8253/54 Timer

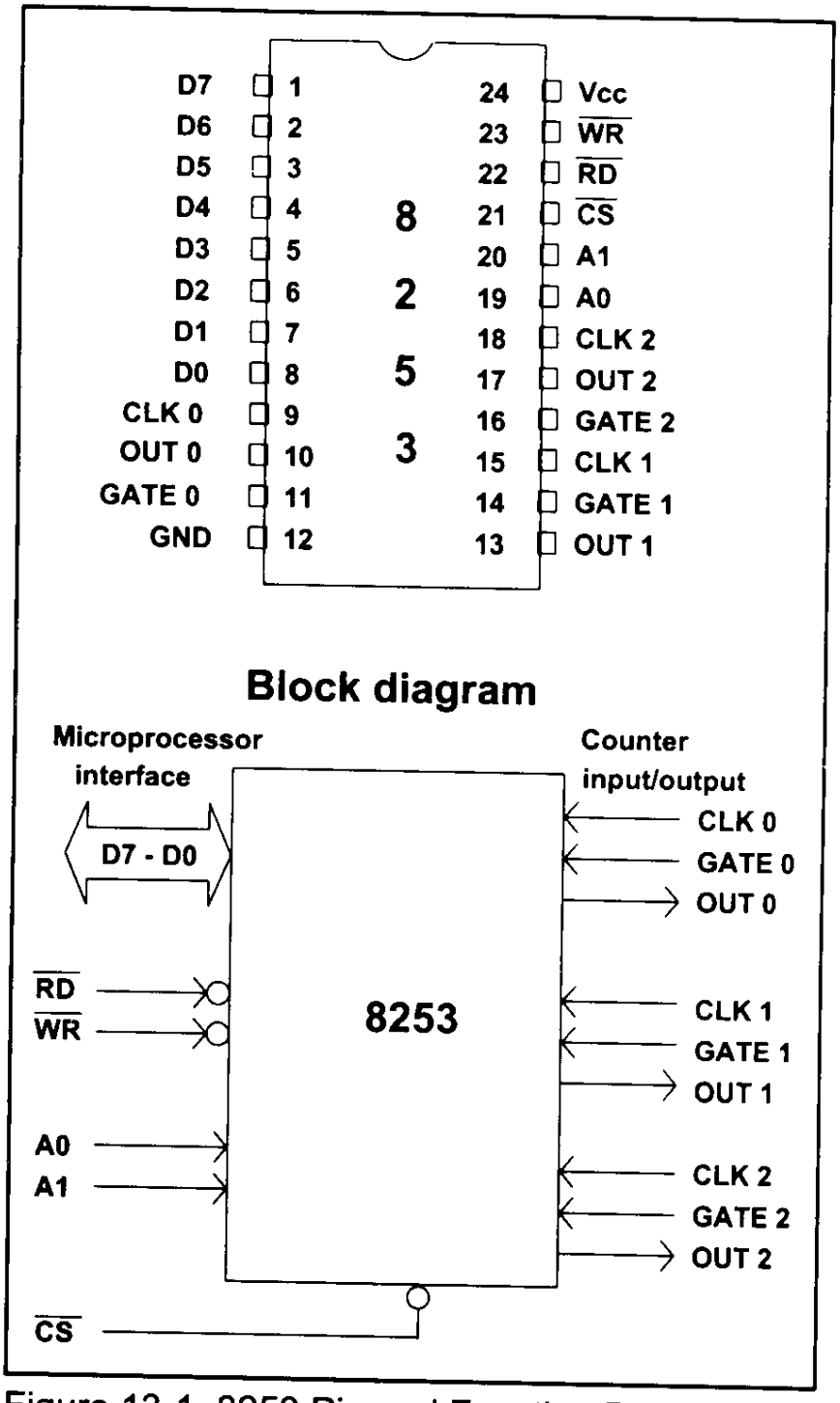

Figure 13-1. 8253 Pin and Function Diagram
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Addressing the 8253/54

Table 13-1: Addressing 8253/54

$\overline{CS}$	A1	A0	Port
0	0	0	Counter 0
0	0	1	Counter 1
0	1	0	Counter 2
0	1	1	Control register
1	x	x	8253/54 is not selected

