ITCT Embedded Controller Design (ECD) Project
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Module	Port	MODE	Pin
Port T			
• Stepper Motor Coil Pair 2 In	PT7	GPIO OUT	14
• Stepper Motor Coil Pair 2 Out	PT6	GPIO OUT	13
• Stepper Motor Coil Pair 1 In	PT5	GPIO OUT	12
• Stepper Motor Coil Pair 1 Out	PT4	GPIO OUT	11
Port T			
Timer Module			
• RC Servo 2 Out	PT3	Timer Out	8
• RC Servo 1 Out	PT2	Timer Out	7
• DC Motor Encoder 2 In	PT1	Input Capture	6
• DC Motor Encoder 1 In	PT0	Input Capture	5
Port S			
• LED 2 (Green)	PS3	GPIO Out	66
• LED 1 (Green)	PS2	GPIO Out	65
Port S			
Serial Communications Interface (SCI)			
• SCI Transmit	PS1	SCI TX	64
• SCI Receive	PS0	SCI RX	63
Port M			
Serial Peripheral Interface (SPI)			
• SCK	PM5	SPI SCK	70
• MOSI	PM4	SPI MOSI	71
• N_SS	PM3	SPI N_SS	72
• MISO	PM2	SPI MISO	73
Port M			
• CAN_TX	PM1	GPIO Reserved	74
• CAN_RX	PM0	GPIO Reserved	75
Port J			
Serial Peripheral Interface (SPI)			
• SPI_CS2	PJ6	GPIO Out	69
• SPI_CS1	PJ7	GPIO Out	68
Port P			
• Keypad wake	PP7	GPIO Reserved	78
• ROMCTL (Pull up with 10K and connect to header pin for GPIO)	PP6	ROMCTL In	67
Port P			
PWM Module			
• DC Motor 2 PWM	PP5	PWM Out	79
• DC Motor 1 PWM	PP4	PWM Out	80
Port P			
• Unused	PP3	GPIO Unused	1
• Unused	PP2	GPIO Unused	2
• Unused	PP1	GPIO Unused	3
• Unused	PP0	GPIO Unused	4
Port AD			
• Stepper Switch Right	PAD7	GPIO IN	58
• Stepper Switch Left	PAD6	GPIO IN	57
• Unused/Keyboard scan 5	PAD5	GPIO Reserved	56
• Unused/Keyboard scan 4	PAD4	GPIO Reserved	55
• Analog Input 3/Keyboard scan 3	PAD3	Analog In/GPIO	54
• Analog Input 2	PAD2	Analog In	53
• Analog Input 1	PAD1	Analog In	52
• Analog Input 0	PAD0	Analog In	51

Port A • Unused • LCD_RW • LCD_RS • LCD_E • LCD Data I/O 3 • LCD Data I/O 2 • LCD Data I/O 1 • LCD Data I/O 0	 PA7 PA6 PA5 PA4 PA3 PA2 PA1 PA0	 GPIO Unused GPIO Out GPIO Out GPIO Out GPIO I/O GPIO I/O GPIO I/O GPIO I/O	 48 47 46 45 44 43 42 41
Port B • Unused • Unused • Unused • Unused • DC Motor 2 Direction B • DC Motor 2 Direction A • DC Motor 1 Direction B • DC Motor 1 Direction A	 PB7 PB6 PB5 PB4 PB3 PB2 PB1 PB0	 GPIO Unused GPIO Unused GPIO Unused GPIO Unused GPIO Out GPIO Out GPIO Out GPIO Out	 23 22 21 20 19 18 17 16