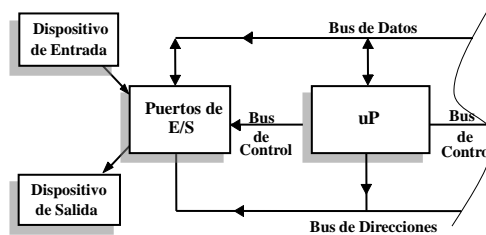


Arquitectura de Computadoras

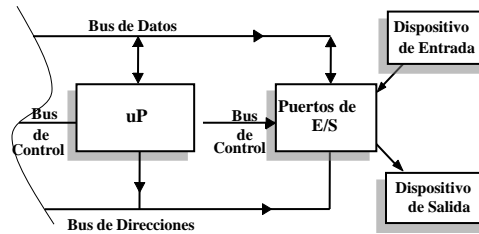
Un enfoque hacia sistemas empuetrados
(Embedded Systems)

Sección de Entrada-Salida

Puertos

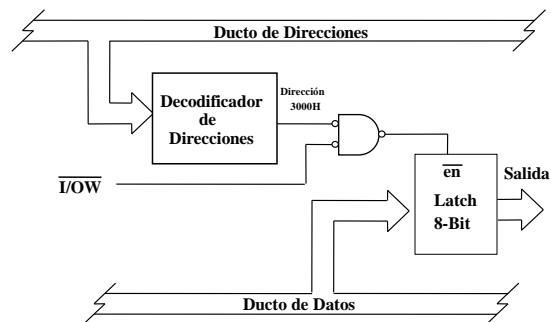


Puertos



3

Puertos de Salida



Lenguaje Ensamblador

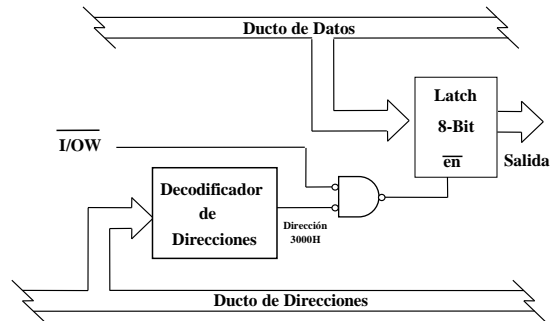
```
MOV AL,00H
MOV DX,3000H
OUT DX,AL
```

Lenguaje C

```
outportb(0x3000,0);
```

4

Puertos de Salida



Lenguaje Ensamblador

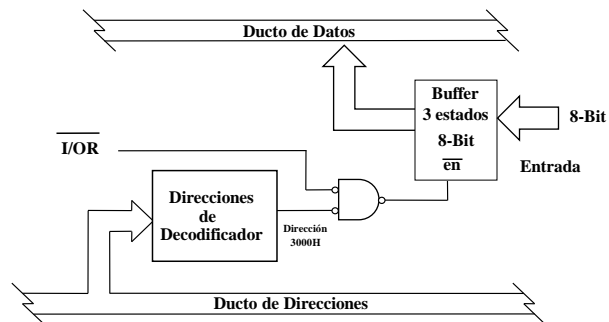
```
MOV AL,00H
MOV DX,3000H
OUT DX,AL
```

