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

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; Date : January 2001

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; File : ADCuart.asm

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; Hardware : ADuC816

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; Description : sample program that performs ADC conversions in

; continuous mode and sends results to a PC via the

; UART.

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$MOD816 ; Use 8052&ADuC816 predefined symbols

LED EQU P3.4 ; P3.4 drives red LED on eval board

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; BEGINNING OF CODE

CSEG

ORG 0000h

JMP MAIN

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; ADC ISR

ORG 0033h ; (ADC ISR)

CPL LED

MOV DPTR,#SEPERATOR ; send linefeed+CR out UART

CALL SENDSTRING

MOV A,ADC0H ; send ADC data via UART

CALL SENDVAL

MOV A,ADC0M

CALL SENDVAL

CLR RDY0

RETI

;====================================================================

; MAIN PROGRAM

ORG 0100h

MAIN:

MOV SP,#127

; CONFIGURE UART....

MOV RCAP2H,#0FFh ; config UART for 9830baud

MOV RCAP2L,#-5 ; (close enough to 9600baud)

MOV TH2,#0FFh

MOV TL2,#-5

MOV SCON,#01010010b

MOV T2CON,#00110100b

; CONFIGURE ADC AND START CONVERTING....

MOV SF,#200 ; 6.8266667Hz ADC data rate

MOV ADC0CON,#45h ; externalVref, bipolar, ±640mV

SETB EADC ; enable ADC interrupt (trig on RDY0)

SETB EA ; enable global interrupts

MOV ADCMODE,#23h ; continuous conversion mode

; WAIT FOR INTERRUPTS....

JMP $ ; endless loop

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; SUBROUTINE INCLUDE FILE

$INCLUDE(UARTIO.asm)

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; TEXT DATA TABLES

SEPERATOR: DB 10,13,0

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END