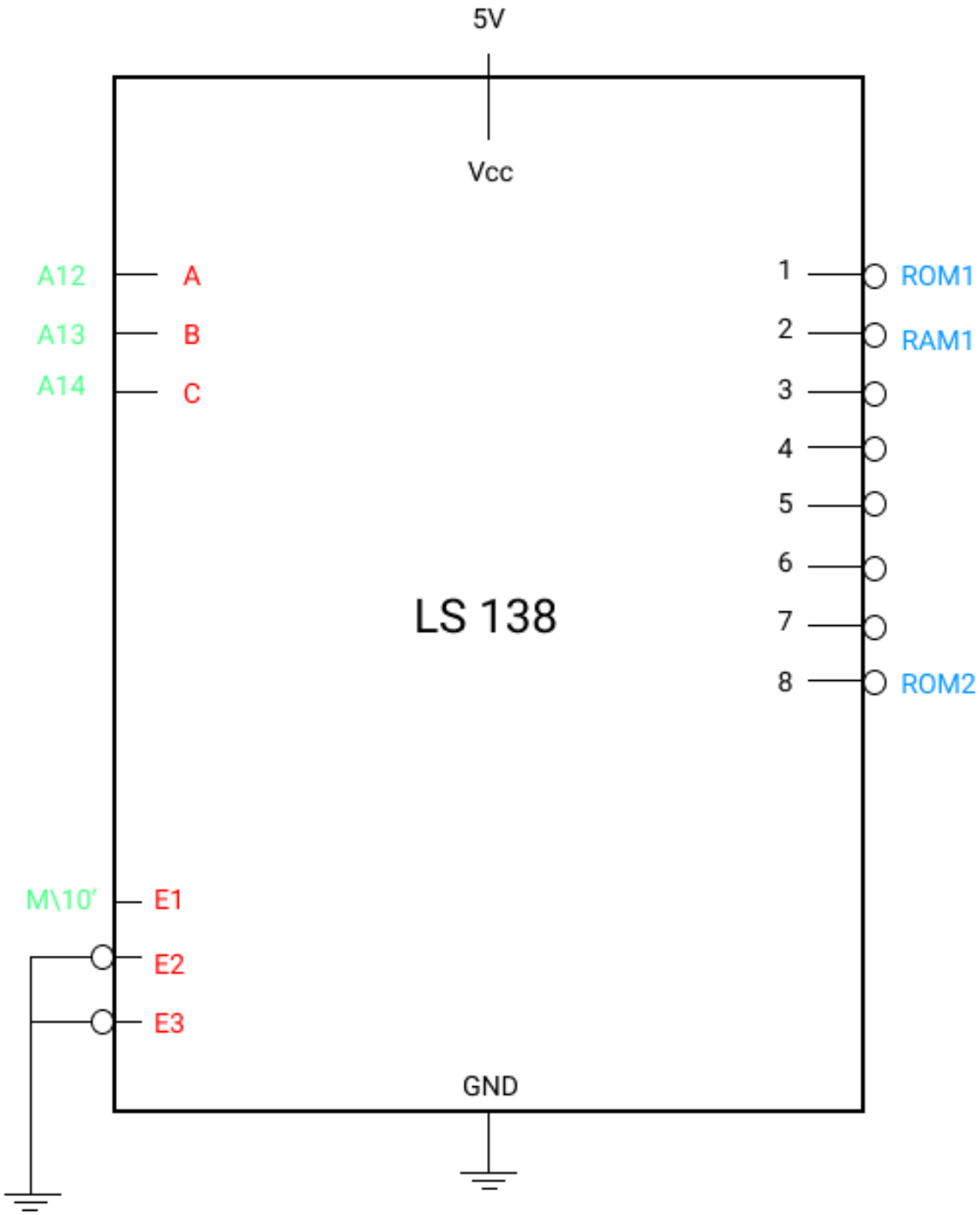
RAM1

A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1

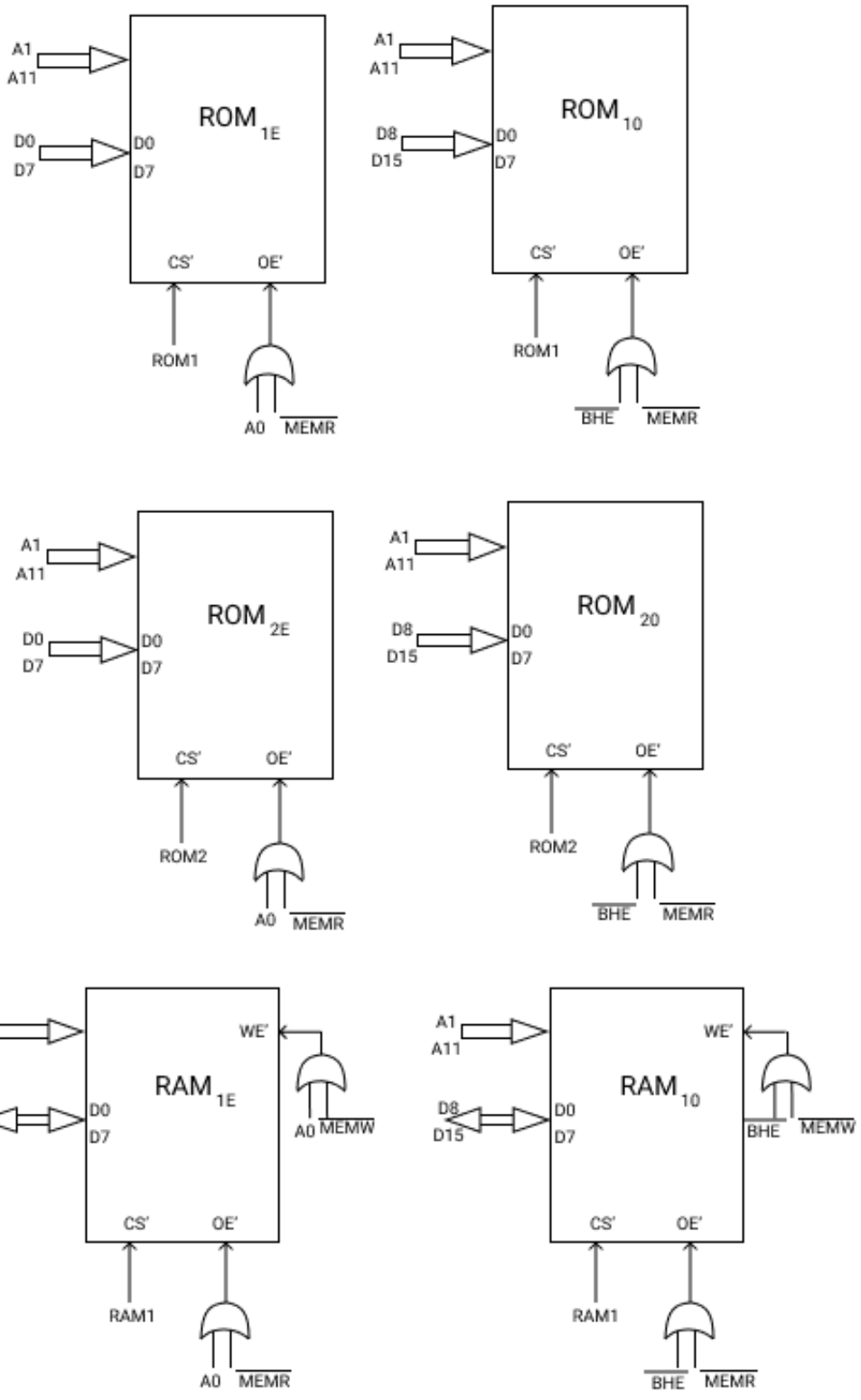
