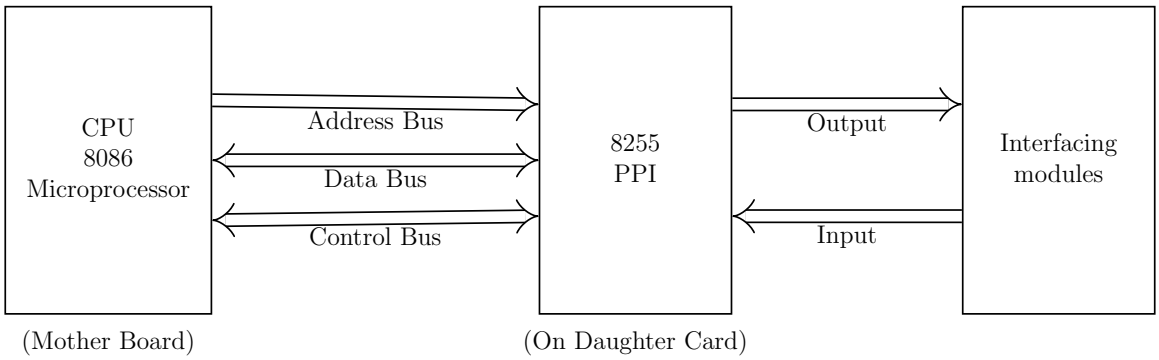
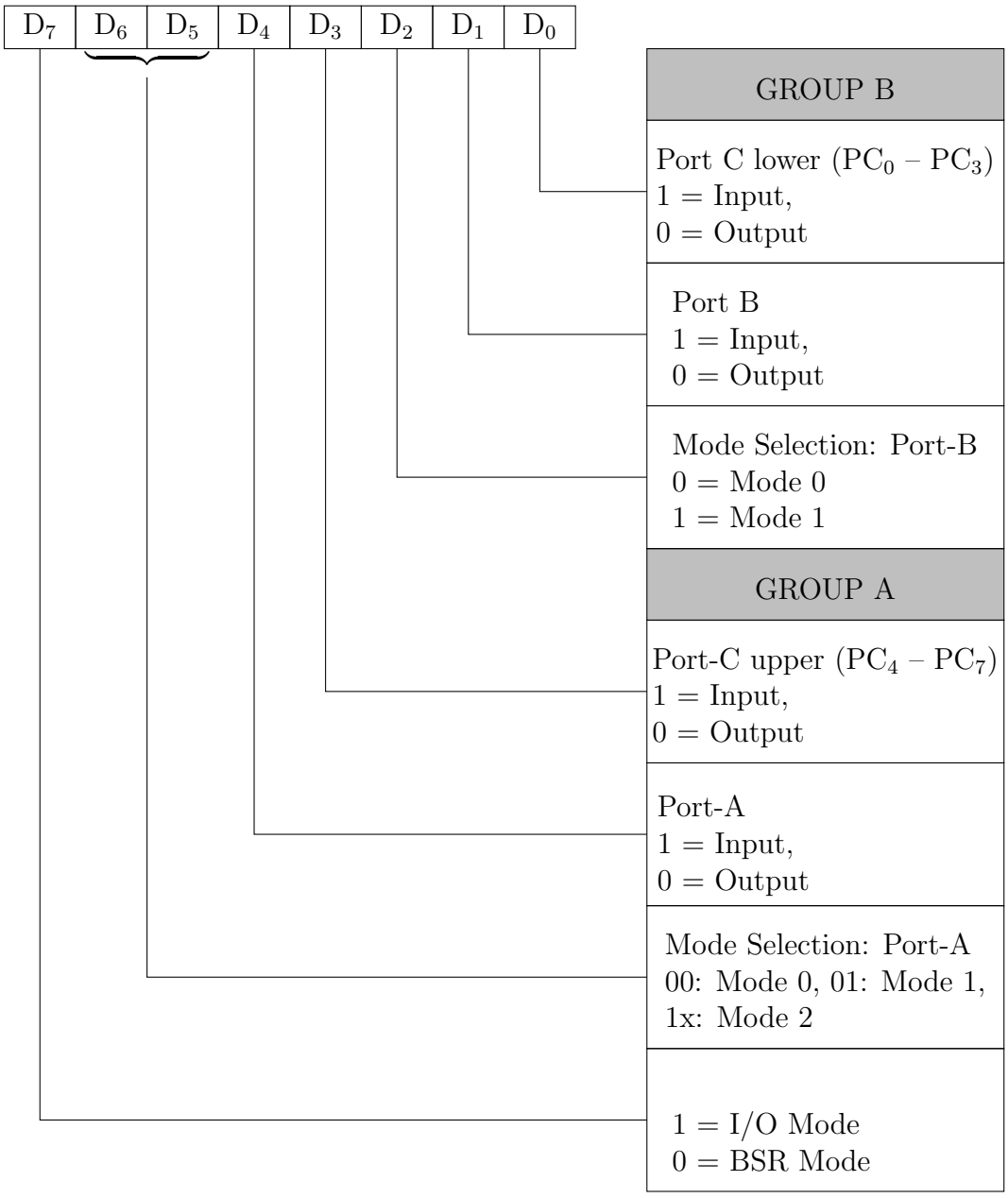
A Block Diagram of Interfacing Devices

