

## Board Test Procedure

To test your board, you need to run the test.hex provided (see Lab Board Introduction.pdf). Please follow the three steps below:

### 1. Wiring

For test.hex, the following connections should be made. These connections are described in terms of the labelling on the board.

AVR Pins (top and bottom row)		Input/Output Device Pins (middle row)	
Port Group	Pin	Port Group	Pin
PORT F	PF0	LCD DATA	D0
PORT F	PF1	LCD DATA	D1
PORT F	PF2	LCD DATA	D2
PORT F	PF3	LCD DATA	D3
PORT F	PF4	LCD DATA	D4
PORT F	PF5	LCD DATA	D5
PORT F	PF6	LCD DATA	D6
PORT F	PF7	LCD DATA	D7
PORT K	PK8	INPUTS	POT
PORT K	PK9	INPUTS	LDR
PORT K	PK10	AUDIO	MiO
PORT E	PE5	LCD CTRL	BL
PORT E	PE3	AUDIO	Ain
PORT E	PE2	MOTOR	Mot
PORT D	TDX2	MOTOR	OpO
PORT D	RDX3	INPUTS	PB1
PORT D	RDX4	INPUTS	PB0
PORT A	PA2	-	-
PORT A	PA3	MOTOR	LED
PORT A	PA4	LCD CTRL	BE
PORT A	PA5	LCD CTRL	RW
PORT A	PA6	LCD CTRL	E
PORT A	PA7	LCD CTRL	RS
PORT C	PC0	LED BAR	LED2
PORT C	PC1	LED BAR	LED3
PORT C	PC2	LED BAR	LED4
PORT C	PC3	LED BAR	LED5
PORT C	PC4	LED BAR	LED6
PORT C	PC5	LED BAR	LED7
PORT C	PC6	LED BAR	LED8
PORT C	PC7	LED BAR	LED9
PORT G	PG0	-	-
PORT G	PG1	AUDIO	ASD
PORT G	PG2	LED BAR	LED0
PORT G	PG3	LED BAR	LED1
PORT L	PL0	KEYPAD	C3
PORT L	PL1	KEYPAD	C2
PORT L	PL2	KEYPAD	C1
PORT L	PL3	KEYPAD	C0
PORT L	PL4	KEYPAD	R3
PORT L	PL5	KEYPAD	R2
PORT L	PL6	KEYPAD	R1
PORT L	PL7	KEYPAD	R0
P11	+5V (any)	MOTOR	OpE

2. Downloading the “test.hex” on your board
3. Evaluating the functions specified in “Board Evaluation Form.xlsx”.