

Pin Name	Pin #	I/O Usage
PA0 (output)	Pin 57	Col_0 of keypad
PA1 (output)	Pin 58	Col_1 of keypad
PA2 (output)	Pin 59	Col_2 of keypad
PA3 (output)	Pin 60	Col_3 of keypad
PA4 (input)	Pin 61	Row_0 of keypad
PA5 (input)	Pin 62	Row_1 of keypad
PA6 (input)	Pin 63	Row_2 of keypad
PA7 (input)	Pin 64	Row_3 of keypad
PB0 (output)	Pin 24	LED0 or H-bridge
PB1 (output)	Pin 25	LED1 or H-bridge
PB2 (output)	Pin 26	LED2 or H-bridge
PB3 (output)	Pin 27	LED3 or H-bridge
PB4 (output)	Pin 28	LED4
PB5 (output)	Pin 29	LED5
PB6 (output)	Pin 30	LED6
PB7 (output)	Pin 31	LED7
PE0 (input)	Pin 56	Abort switch SW8
PE1	Pin 55	not used
PE2	Pin 54	not used
PE3	Pin 53	not used
PE4	Pin 39	not used
PE5	Pin 38	not used
PE6	Pin 37	not used
PE7	Pin 36	not used
PH0 (input)	Pin 52	DIP switch 1 or pushbutton switch SW5
PH1 (input)	Pin 51	DIP switch 2 or pushbutton switch SW4 (input)
PH2 (input)	Pin 50	DIP switch 3 or pushbutton switch SW3 (input)
PH3 (input)	Pin 49	DIP switch 4 or pushbutton switch SW2 (input)
PH4 (input)	Pin 35	DIP switch 5 (input)
PH5 (input)	Pin 34	DIP switch 6 (input)
PH6 (input)	Pin 33	DIP switch 7 (input)
PH7 (input)	Pin 32	DIP switch 8 (input)
PJ0	Pin 22	not used
PJ1	Pin 21	not used
PJ6	Pin 99	SDA for DS1307(U11) or external I2C (J2)
PJ7	Pin 98	SCL for DS1307(U11) or external I2C (J2)
PK0 (output)	Pin 8	RS of LCD module
PK1 (output)	Pin 7	EN of LCD module
PK2	Pin 6	DB4 of LCD module (bi-directional)
PK3	Pin 5	DB5 of LCD module (bi-directional)
PK4	Pin 20	DB6 of LCD module (bi-directional)
PK5	Pin 19	DB7 of LCD module (bi-directional)
PK7	Pin 108	not used

**Table 1-1: I/O pin usage list 1**

Pin Name	Pin #	I/O Usage
PM0	Pin 105	CAN0
PM1	Pin 104	CAN0
PM2	Pin 103	not used
PM3	Pin 102	not used
PM4	Pin 101	not used
PM5	Pin 100	not used
PM6	Pin 88	CS of LTC1661 (DAC)
PM7	Pin 87	Not used
PP0 (output)	Pin 4	Digit 3 of 7-segment display or EN12 of H-bridge
PP1 (output)	Pin 3	Digit 2 of 7-segment display or EN34 of H-bridge
PP2 (output)	Pin 2	Digit 1 of 7-segment display
PP3 (output)	Pin 1	Digit 0 of 7-segment display
PP4 (output)	Pin 112	Servo motor 1 or RGB LED
PP5 (output)	Pin 111	Servo motor 2 or RGB LED
PP6 (output)	Pin 110	Servo motor 3 or RGB LED
PP7 (output)	Pin 109	Servo motor 4
PS0	Pin 89	SCI0 for PC communication, RECV
PS1	Pin 90	SCI0 for PC communication, XMIT
PS2	Pin 91	SCI1 for user applications, RECV
PS3	Pin 92	SCI1 for user applications, XMIT
PS4	Pin 93	MISO for LTC1661, and external SPI (J10)
PS5	Pin 94	MOSI for LTC1661, and external SPI (J10)
PS6	Pin 95	SCLK for LTC1661, and external SPI (J10)
PS7	Pin 96	/SS for external SPI (J10)
PT0	Pin 9	not used
PT1	Pin 10	not used
PT2	Pin 11	not used
PT3 (input)	Pin 12	not used
PT4 (output)	Pin 15	not used
PT5 (output)	Pin 16	Speaker (output)
PT6 (output)	Pin 17	BDMout reset (used in POD mode only)
PT7	Pin 18	BDMout data line (bi-directional, used in POD mode only)
PAD0	Pin 67	D-bug12 mode select, SW7
PAD1	Pin 69	D-bug12 mode select, SW7
PAD2	Pin 71	not used
PAD3	Pin 73	not used
PAD4	Pin 75	Light sensor (phototransistor Q1)
PAD5	Pin 77	Temperature sensor (U14, LM45)
PAD6	Pin 79	not used
PAD7	Pin 81	Trimmer pot VR2
PAD8	Pin 68	X axis input for Wytec accelerometer or ADC input for GP12D2
PAD9	Pin 70	Y axis input for Wytec accelerometer or ADC input for GP12D2
PAD10	Pin 72	Z axis input for Wytec accelerometer or ADC input for GP12D2
PAD11	Pin 74	not used
PAD12	Pin 76	not used
PAD13	Pin 78	not used
PAD14	Pin 80	not used
PAD15	Pin 82	not used

**Table 1-2: I/O pin usage list 2**