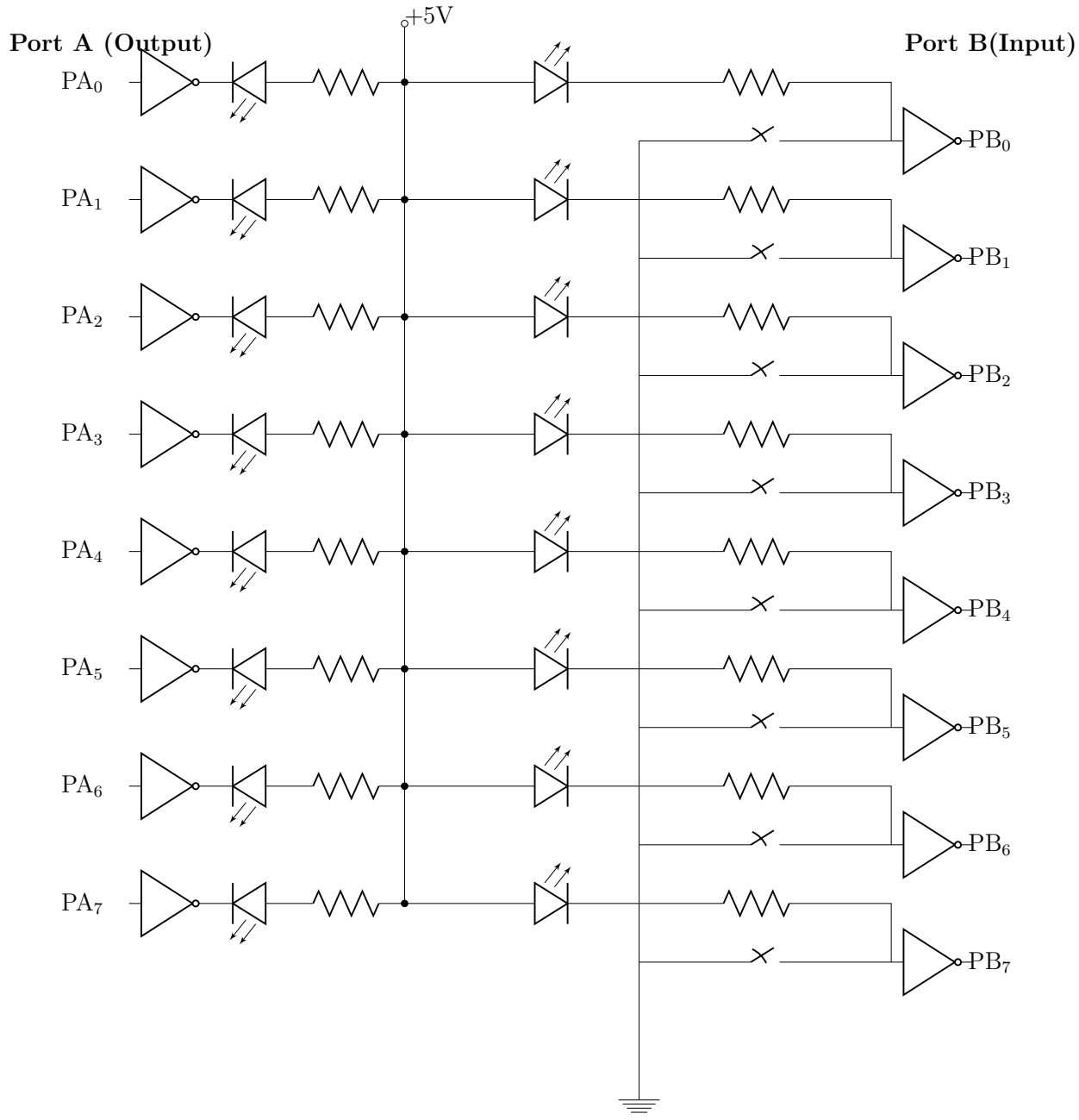
A.1 The general block diagram of Interfacing through 8255 PPI



