

Recap

Analog to Digital Convertor

Using output compare interrupts to establish sampling

Overview

ADC Convertor techniques

ADC software

OC periodic interrupts

Importing LCD code into Lab6 project

Address	Bit 7	6	5	4	3	2	1	Bit 0	Name
\$0040	IOS7	IOS6	IOS5	IOS4	IOS3	IOS2	IOS1	IOS0	TIOS
\$0044-5	Bit 15	14	13	12	11	10		Bit 0	TCNT
\$0046	TEN	TSWAI	TSFRZ	TFFCA	0	0	0	0	TSCR1
\$004C	C7I	C6I	C5I	C4I	C3I	C2I	C1I	C0I	TIE
\$004D	TOI	0	PUPT	RDPT	TCRE	PR2	PR1	PR0	TSCR2
\$004E	C7F	C6F	C5F	C4F	C3F	C2F	C1F	C0F	TFLG1
\$004F	TOF	0	0	0	0	0	0	0	TFLG2
\$0050-1	Bit 15	14	13	12	11	10		Bit 0	TC0
\$0052-3	Bit 15	14	13	12	11	10		Bit 0	TC1
\$0054-5	Bit 15	14	13	12	11	10		Bit 0	TC2
\$0056-7	Bit 15	14	13	12	11	10		Bit 0	TC3
\$0058-9	Bit 15	14	13	12	11	10		Bit 0	TC4
\$005A-B	Bit 15	14	13	12	11	10		Bit 0	TC5
\$005C-D	Bit 15	14	13	12	11	10		Bit 0	TC6
\$005E-F	Bit 15	14	13	12	11	10		Bit 0	TC7
\$0082	ADPU	AFFC	ASWAI	ETRIGLE	ETRIGP	ETRIG	ASCIE	ASCIF	ATD0CTL2
\$0083	0	S8C	S4C	S2C	S1C	FIFO	FRZ1	FRZ0	ATD0CTL3
\$0084	SRES8	SMP1	SMP0	PRS4	PRS3	PRS2	PRS1	PRS0	ATD0CTL4
\$0085	DJM	DSGN	SCAN	MULT	0	CC	CB	CA	ATD0CTL5
\$0086	SCF	0	ETORF	FIFOR	0	CC2	CC1	CC0	ATD0STAT0
\$008B	CCF7	CCF6	CCF5	CCF4	CCF3	CCF2	CCF1	CCF0	ATD0STAT1
\$008D	Bit 7	6	5	4	3	2	1	Bit 0	ATD0DIEN
\$008F	PAD07	PAD06	PAD05	PAD04	PAD03	PAD02	PAD01	PAD00	PORTAD0
\$0090-1	Bit 15	14	13	12	11	10		Bit 0	ATD0DR0
\$0092-3	Bit 15	14	13	12	11	10		Bit 0	ATD0DR1
\$0094-5	Bit 15	14	13	12	11	10		Bit 0	ATD0DR2
\$0096-7	Bit 15	14	13	12	11	10		Bit 0	ATD0DR3
\$0098-9	Bit 15	14	13	12	11	10		Bit 0	ATD0DR4
\$009A-B	Bit 15	14	13	12	11	10		Bit 0	ATD0DR5
\$009C-D	Bit 15	14	13	12	11	10		Bit 0	ATD0DR6
\$009E-F	Bit 15	14	13	12	11	10		Bit 0	ATD0DR7

Successive Approximation

Cheap, accurate, 100 kHz

Flash

Expensive, accurate, extremely fast, 100 MHz

Sigma Delta

Cheap, very good resolution, not accurate, 44 kHz

Write ADC driver

- Review ADC bits

- show it on TExaS and real board

Write 1 kHz OC7 interrupt

- Review Timer bits

- show it on TExaS and real board

Import LCD code from Lab5

- show it on TExaS and real board

The bottom line

- ADC converts analog to digital**

- Controlling time is important**