LASER HARP MICROCONTROLLER I/O MAPPING

N°	PORT	PIN UC	PART OF	SIGNAL	TYPE	DIR.	ACTIVE	DDRx	PORTx	PULL UP?	IT?	DESCRIPTION
1	PC0	19	I²C	/SCL	DIG	OUT	LOW			-		clock line I²C bus
2	PC1	20		/SDA	DIG	IN/OUT	LOW			YES		data line I²C bus
3	PA7	30	HMI	/LEFT_SWITCH	DIG	IN/OUT	HIGH/LOW			YES/NO		Left switch input red led is on when pull up is enabled
4	PA6	31		/MIDDLE_SWITCH	DIG	IN/OUT	HIGH/LOW			YES/NO		Middle switch input white led is on when pull up is enabled
5	PA5	32		/RIGHT_SWITCH	DIG	IN/OUT	HIGH/LOW			YES/NO		Right switch input blue led is on when pull up is enabled
6	PD2	11		/SWITCH_INT	DIG	IN	LOW			YES	YES	Swicth interrupt input
7	PB0	40		/RMT_BLUE_SWITCH	DIG	IN	LOW			YES	YES	Switch one from external foot switch control box
8	PB1	41		/RMT_RED_SWITCH	DIG	IN	LOW			YES	YES	Switch two from external foot switch control box
9	PC6	25		LCD_RS	DIG	OUT	HIGH/LOW			-		LCD Register Select line
10	PD3	12		LCD_RW	DIG	OUT	HIGH/LOW			-		LCD Read/Write line
11	PC7	26		LCD_EN	DIG	OUT	LOW			-		LCD Enable line
12	PD7	16		LCD_D7	DIG	IN/OUT	HIGH/LOW			YES/NO		LCD D7 data line
13	PD6	15		LCD_D6	DIG	IN/OUT	HIGH/LOW			YES/NO		LCD D6 data line
14	PD5	14		LCD_D5	DIG	IN/OUT	HIGH/LOW			YES/NO		LCD D5 data line
15	PD4	13		LCD_D4	DIG	IN/OUT	HIGH/LOW			YES/NO		LCD D4 data line
16	PC5	24		/TRIGGER_LED	DIG	OUT	LOW			-		Sensor Trig indicator (blue led)
17	PB3	43		BUZZER	DIG	OUT	HIGH/LOW			-		Buzzer control line
18	PB4	44	LASER	SPI_SS	DIG	OUT	LOW			-		SPI Slave Select connected to the DAC
19	PB7	3		SPI_SCK	DIG	OUT	HIGH/LOW			-		SPI Serial ClocK connected to the DAC and ICSP connector
20	PB5	1		SPI_MOSI	DIG	OUT	HIGH/LOW			-		SPI Master Out Slave In connected to the DAC and ICSP connector
21	PB6	2		SPI_MISO	DIG	IN	HIGH/LOW			YES		SPI Master In Slave Out connected to the DAC and ICSP connector
22	PC2	21		/RED_ENABLE	DIG	OUT	LOW			-		Red laser switch enable line (enable analogue or digital blanking of the red laser)
23	PC3	22		/GREEN_ENABLE	DIG	OUT	LOW			-		Green laser switch enable line (enable analogue or digital blanking of the green laser)
24	PC4	23		/BLUE_ENABLE	DIG	OUT	LOW			-		Blue laser switch enable line (enable analogue or digital blanking of the blue laser)
25	PA3	34	SENSOR	SENSOR_ID	ANA	IN	-			NO		Analogue voltage that indentify the sensor model (5V = no sensor)
26	PB2	42		SENSOR_TRIGGER	DIG	IN	LOW			YES/NO	YES	Analogue voltage or TTL signal from sensor system (0 to 5v)
27	PA0	37		SENSOR_TRIGGER	ANA	IN	-			NO		Analogue voltage or TTL signal from sensor system (0 to 5v)
28	PA1	36		SENSOR_PITCH	ANA	IN	-			NO		Analogue voltage signal from sensor system used for the PITCH or other MIDI control
29	PA2	35		TRIGGER_LEVEL	ANA	IN	-			NO		Analogue voltage from the front potentiometer used to choose the sensor trigger level (0 to 5V)
30	PA4	33		FOOT PEDAL	ANA	IN	-			NO		Analogue voltage from the remote potentiometer used to modify pitch or other thing (0 to 5V)
31	PD1	10	MIDI	/MIDI_OUT	DIG	OUT	LOW			-		Midi out to the musical instrument
32	PD0	9		/MIDI_IN	DIG	IN	LOW			YES		Midi in from the musical Instriment

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