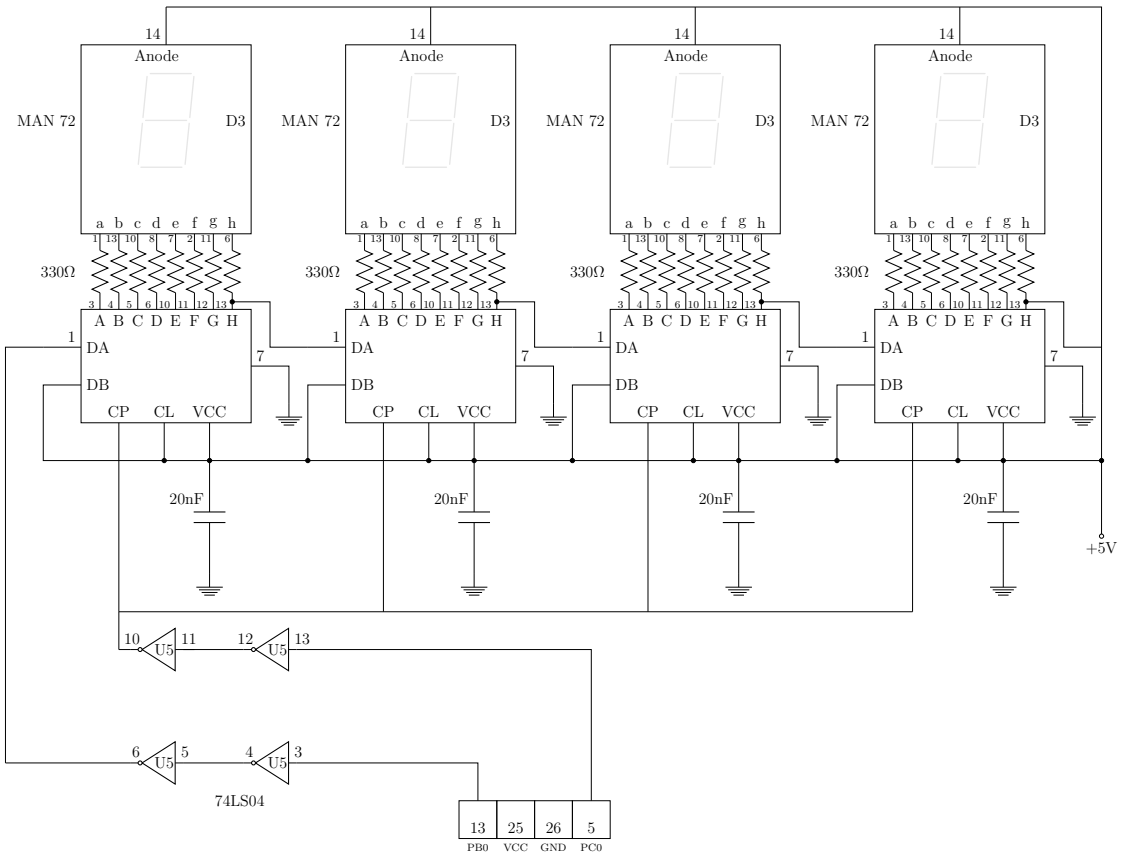
A.2 The control word format of 8255 PPI

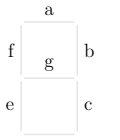


A.3 The circuit diagram of Logic Controller

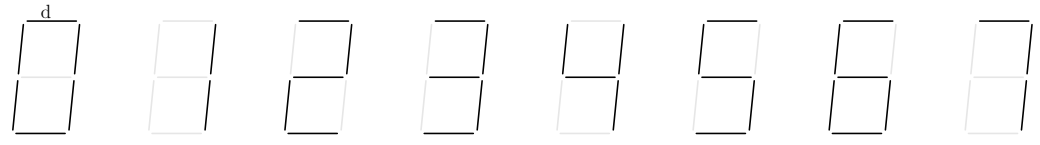