ROM2

A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

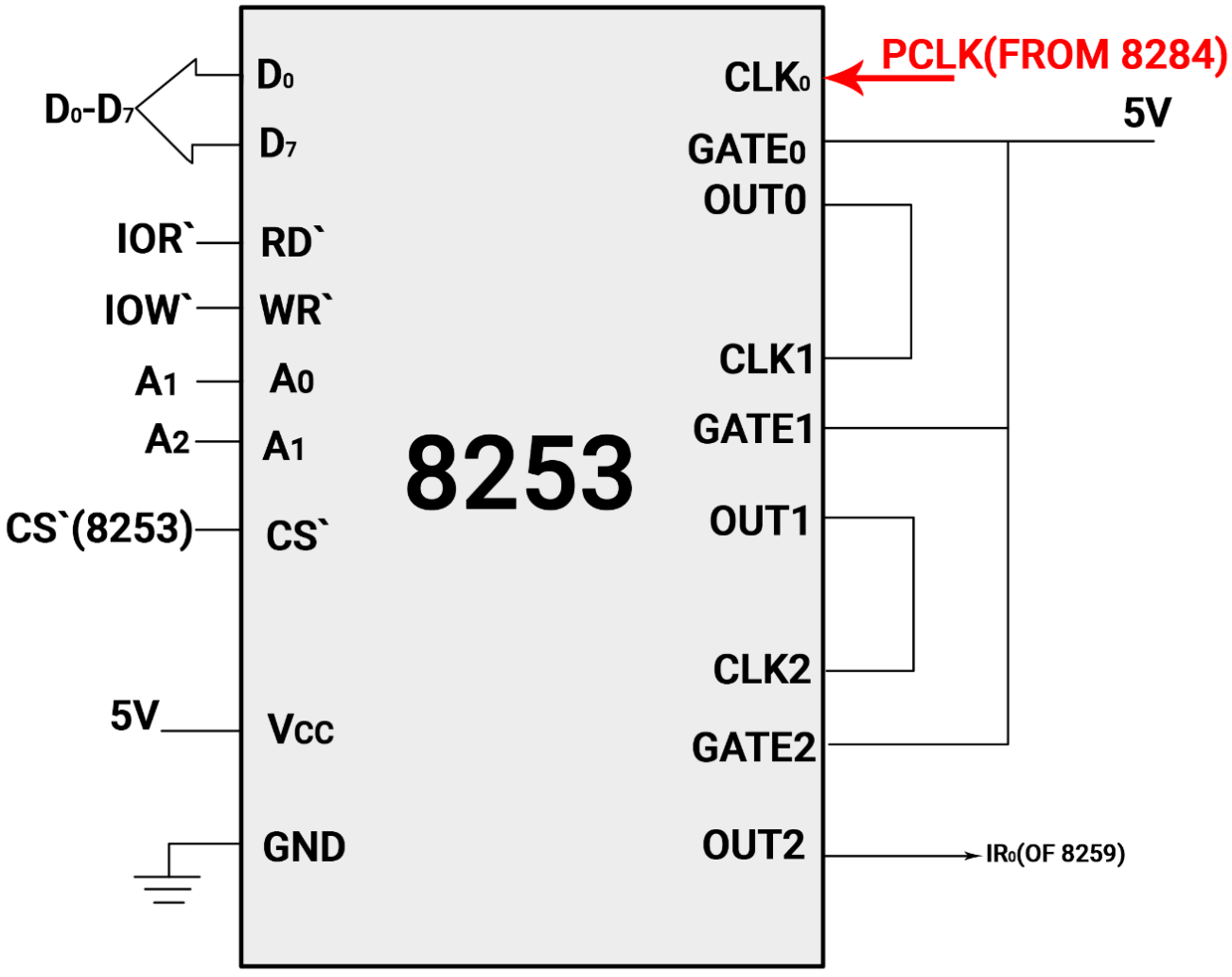
Memory Decoding Circuit



