TIM2\_AR PAGE 1

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3 ; Author : ADI - Apps

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5 ; Date : December 1999

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7 ; File : Tim2\_AR.asm

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9 ; Hardware : ADuC816

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11 ; Description : Flashes light every 256\*128 machine cycles (@ 4Hz

12 ; for core freq = 1.573MHz) using timer 2 in Auto

13 ; Reload Mode.

14 ;\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15 $MOD52 ;Use 8052 predefined Symbols

16

00B4 17 LED EQU P3.4

18

19 ;\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

20 ; BEGINNING OF CODE

---- 21 CSEG

0000 22 ORG 0000H

23

0000 020060 24 JMP MAIN

25 ;\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

26 ; TIMER 2 INTERRUPT ROUTINE

002B 27 ORG 002Bh

28

002B B2B4 29 CPL LED ; Flash the light

002D C2CF 30 CLR TF2 ; The TF2 flag must be cleared in software

002F 32 31 RETI

32

33

34 ;\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

35 ; MAIN PROGRAM

0060 36 ORG 0060h ; Start code at address above interrupts

37

0060 38 MAIN: ; Main program

39

0060 D2AD 40 SETB ET2 ; Enable timer2 interrupt

41

0062 75CC00 42 MOV TL2, #00h ; Initialise timer 2 registers & Reload

0065 75CD80 43 MOV TH2, #80h ; values to rollover every 128\*256

0068 75CA00 44 MOV RCAP2L, #00h ; machine cycles (7.63us)

006B 75CB80 45 MOV RCAP2H, #80h

46

006E D2AF 47 SETB EA ; Enable interrupts

48

0070 D2CA 49 SETB TR2 ; Start timer 2 in 16-bit reload mode

50

0072 80FE 51 JMP $ ; Wait here for timer Interrupts

52

53 END

VERSION 1.2h ASSEMBLY COMPLETE, 0 ERRORS FOUND

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EA . . . . . . . . . . . . . . . B ADDR 00AFH PREDEFINED

ET2. . . . . . . . . . . . . . . B ADDR 00ADH PREDEFINED

LED. . . . . . . . . . . . . . . NUMB 00B4H

MAIN . . . . . . . . . . . . . . C ADDR 0060H

P3 . . . . . . . . . . . . . . . D ADDR 00B0H PREDEFINED

RCAP2H . . . . . . . . . . . . . D ADDR 00CBH PREDEFINED

RCAP2L . . . . . . . . . . . . . D ADDR 00CAH PREDEFINED

TF2. . . . . . . . . . . . . . . B ADDR 00CFH PREDEFINED

TH2. . . . . . . . . . . . . . . D ADDR 00CDH PREDEFINED

TL2. . . . . . . . . . . . . . . D ADDR 00CCH PREDEFINED

TR2. . . . . . . . . . . . . . . B ADDR 00CAH PREDEFINED