A.4 The circuit diagram of Display Interface

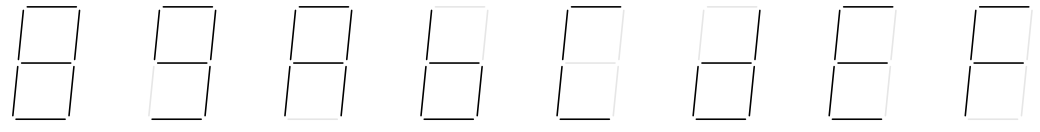




SSC: hgfedcba

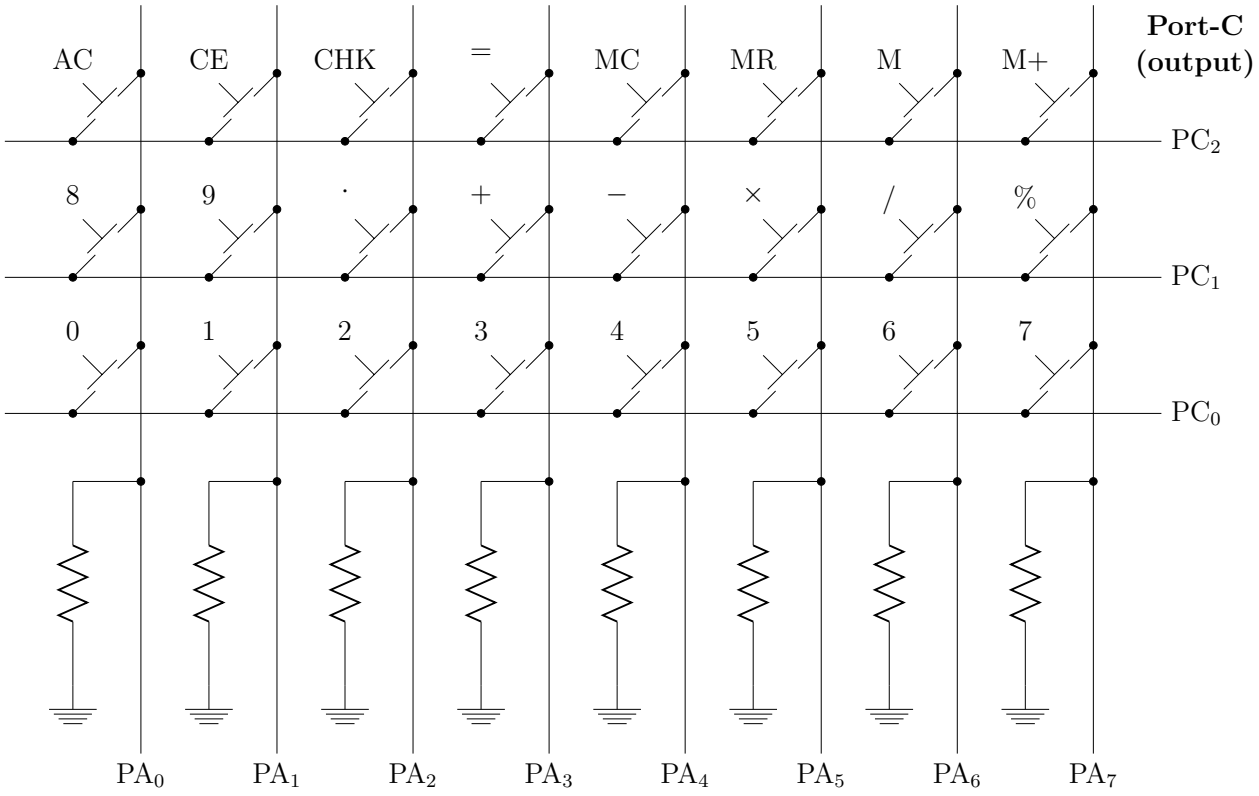


11000000	11111001	10100100	10110000	10011001	10010010	10000010	11111000