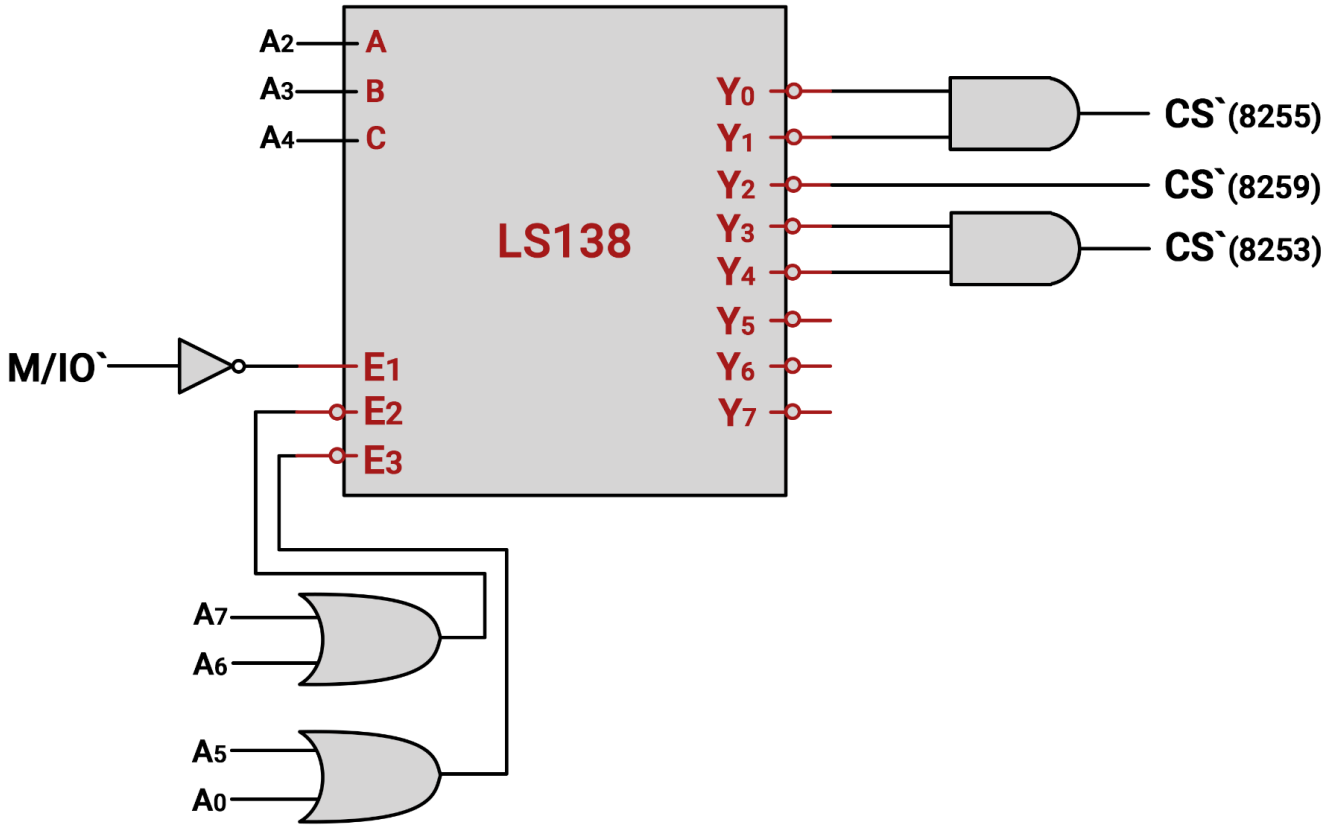
Memory Interfacing Circuit

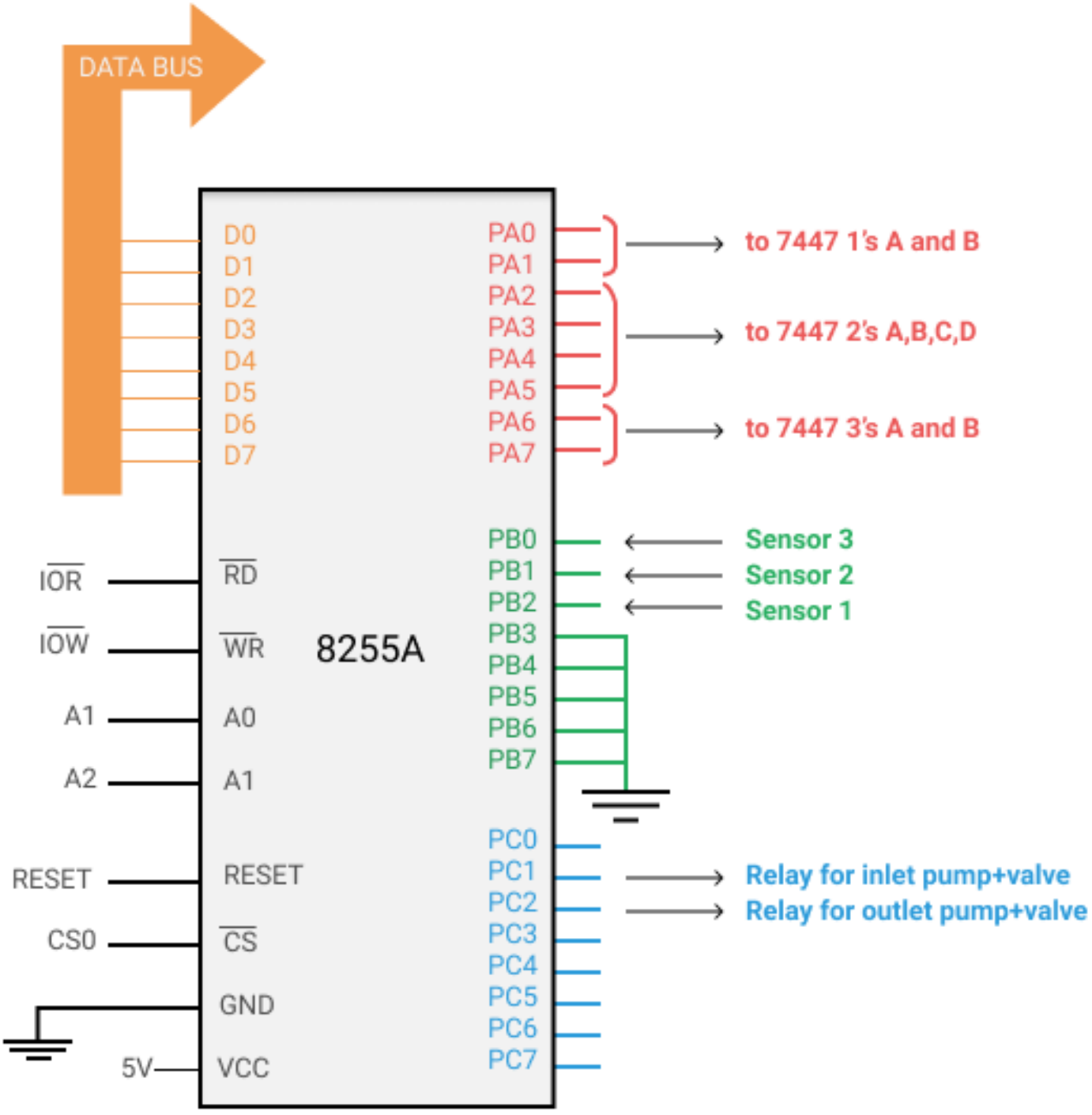


ONE-HOUR CLOCK

