

## PIN DETAILS

### Listing 1: UCF file for DIP Switches

# DIP SWITCH CONNECTIONS:

<u>SW4</u>		<u>SW5</u>	
NET DIPSW1	LOC=P55;	NET DIPSW1	LOC=P95;
NET DIPSW2	LOC=P56;	NET DIPSW1	LOC=P96;
NET DIPSW3	LOC=P57;	NET DIPSW1	LOC=P97;
NET DIPSW4	LOC=P58;	NET DIPSW1	LOC=P98;
NET DIPSW5	LOC=P59;	NET DIPSW1	LOC=P99;
NET DIPSW6	LOC=P60;	NET DIPSW1	LOC=P100;
NET DIPSW7	LOC=P61;	NET DIPSW1	LOC=P101;
NET DIPSW8	LOC=P62;	NET DIPSW1	LOC=P102;

### Listing 3: UCF file for Transistors

NET Q1	LOC=P176;
NET Q2	LOC=P175;
NET Q3	LOC=P174;
NET Q4	LOC=P173;

### Listing 2: UCF file for 7-segment Display

#### Multiplexed Display

NET SEGa LOC=P160;  
NET SEGb LOC=P161;  
NET SEGc LOC=P162;  
NET SEGd LOC=P163;  
NET SEGe LOC=P164;  
NET SEGf LOC=P165;  
NET SEGg LOC=P166;  
NET SEGdp LOC=P167;

#CLOCK SWITCH CONNECTIONS NET CLK LOC=P80;

#PUSH BUTTON SWITCH CONNECTIONS NET PUSH1 LOC=P75;

### Listing 4: UCF File for Bar graph LED

#### Bar Graph-1

#### Bar Graph-2

NET D_1	LOC=P36;	NET D_1	LOC=P49;
NET D_2	LOC=P35;	NET D_2	LOC=P48;
NET D_3	LOC=P34;	NET D_3	LOC=P47;
NET D_4	LOC=P33;	NET D_4	LOC=P46;
NET D_5	LOC=P30;	NET D_5	LOC=P45;
NET D_6	LOC=P29;	NET D_6	LOC=P44;
NET D_7	LOC=P23;	NET D_7	LOC=P43;
NET D_8	LOC=P22;	NET D_8	LOC=P42;
NET D_9	LOC=P21;	NET D_9	LOC=P41;
NET D_10	LOC=P20;	NET D_10	LOC=P40;

Model: Ramp SP2E

**LISTING 5: UCF FOR INTERFACES**

40 Pin Expansion	LCD, ADC, DAC	FPGA PIN	KEYBOARD, ELV & LCD
1.	DAC0	P86	ELVSW1
2.	DAC1	P87	ELVSW2
3.	DAC2	P88	ELVSW3
4.	DAC3	P93	ELVSW4
5.	DAC4	P94	ELVSW5
6.	DAC5	P108	ELVSW6
7.	DAC6	P109	ELVSW7
8.	DAC7	P110	ELVSW8
9.	ADDA	P111	HEXIN0
10.	ADDB	P112	HEXIN1
11.	ADDC	P113	HEXIN2
12.	START	P114	HEXIN3
13.	EOC	P115	HEXOUT0
14.	ALE	P116	HEXOUT1
15.	ADCCLK	P120	HEXOUT2
16.	ADC1	P121	HEXOUT3
17.	ADC2	P122	LCD0
18.	ADC3	P123	LCD1
19.	ADC4	P125	LCD2
20.	ADC5	P126	LCD3
21.	ADC6	P127	LCD4
22.	ADC7	P129	LCD5
23.	ADC8	P132	LCD6
24.	OE	P133	LCD7
25.	LCDEN	P134	RS
26.	R/W	P135	RW
27.	RS	P136	EN
28.	LCD D0	P138	
29.	LCD D1	P139	
30.	LCD D2	P140	
31.	LCD D3	P141	
32.	LCD D4	P145	
33.	LCD D5	P146	
34.	LCD D6	P147	
35.	LCD D7	P148	
36.		P149	
37.		P150	
38.		P151	
39.		+5V	
40.		GND	