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8253/54 Control Word

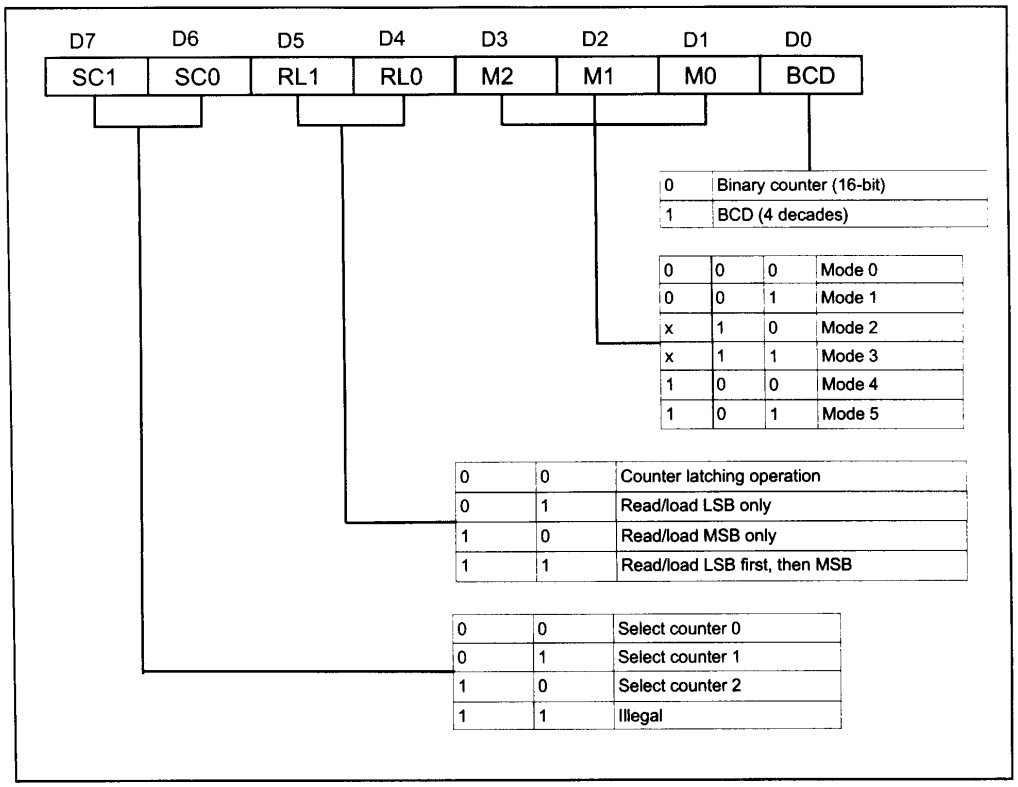

Figure 13-2. 8253/54 Control Word Format
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8253/54 Operating Modes

Mode 0	Interrupt on terminal count
Mode 1	Programmable one shot
Mode 2	Rate Generator
Mode 3	Square wave rate Generator
Mode 4	Software triggered strobe
Mode 5	Hardware triggered strobe

8253/54 Connections in the PC

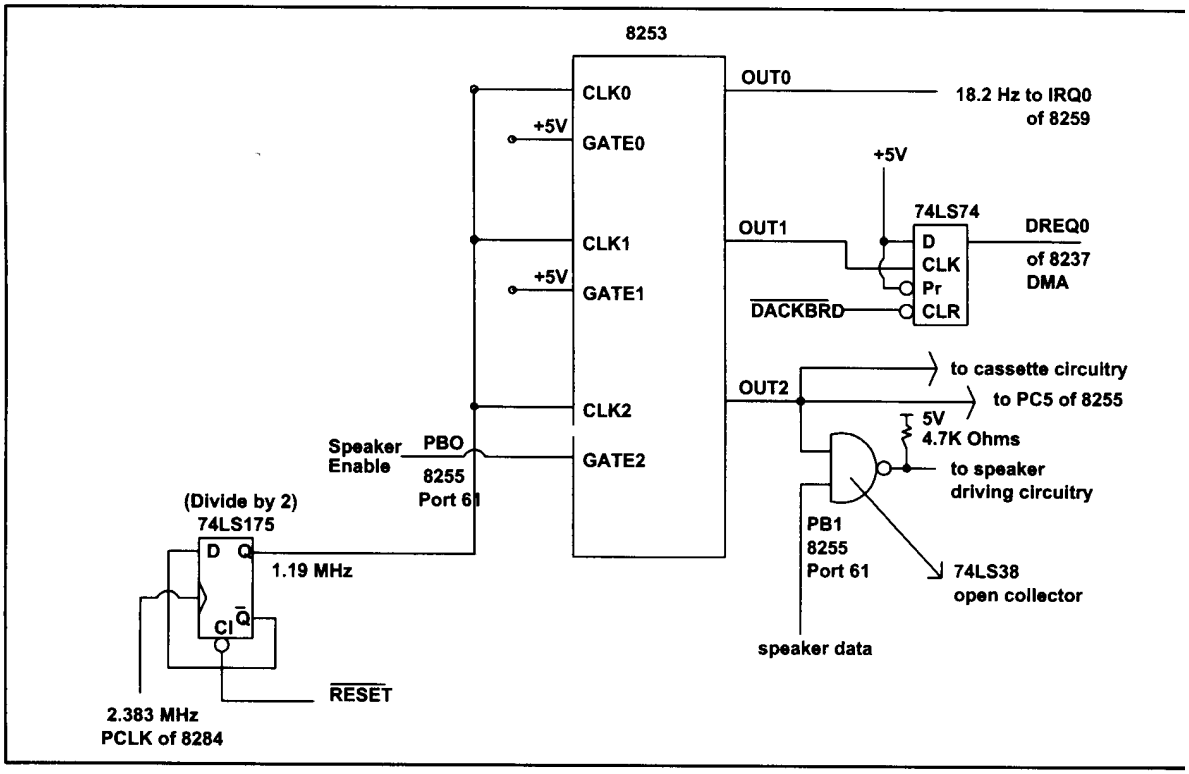

Figure 13-4. 8253 Chip Connections in the PC

Initializing the 8254 timer chip

```
TMR_CONTROL     EQU     43H
TMR_COUNTER0    EQU     40H
TMR_COUNTER1    EQU     41H
TMR_COUNTER2    EQU     42H

;*********************************************************************
;INIT_TMR
; This procedure intializes the 8254 on the motherboard and programs
; counter 0 to generate a pulse every 65,536 clock ticks
;*********************************************************************

INIT_TMR        PROC FAR

                PUSH AX

                MOV  AL, 00110110B      ; control register
                OUT  TMR_CONTROL, AL

                MOV  AL, 00000000B      ; LSB of clock divisor
                OUT  TMR_COUNTER0, AL

                MOV  AL, 00000000B      ; MSB of clock divisor
                OUT  TMR_COUNTER0, AL

                MOV  AL, 01010100B      ; control register
                OUT  TMR_CONTROL, AL

                MOV  AL, 18             ; LSB only clock divisor
                OUT  TMR_COUNTER1, AL

                POP  AX
                RET
INIT_TMR        ENDP
```