F0	F9	A4	B0	99	92	82	F8

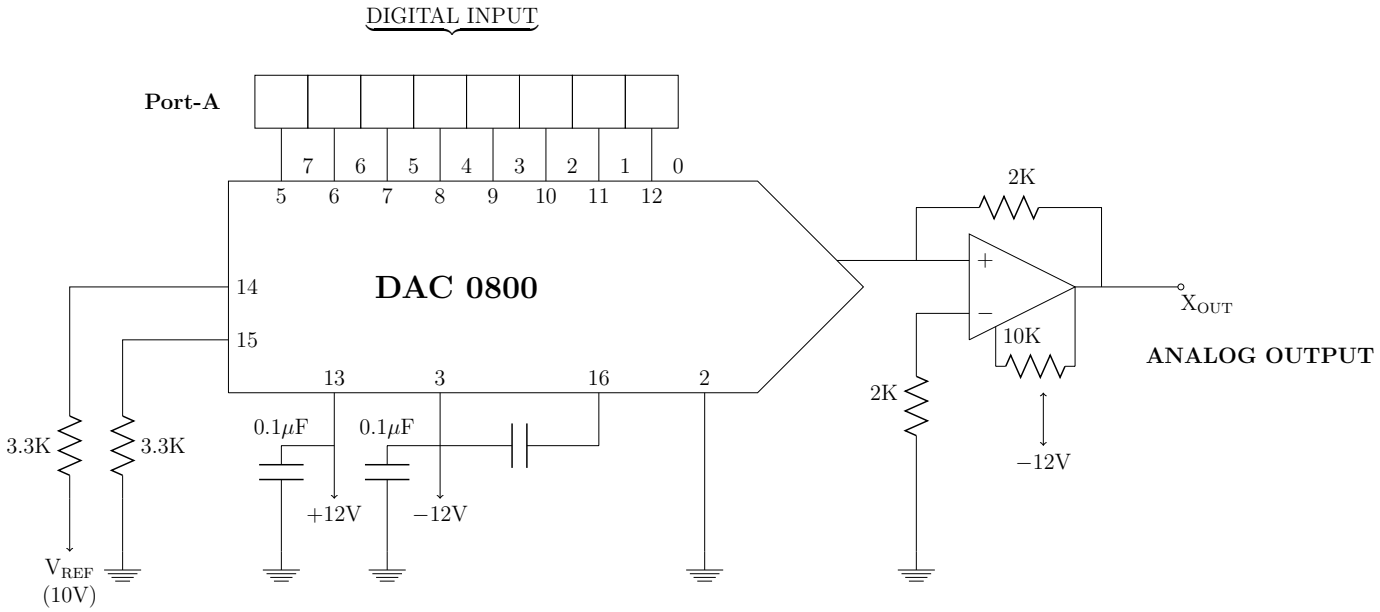


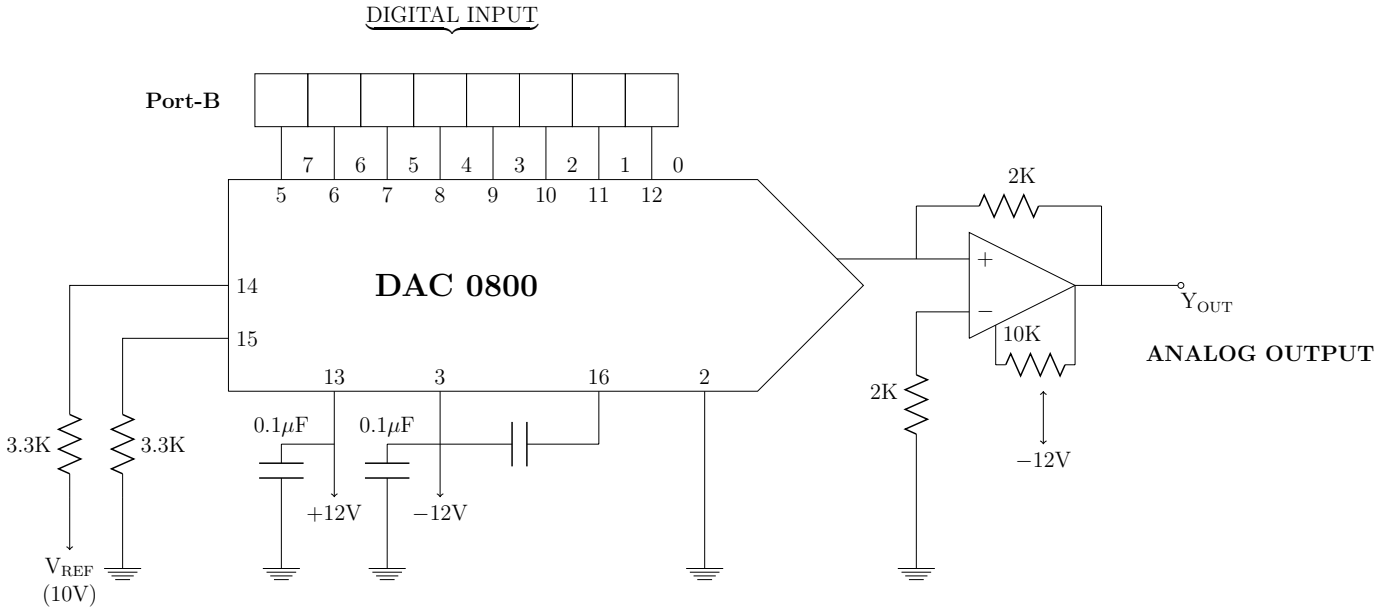
10000000	10011000	10001000	10000011	11000100	10100001	10000100	10001110
80	98	88	83	C6	A1	86	8E

