Using the Simulator for

ELECTRONIC DEVICES EUROPE

FUĴÎTSU

I/O Port Interrupt

Simulation

I/O port configuration for Simulator

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<u>View Project Debug</u> Setup <u>Window Help</u> Edit File 💑 💑 🗖 💁 🛄 🔜 🛄 🏵 🎬 🏥 🗶 E (+) ()+ ()+ Ð 🔽 Register 💶 🗆 🗙 - 🗆 × 😥 Terminal H ' 00H ' 01H ' 02H ' 03H ' 04H ' 05H ' 06H ' 07H ' 08H ' 09H ' 0AH ' 0BH 🖡 PC:8041 A:0000 T:00FF IX:00AF SP:00AB • EP:8001 IL:3 FLAGS:H-**-Z-C port630.c _ 🗆 X RP:00 R0:00 SYCC = 0x87; 54: /* zero stab. time *****/ R1:00 R2:00 08006: 850787 MOV \ sycc,#87 R3:00 R4:00 55: /* main clock (10MHz) R5:00 R6:00 56: /* 400ns cycle time R7:00 57: 58: /* Set General I/O-Port 3 */ 59: DDR3 = 0xFF; /* set port 3 direction to output */ 8009: 850EFF MOV \ ddr3,#FF 60: 61: for(i=0; i<16; i++) { /* set port 3 output 16 times * 800C: E40000 MOVW A,#0000 800F: D6FE MOVU 0IX-02,A 8011: C6FE MOVU A,@IX-02 8013: E40010 MOVW A,#0010 8016: 13 CMPW A. 8017: FE14 802D BGE 62: PDR3 = i;8019: C6FE MOVW A,0IX-02 801B: 450D MOV \ pdr3,A F

The I/O port can be simulated by terminal or file handling procedures

In the terminal window, the values written to the Output port can be seen

If a file is used, the data written to the output port are written to the specified file

If an input port is defined, on each port read instruction the terminal input or the data in the file are read

I/O port Configuration for Simulator

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Configuration of input port

up 170 poi	t		
nput port 0	utput port		
P <u>o</u> rt address	H'000F	Update <u>c</u> ycle	D'1000
<u>M</u> ask data:	H'FFFFFFFF		
-Data size- O <u>A</u> scii			Append
• <u>B</u> inary	<u>S</u> ize:	Byte 💌	
Input type-			
O <u>⊺</u> ermina	al		
• <u>F</u> ile	File <u>n</u> ame:	C:\Softune\Smp	Browse
Input port <u>l</u> i	st		
address	mask-data sis	e cycle input	D <u>e</u> lete
000F	FFFFFFFF BYTE	1000 C:\3o1	tune\3mp18L\I
			<u> </u>

Input port simulation has the following types:

• Whenever a program reads the specified port, data is input from the pre-defined data input source.

• Whenever the instruction execution cycle count exceeds the specified cycle count, data is input to the port.

The Input port is specified by the port address. Up to 16 input ports can be defined

Terminal input or file input is possible

ASCII and binary data can be specified

I/O port configuration for Simulator

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Configuration of Output Port

nput port Ou	itput port		
P <u>o</u> rt address:	H'000D]	
<u>M</u> ask data:	H'FFFFFFFF]	
-Data size — C <u>A</u> scii			Append
● <u>B</u> inary	<u>S</u> ize:	Byte 💌	
Output type O <u>T</u> erminal		C:\Softune\Smpl8	[m
💽 <u>F</u> ile	File <u>n</u> ame:	C. \SUITURE \STIPIO	Browse
Output port (i	ist		
	st mask-data sis;	e output	D <u>e</u> lete
address :		-	Delete
address :	mask-data size	-	
address :	mask-data size	-	Delete

The output port is specified by the port address. Up to 16 output ports can be defined.

- Terminal output or file output is possible
- SCII and binary data can be specified

Interrupt configuration for Simulator

Display Vector Table

Vector

Vector table:³

No.	Address	Symbol	Factor	
	2001	\start	reset	
0	0000	\IO_PDRO	external interrupt #0	
1	0000	\I0_PDR0	external interrupt #1	
2	0000	\I0_PDR0	8-bit serial I/O	
3	0000	\I0_PDR0	8-bit PWM timer #1	
4	0000	\ IO_PDRO	8-bit PWM timer #2	
5	0000	\I0_PDR0	PWC timer	
5	0000	\ IO_PDRO	lδ-bit timer/counter	
7	0000	\I0_PDR0	UART (receive complete)	
8	0000	\I0_PDR0	UART (transmission c	
9	0000	\ IO PDRO	A/D converter	
10	0000	\IO_PDR0	timebase timer	
11	2088	\WatchTimer	timeclock prescaler	

Jump Close

X

In the Vector table all used Interrupts are displayed

<u>E</u>dit..

Specify Interrupts in the Debug environment setup

Interrupt		×
Interrupt <u>n</u> umber:	D'4	le palle palle palle palle and a part of the second se
<u>R</u> equest timing:	Interval 💌	Append
Cycle count:	D'10	Close
Interrupt list		
Number Request timir	ng cycle	
2 One time 3 Interval 4 Interval	1 1000 10	D <u>e</u> lete

Interrupts can be Single Shot or Interval

Individual Interval count setting

Individual Interval or One Shot Interrupt simulation setting



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