FPGA PIN	10 PIN HEADER
P68	1
P69	2
P73	3
P74	4
P81	5
P82	6
P83	7
P84	8
+5V	9
GND	10

#### 40-Pin I/O Expansion

40-Pin Connector	CPLD	40-Pin Connector	CPLD PIN
1.	74	21	98
2.	75	22	100
3.	76	23	101
4.	77	24	102
5.	78	25	103
6.	79	26	104
7.	80	27	105
8.	81	28	106
9.	82	29	107
10.	83	30	110
11.	85	31	111
12.	86	32	112
13.	87	33	113
14.	88	34	115
15.	91	35	116
16.	92	36	117
17.	94	37	118
18.	95	38	VCC3.3
19.	96	39	Vin
20.	97	40	Gnd

## PIN DETAILS FOR UNIVERSAL CPLD TRAINER

**Listing 1:** UCF file for DIP Switches

# DIP SWITCH CONNECTIONS:

<u>SW4</u>	<u>SW5</u>
NET DIPSW1 LOC=P40;	NET DIPSW1 LOC=P60;
NET DIPSW2 LOC=P41;	NET DIPSW1 LOC=P61;
NET DIPSW4 LOC=P43;	NET DIPSW1 LOC=P64;
NET DIPSW5 LOC=P44;	NET DIPSW1 LOC=P66;
NET DIPSW6 LOC=P45;	NET DIPSW1 LOC=P68;
NET DIPSW7 LOC=P46;	NET DIPSW1 LOC=P69;
	NET DIPSW1 LOC=P70;
	NET DIPSW1 LOC=P71;

**Listing 3:** UCF file for Transistors

NET Q1	LOC=P128;
NET Q2	LOC=P126;
NET Q3	LOC=P125;
NET Q4	LOC=P124;

**Listing 2:** UCF file for 7-segment Display

### Multiplexed Display

NET SEGa	LOC=P137;	#CLOCK SWITCH CONNECTIONS	NET CLK	LOC=P38;
NET SEGb	LOC=P115;	#PUSH BUTTON SWITCH CONNECTIONS	NET PUSH1	LOC=P50;
NET SEGc	LOC=P116;			
NET SEGd	LOC=P117;			
NET SEGe	LOC=P118;			
NET SEGf	LOC=P119;			
NET SEGg	LOC=P120;			
NET SEGdp	LOC=P121;			

**Listing 4:** UCF File for Bar graph LED

### Bar Graph-1 DS5

NET D_1	LOC=P10;
NET D_2	LOC=P11;
NET D_3	LOC=P12;
NET D_4	LOC=P13;
NET D_5	LOC=P14;
NET D_6	LOC=P15;

### Bar Graph-2 DS6

NET D_1	LOC=P25;
NET D_2	LOC=P26;
NET D_3	LOC=P21;
NET D_4	LOC=P22;
NET D_5	LOC=P23;
NET D_6	LOC=P24;
NET D_7	LOC=P31;
NET D_8	LOC=P33;
NET D_9	LOC=P34;
NET D_10	LOC=P35;

### UCF Listings

Model: Ramp CR2/288XL

Dip Switches SW3	CPLD PIN	Bar Graph	FPGA PIN
SW1	56	D1	40
SW2	57	D2	41
SW3	58	D3	42
SW4	59	D4	43
SW5	60	D5	44
SW6	61	D6	45
SW7	69	D7	48
SW8	70	D8	49
		D9	50
		D10	51

UCF **Listing 2:** UCF file for 7-segment Display

```
NET "SEG<a>" LOC = "P10" ; #CLOCK SWITCH CONNECTIONS NET CLK LOC=P30;
NET "SEG<b>" LOC = "P11" ;
NET "SEG<c>" LOC = "P12" ;
NET "SEG<d>" LOC = "P13" ;
NET "SEG<e>" LOC = "P14" ;
NET "SEG<f>" LOC = "P15" ;
NET "SEG<g>" LOC = "P16" ;
NET "SEG<dp>" LOC = "P17" ;

NET "SEG<a>" LOC = "P20" ;
NET "SEG<b>" LOC = "P21" ;
NET "SEG<c>" LOC = "P22" ;
NET "SEG<d>" LOC = "P23" ;
NET "SEG<e>" LOC = "P24" ;
NET "SEG<f>" LOC = "P25" ;
NET "SEG<g>" LOC = "P26" ;
NET "SEG<dp>" LOC = "27" ;
```