CV-8052 Soft-Core Special Function Registers (SFRs)

The 8052 soft processor includes all the standard 8052 SFRs. Some additional SFRs were added to provide access to some of the resources in the Altera DE0-CV board. These are the additional SFRs:

SFR	Address	Description							
HEX0	91H	Seven segment display 0							
HEX1	92H	Seven segment display 1							
HEX2	93H	Seven segment display 2							
HEX3	94H	Seven segment display 3							
HEX4	8EH	Seven segment display 4							
HEX5	8FH	Seven segment display 5							
LEDRA	E8H	LEDs LEDR0 to LEDR7 (bit addressable).							
LEDRB	95H	LEDs LEDR8 to LEDR15.							
SWA	E8H	Switches SW0 to SW7 (bit addressable).							
SWB	95H	Switches SW8 to SW15.							
KEY	F8H	KEY1=KEY.1, KEY2=KEY.2, etc.							
LCD_CMD	D8H	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
		X	X	X	X	ON	RS	EN	RW
LCD_DATA	D9H	Input/output port to LCD							
LCD_MOD	DAH	Write 0FFH to make LCD_DATA an output							
P0MOD	9AH	Input/Output mode bits for port 0							
P1MOD	9BH	Input/Output mode bits for port 1							
P2MOD	9CH	Input/Output mode bits for port 2							
P3MOD	9DH	Input/Output mode bits for port 3							

Pin Assignments

All the standard 8052 I/O pins are assigned to the expansion headers of the Altera DE0-CV board. By default all the port pins (P0 to P3) are configured as inputs. To configure any of the pins of a port as an output write 1 to the corresponding bit in the PxMOD register described above. For example to make P0.0 and P0.7 outputs and leave P0.1 to P0.6 as inputs, write 81H to P0MOD. These are the pin assignments:

JP1

LCD_DATA[0]	**1**	**2**	*LCD_DATA[1]*
LCD_DATA[2]	**3**	**4**	*LCD_DATA[3]*
LCD_DATA[4]	**5**	**6**	*LCD_DATA[5]*
LCD_DATA[6]	**7**	**8**	*LCD_DATA[7]*
LCD_EN	**9**	**10**	*LCD_RS*
5V	**11**	**12**	*GND*
LCD_RW	**13**	**14**	*TXD*
LCD_ON	**15**	**16**	*RXD*
FL_DQ[0]	**17**	**18**	*FL_DQ[1]*
FL_DQ[2]	**19**	**20**	*FL_DQ[3]*
FL_DQ[4]	**21**	**22**	*FL_DQ[5]*
FL_DQ[6]	**23**	**24**	*FL_DQ[7]*
FL_RST_N	**25**	**26**	*FL_WE_N*
FL_OE_N	**27**	**28**	*FL_CE_N*
3.3V	**29**	**30**	*GND*
TDO	**31**	**32**	*TDI*
TCS	**33**	**34**	*TCK*
Not used	**35**	**36**	*Not used*
T0	**37**	**38**	*T1*
T2	**39**	**40**	*T2EX*

JP2

P0.0	**1**	**2**	*P0.1*
P0.2	**3**	**4**	*P0.3*
P0.4	**5**	**6**	*P0.5*
P0.6	**7**	**8**	*P0.7*
P1.0	**9**	**10**	*P1.1*
5V	**11**	**12**	*GND*
P1.2	**13**	**14**	*P1.3*
P1.4	**15**	**16**	*P1.5*
P1.6	**17**	**18**	*P1.7*
P2.0	**19**	**20**	*P2.1*
P2.2	**21**	**22**	*P2.3*
P2.4	**23**	**24**	*P2.5*
P2.6	**25**	**26**	*P2.7*
P3.0	**27**	**28**	*P3.1*
3.3V	**29**	**30**	*GND*
P3.2	**31**	**32**	*P3.3*
P3.4	**33**	**34**	*P3.5*
P3.6	**35**	**36**	*P3.7*
INT0	**37**	**38**	*INT1*
Not Used	**39**	**40**	*Not used*