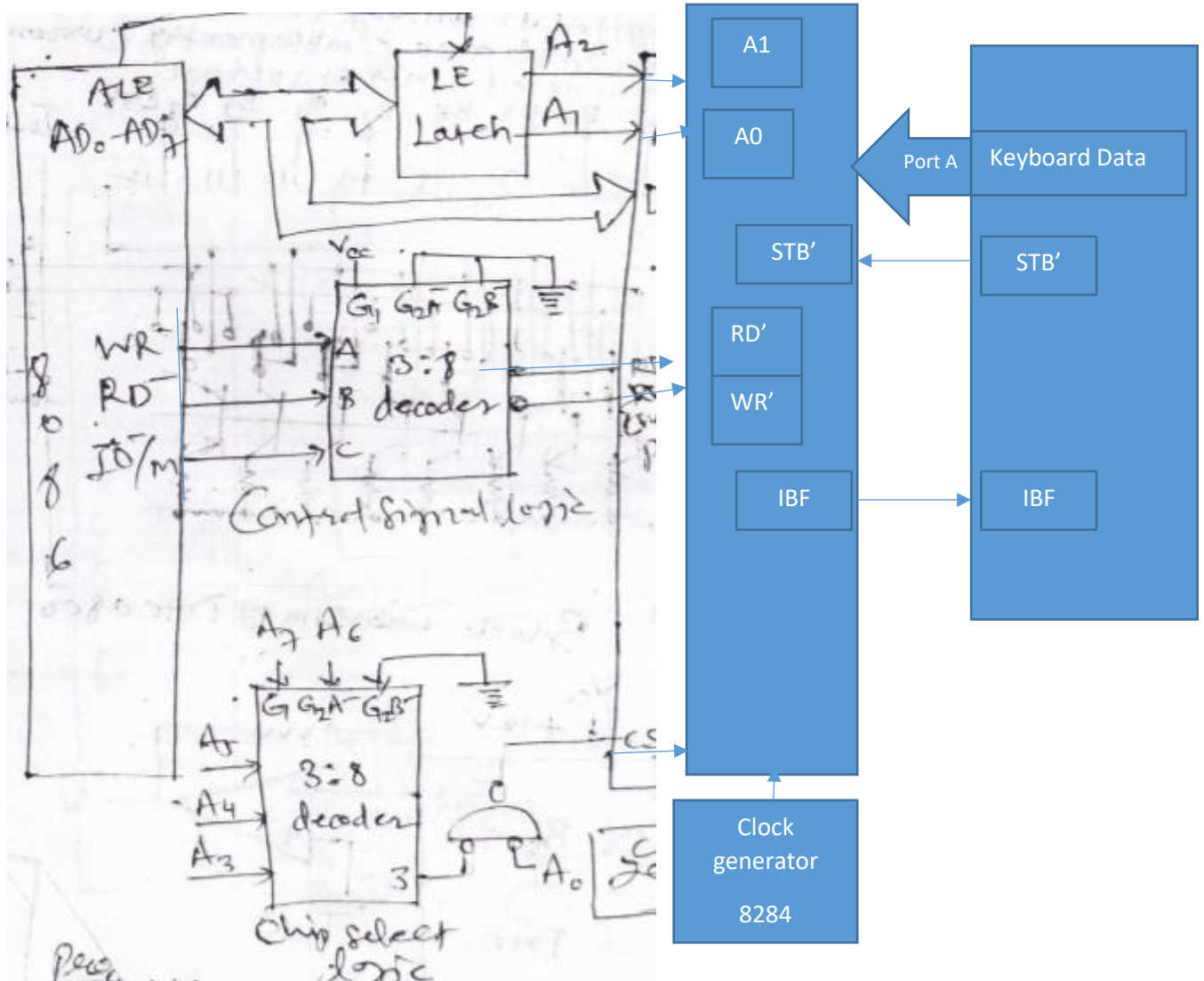Example

Interface a keyboard to 8086 through 8255. The keyboard supports handshake signals. Draw the interface schematic and write a program to read a key from keyboard (through status check IO method) and store the result in memory location from 2000H onwards.

Solution:

D7	6	5					D0		
1	0	1	1	0	0	0	0	B0H	CWR

00100000 =20H

LEA SI, 2000H

MOV AL, B0H

OUT 9E, AL

UP IN AL, 98H

AND AL, 20H (Mask other bit except IBF)

CMP AL, 20H (Check IBF bit)

JMP UP if IBF = 1, if no go to UP

IN AL, 98H read byte from port A

MOV[SI], AL store data from port A to memory [SI]

INC SI increment the memory pointer

JMP UP