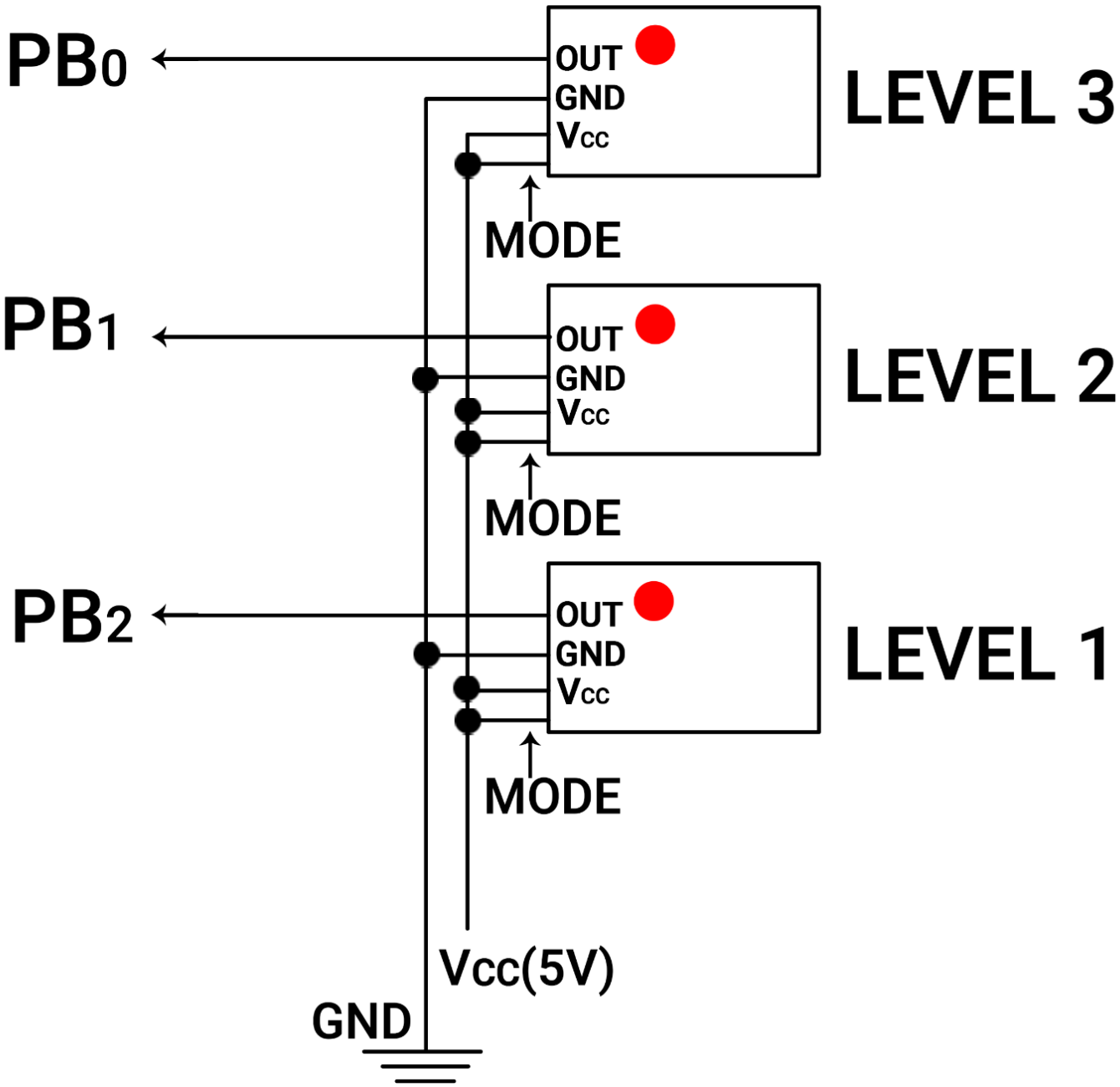


I/O DEVICES DECODING CIRCUIT

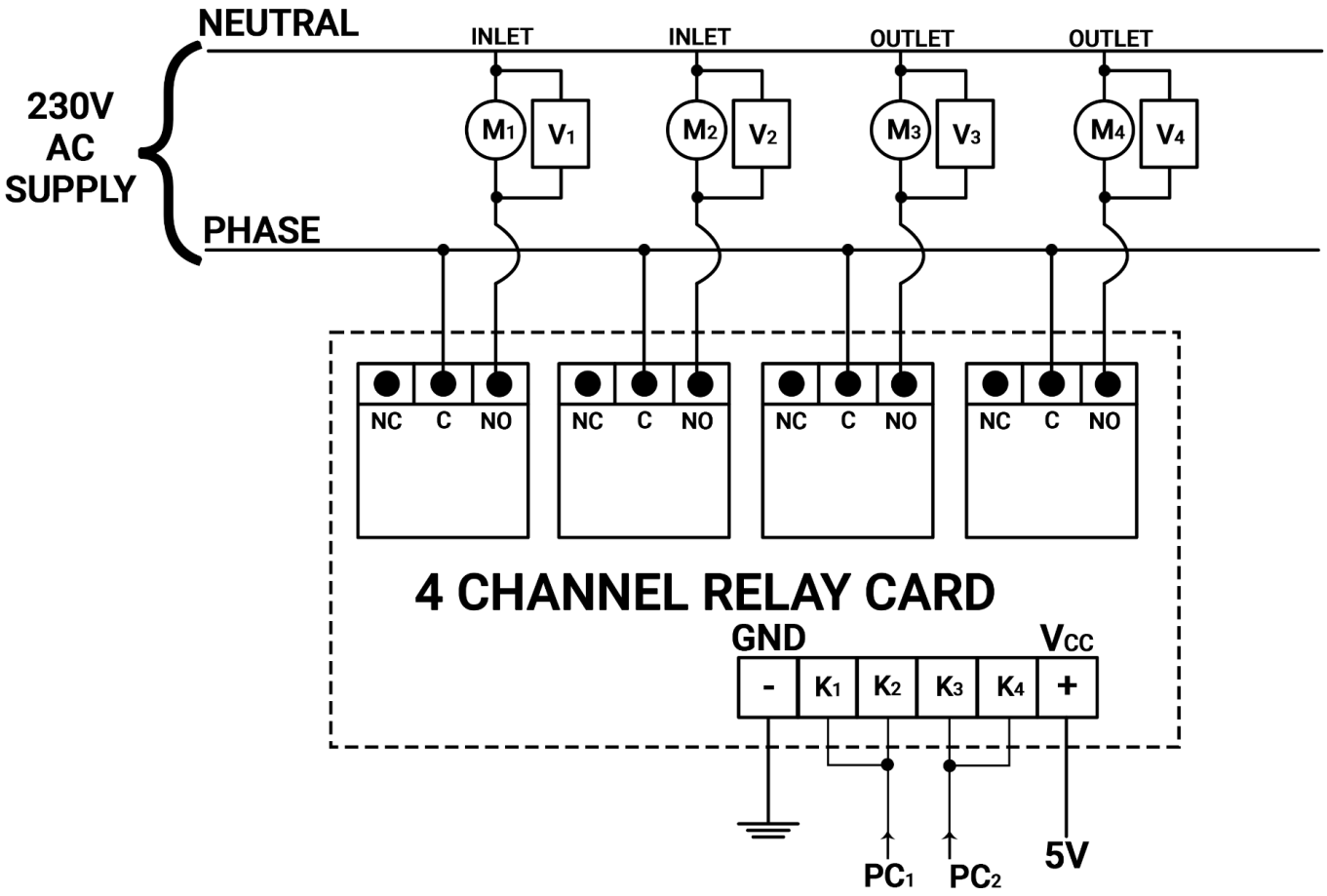



DATA BUS
D0
D1
D2
D3
D4
D5
D6
D7
IOR
IOW
A1
A2
RESET
CS0
5V
RD
WR
A0
A1
RESET
CS
GND
VCC
8255A
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PC0
PC1
PC2
PC3
PC4
PC5
PC6
PC7
to 7447 1's A and B
to 7447 2's A,B,C,D
to 7447 3's A and B
Sensor 3
Sensor 2
Sensor 1
Relay for inlet pump+valve
Relay for outlet pump+valve