A.5 Keyboard Interface

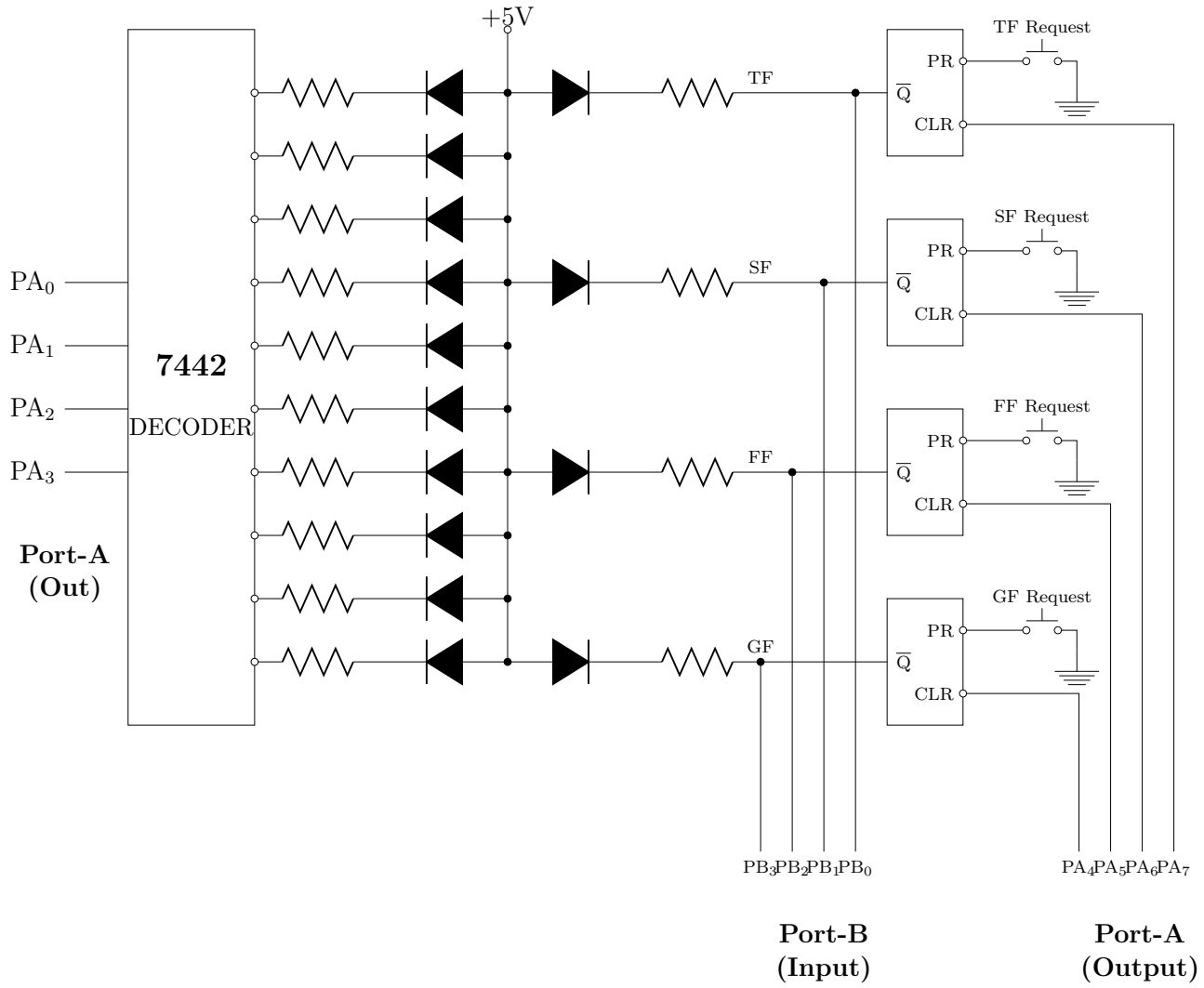


A.6 The circuit diagram of DAC Interface

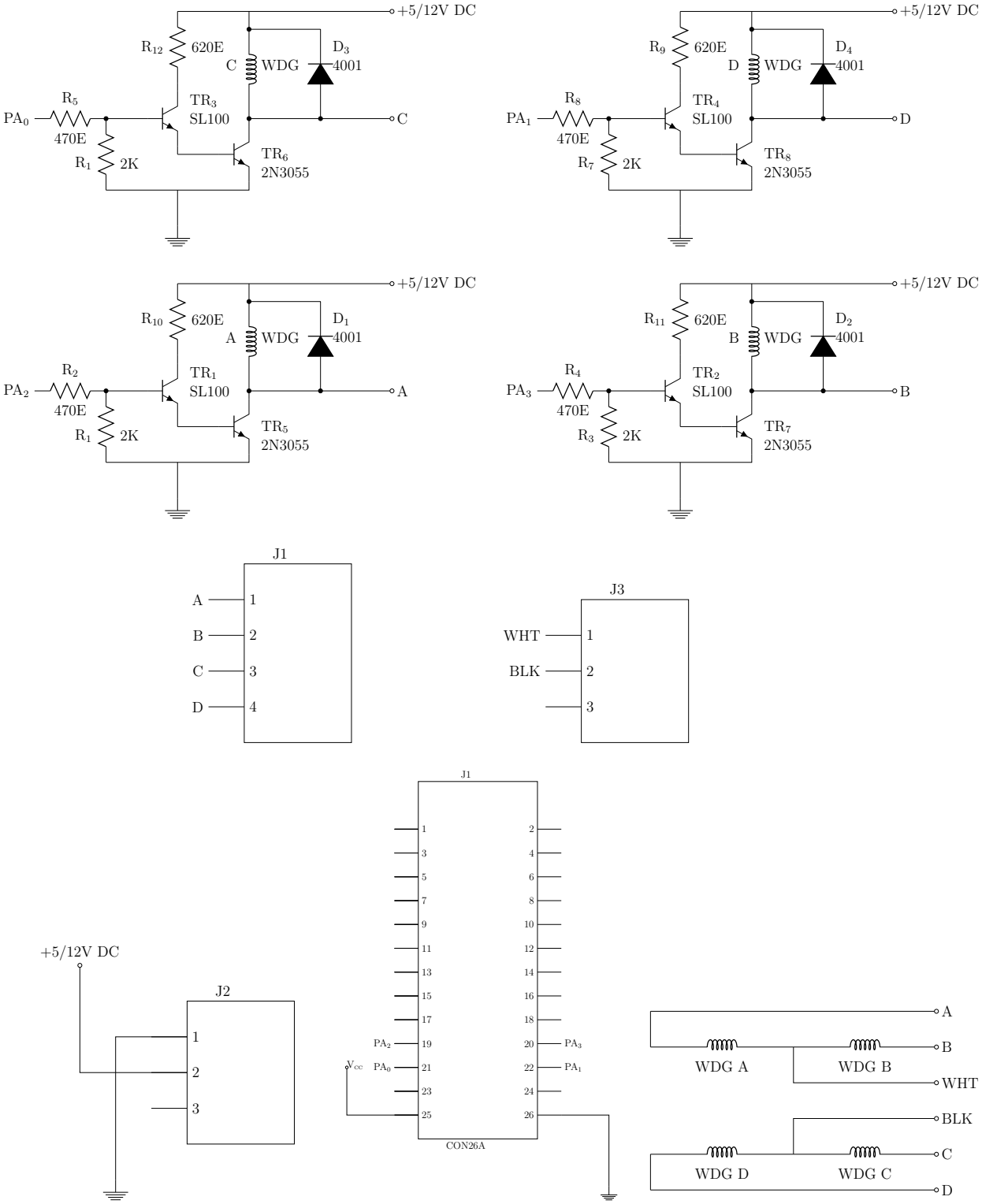




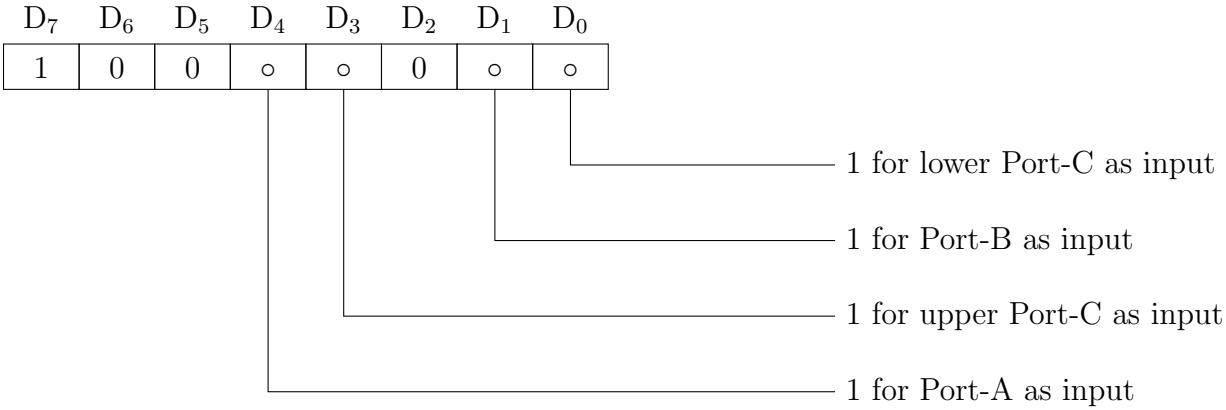
A.7 Elevator Interface



A.8 The circuit diagram of Stepper Motor Driver



A.9 Control Word Format



Logic controller
CW DB 82H ; Port-A output, Port-B input; MDE-0, I/O Mode.

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0
1	0	0	0	0	0	1	0

Seven Segment display