Lenguaje C

```
outportb(0x3000,0);
```

5

Puertos de Salida



Lenguaje Ensamblador

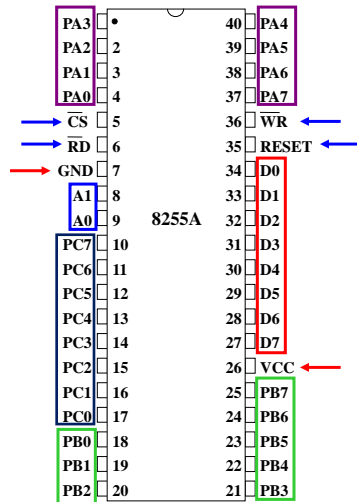
```
MOV DX,3000H
IN AL,DX
```

Lenguaje C

```
dato = inportb(0x3000);
```

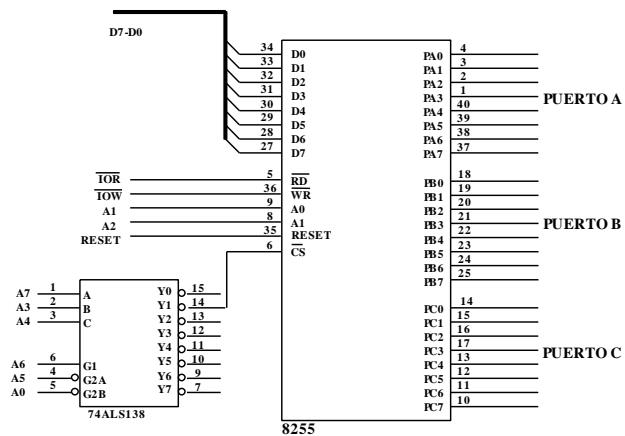
6

PPI-8255



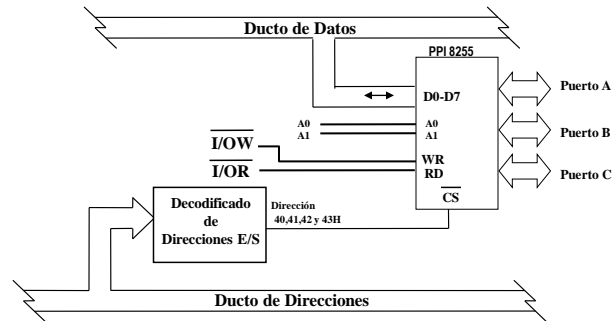
7

PPI-8255



8

Puertos de Salida



Lenguaje Ensamblador

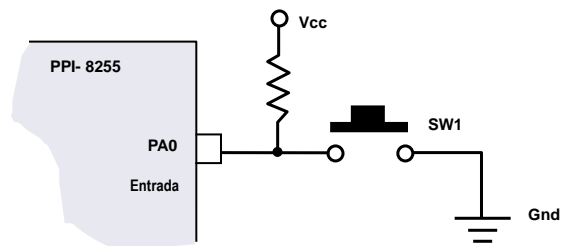
```
MOV AL, 00H
MOV DX, 42H
OUT DX, AL
```

Lenguaje C

```
outportb(0x42, 0);
```

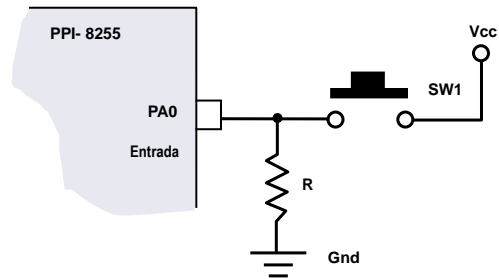
9

Lectura de Interruptor (SW)



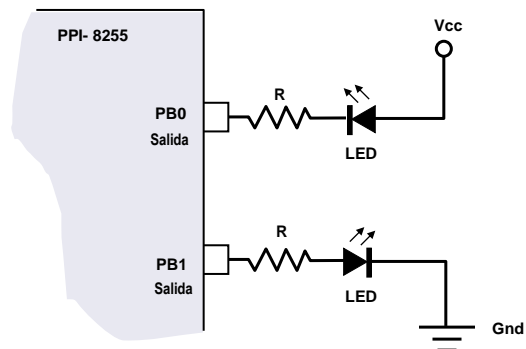
10

Lectura de Interruptor (SW)



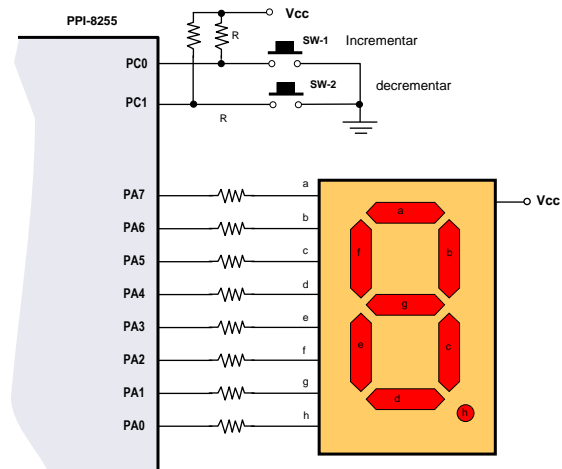
11

Activación de un LED (indicador)