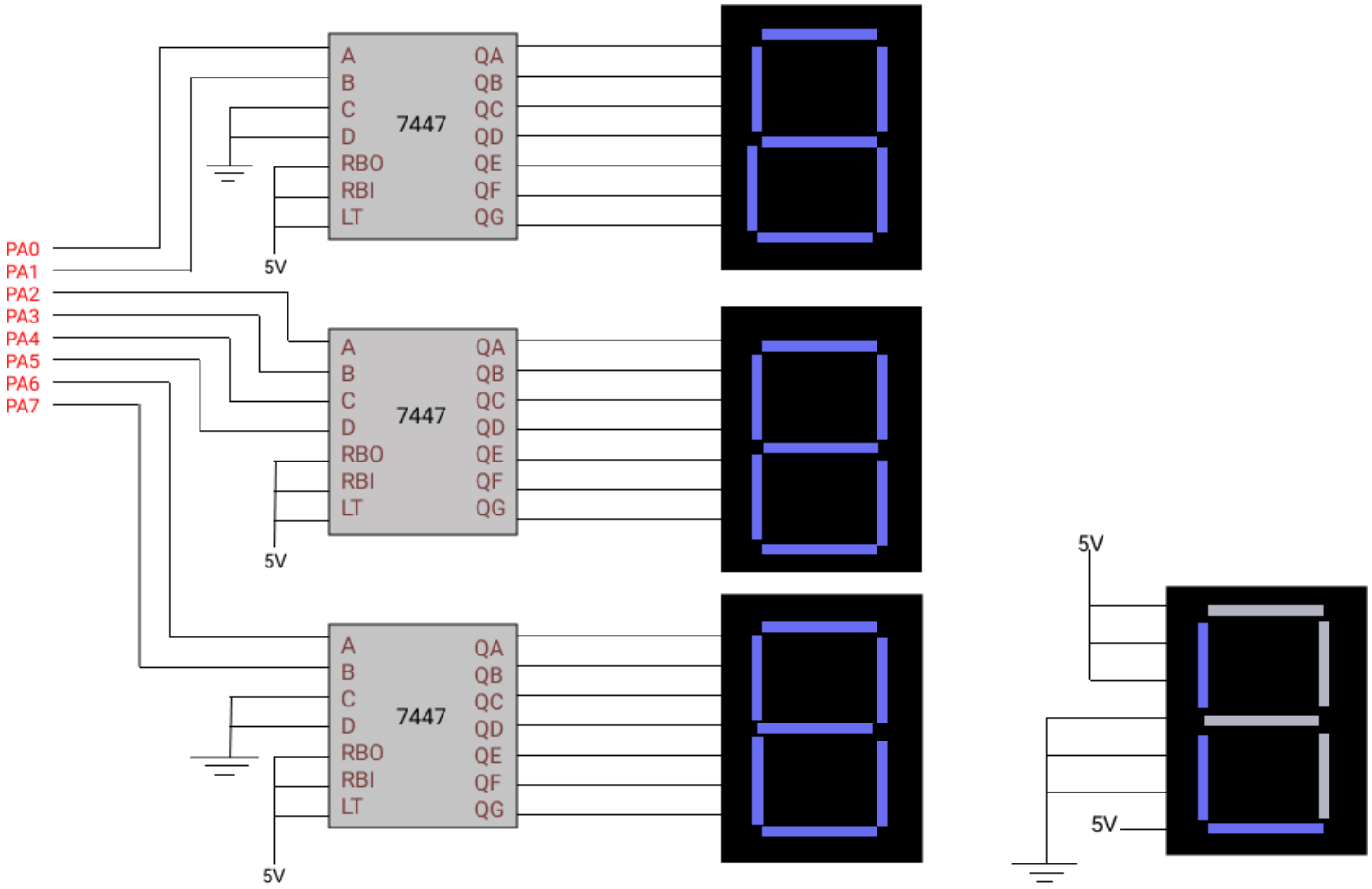
XKC Y25 T12V
WATER LEVEL SENSORS

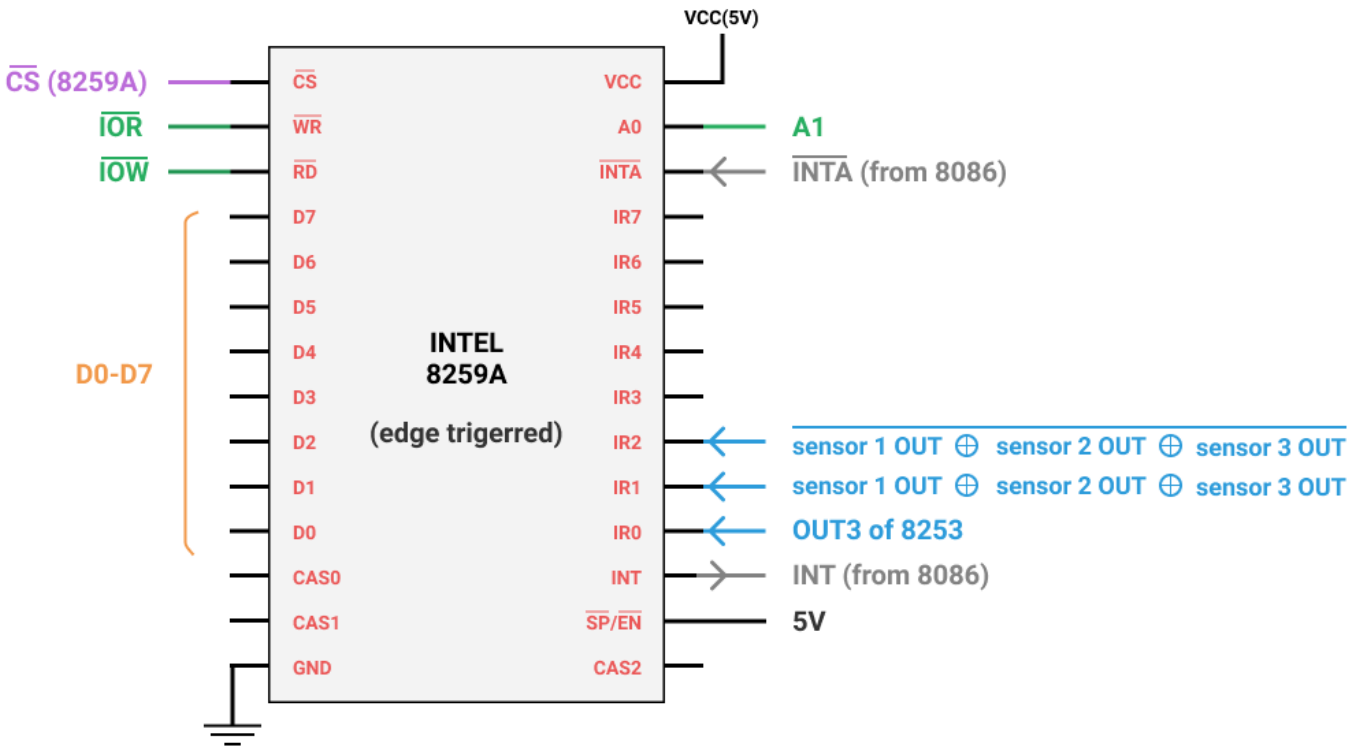


8255A Relay


NEUTRAL
INLET
INLET
OUTLET
OUTLET
230V
AC
SUPPLY
M1
V1
M2
V2
M3
V3
M4
V4
PHASE
NC C NO
NC C NO
NC C NO
NC C NO
4 CHANNEL RELAY CARD
GND
VCC
-
K1
K2
K3
K4
+
PC1
PC2
5V

8255A Display




VCC(5V)
CS (8259A)
IOR
IOW
D0-D7
CS
WR
RD
D7
D6
D5
D4
D3
D2
D1
D0
CAS0
CAS1
GND
INTEL
8259A
(edge trigerred)
VCC
A0
INTA
IR7
IR6
IR5
IR4
IR3
IR2
IR1
IR0
INT
SP/EN
CAS2
A1
INTA (from 8086)
sensor 1 OUT ⊕ sensor 2 OUT ⊕ sensor 3 OUT
sensor 1 OUT ⊕ sensor 2 OUT ⊕ sensor 3 OUT
OUT3 of 8253
INT (from 8086)
5V