CW DB 80H ; Port-B output, Port-C output, Mode 0, I/O Mode

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0
1	0	0	0	0	0	0	0

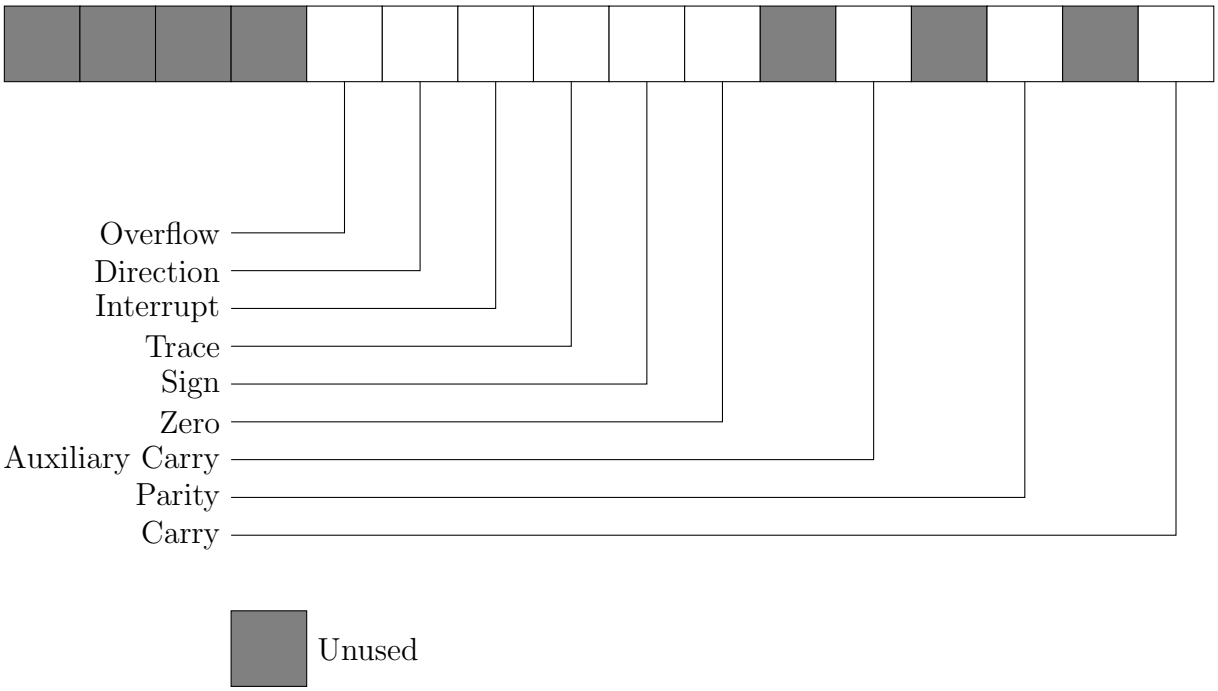
Key Board interface
CW DB 90H ;Port-A input, Port-C output, Mode-0, I/O Mode

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0
1	0	0	1	0	0	0	0

Elevator Interface
CW DB 80H ; Port-B output, Port-C output, Mode-0, I/O Mode

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0
1	0	0	1	0	0	0	0

A.10 Flag register



Flag	Function
CF-Carry Flag	=1 if high order bit carry/borrow =0 otherwise
PF-Parity Flag	=1 if low order 8-bit of result contain even parity =0 otherwise
AF-Auxiliary Flag	=1 if carry from/borrow to lower nibble of AL =0 otherwise
ZF-Zero Flag	=1 if result is zero =0 otherwise
SF-Sign Flag	=1 if MSB of result is 1 (−ve sign) =0 if MSB of result is 0 (+ve sign)
OF-Overflow Flag	=1 if result is out of range =0 otherwise