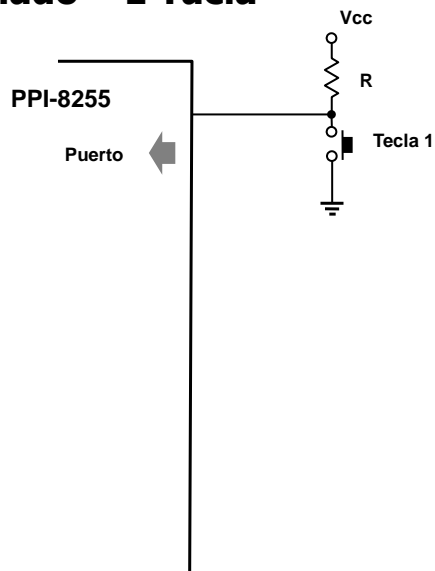
12

Indicador de 7 Segmentos e Interruptores



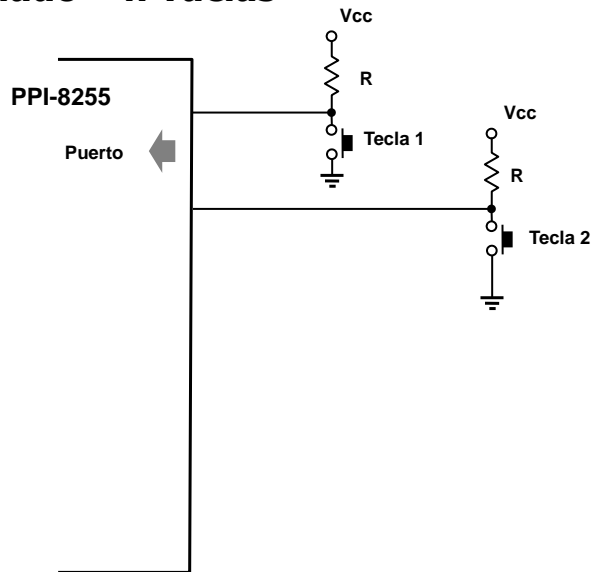
13

Teclado – 1 Tacla



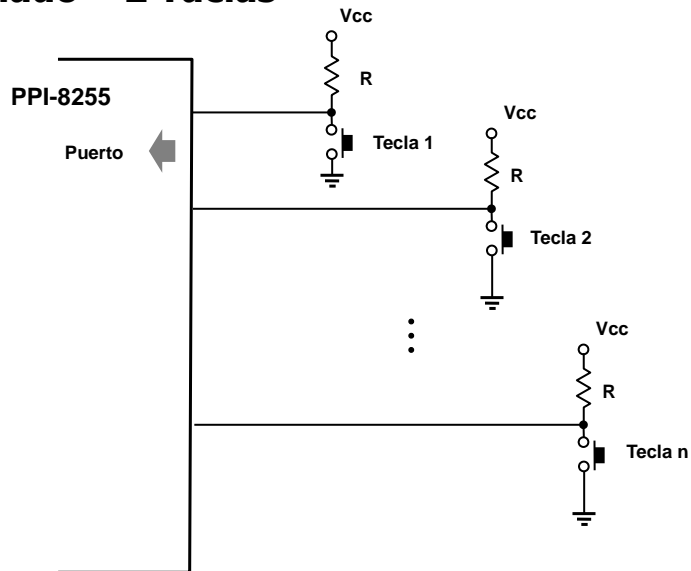
14

Teclado – n Tacas



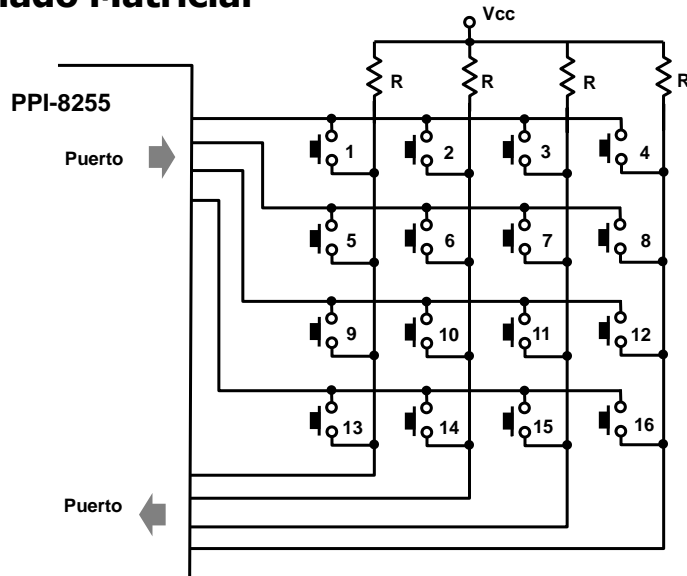
15

Teclado – 2 Tacas



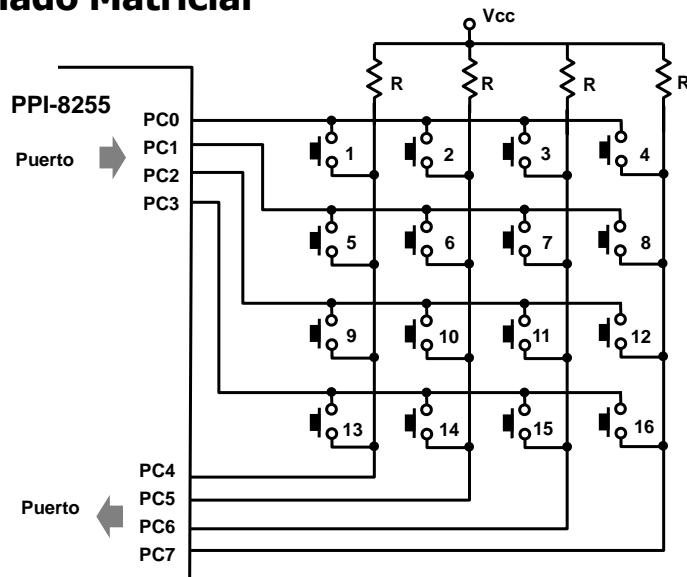
16

Teclado Matricial



17

Teclado Matricial



18

Teclado Matricial

