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C51 COMPILER V7.04, COMPILATION OF MODULE ADCTIMER

OBJECT MODULE PLACED IN ADCTIMER.OBJ

COMPILER INVOKED BY: C:\Keil\C51\BIN\C51.EXE ADCTIMER.C BROWSE DEBUG OBJECTEXTEND

stmt level source

1 /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

2

3 Author : ADI - Apps www.analog.com/MicroConverter

4

5 Date : October 2003

6

7 File : ADCtimer.c

8

9 Hardware : ADuC842

10

11 Description : Performs ADC conversions at 10KSPS in Timer2 mode.

12 P3.3 indicates convesion complete. Continuously

13 flashes LED (independently of ADC routine) at

14 approximately 4.7Hz.

15 All rate calculations assume an 2.097152MHz Mclk.

16

17 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

18

19 #include<stdio.h>

20 #include<aduc842.h>

21

22 sbit adcled = 0x0B3 ;

23 sbit LED = 0x0B4; //P3.4 drives red LED on eval board

24

25 void adc\_int() interrupt 6{

26 1 adcled ^= 1;

27 1 return;

28 1 }

29 void DELAY(int);

30 void main(void)

31 {

32 1

33 1 int CHAN=0;

34 1 /\*PRECONFIGURE...\*/

35 1 ADCCON1 = 0x09E; // power up ADC & enable Timer2 mode

36 1 ADCCON2 = CHAN ; // select channel to convert

37 1 RCAP2L = 0x0F6; //sample period = 2 \* T2 reload prd

38 1 RCAP2H = 0x0FF; // = 2\*(10000h-FFF6h)\*5.722us

39 1 TL2 = 0x0F6; // = 2\*9\*5.722us

40 1 TH2 = 0x0FF; // = 102.99us

41 1

42 1 /\*LAUNCH Timer2 DRIVEN CONVERSIONS...\*/

43 1 EA = 1; // enable interrupts

44 1 EADC = 1; // enable ADC interrupt

45 1 TR2 = 1; // run Timer2

46 1

47 1 /\*CONTINUE WITH OTHER CODE...\*/

48 1 for (;;)

49 1 {

50 2 LED ^= 1;

51 2 DELAY(1500);

52 2 }

53 1

54 1 /\*; the micro is free to continue with other tasks (flashing the LED in

55 1 this case) while the ADC operation is being controlled by Timer2

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56 1 and the ADC interrupt service routine.\*/

57 1

58 1 }

59

60 void DELAY(int length)

61 {

62 1 while (length >=0)

63 1 {length--;}

64 1 }

65

MODULE INFORMATION: STATIC OVERLAYABLE

CODE SIZE = 64 ----

CONSTANT SIZE = ---- ----

XDATA SIZE = ---- ----

PDATA SIZE = ---- ----

DATA SIZE = ---- ----

IDATA SIZE = ---- ----

BIT SIZE = ---- ----

END OF MODULE INFORMATION.

C51 COMPILATION COMPLETE. 0 WARNING(S), 0 ERROR(S)