

100221507-10-B-DOC_ProcessorPortAssignments.pdf							DSPIC33FJ256MC710A-H/PF PROCESSOR PIN LIST		
MRC rev. 4/16/2021				Lap Box PCB			Camera PCB		
PIN Number	Pin Function Name	PORT	Pin Type	Circuit I/O direction	Circuit Name	Description	Circuit I/O direction	Circuit Name	Description
1	RG15	G	I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
2	VDD								
3	PWM3H/RE5	E	I/O	input	LASER_PWR_SW	high level active switch input turns on LASER_PWR function	output	no connect	configure as output and drive to a logic low state
4	PWM4L/RE6		I/O	input	CAMERA_PWR_SW	high level active switch input turns on CAMERA_PWR function	output	no connect	configure as output and drive to a logic low state
5	PWM4H/RE7		I/O	input	SPARE_SW	spare switch input	output	no connect	configure as output and drive to a logic low state
6	AN16/T2CK/T7CK/RC1	C	I/O	output	JOYSTK_REV_LED	high level active turns on "JOYSTK_REV" switch LED	output	no connect	configure as output and drive to a logic low state
7	AN17/T3CK/T6CK/RC2		I/O	output	JOYSTK_SEN_LED	high level active turns on "JOYSTK_SEN" switch LED	output	no connect	configure as output and drive to a logic low state
8	AN18/T4CK/T9CK/RC3		I/O	output	PORT_LIGHT_LED	high level active turns on "PORT_LIGHT" switch LED	output	no connect	configure as output and drive to a logic low state
9	AN19/T5CK/T8CK/RC4	G	I/O	output	PORT_CAM_LED	high level active turns on "PORT_CAM" switch LED	output	no connect	configure as output and drive to a logic low state
10	SCK2/CN8/RG6		I/O	output	SPI1-2_SCLK	SPI2 clock input/output	same	same	
11	SDI2/CN9/RG7		I	input	SPI2_MISO	SPI2 data in	same	same	
12	SDOC2/CN10/RG8		O	output	SPI2_MOSI	SPI2 data out	same	same	
13	/MCLR		I	input	/MCLR	Master reset input, active low	same	same	
14	SS2/CN11/RG9	G	I/O	I/O	SPI2_SS	SPI2 slave synchronization or frame pulse I/O	same	same	
15	VSS								
16	VDD								
17	TMS/RA0	A	I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
18	AN20/FLTA/INT1/RE8	E	I/O	input	/SW_CHANGE	low level active switch transition flag, can be used as interrupt input	output	no connect	configure as output and drive to a logic low state
19	AN21/FLTB/INT2/RE9		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
20	AN5/QEB/CN7/RB5	B	I/O	output	TEMP_ALARM_LED	high level active turns on "TEMP_ALARM" LED	output	no connect	configure as output and drive to a logic low state
21	AN4/QEA/CN6/RB4		I/O	output	WATER_ALARM_LED	high level active turns on "WATER_ALARM" LED	output	no connect	configure as output and drive to a logic low state
22	AN3/INDX/CN5/RB3		I/O	output	HUMIDITY_ALARM_LED	high level active turns on "HUMIDITY_ALARM" LED	output	no connect	configure as output and drive to a logic low state
23	AN2/SS1/CN4/RB2		I/O	output	SPI1_SS	SPI1 slave synchronization or frame pulse I/O	same		
24	PGEC3/AN1/CN3/RB1		I/O	output	2X_EXTENDER_LED	high level active turns on "2X_EXTENDER" switch LED	output	no connect	configure as output and drive to a logic low state
25	PGED3/AN0/CN2/RB0		I/O	output	/SW_ENABLE	Low level active to enable switch debouncer outputs and clear /SW_CHANGE. See Maxim MAX6818 data sheet.	output	no connect	configure as output and drive to a logic low state
26	PGEC1/AN6/OCFA/RB6					debugger I/O	same	same	
27	PGED1/AN7/RB7	A				debugger I/O	same	same	
28	VREF-/RA9					Internal A/D minus reference. Connected to GND.	same	same	
29	VREF+/RA10					Internal A/D plus reference. Connected to 3.3V reference.	same	same	
30	AVDD								
31	AVSS								
32	AN8/RB8	B	I/O	output	STBD_CAM_LED	high level active turns on "STBD CAM" switch LED	output	no connect	configure as output and drive to a logic low state
33	AN9/RB9		I/O	output	STBD_LIGHT_LED	high level active turns on "STBD LIGHT" switch LED	output	no connect	configure as output and drive to a logic low state
34	AN10/RB10		I	Analog input	AN10_JOYSTK_Y	Y axis 0-3.3V analog signal from X-Y joystick	input	CAMERA_TEMP	Analog camera temerature signal, 10mV per degree C + 500mV.
35	AN11/RB11		I	Analog input	AN11_JOYSTK_X	Y axis 0-3.3V analog signal from X-Y joystick	output	no connect	configure as output and drive to a logic low state
36	VSS								
37	VDD								
38	TCK/RA1	A	I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
39	U2RTS/RF13	F	O	output		EIA 232 port UART2 ready to send	same		
40	U2CTS/RF12		I	input		EIA 232 port UART2 clear to send	same		
41	AN12/RB12	B	I/O	output	PIEZO_ALARM	high level active turns on "PIEZO_ALARM" audio alert	output	no connect	configure as output and drive to a logic low state
42	AN13/RB13		I/O	output	CAM_PWR_LED	high level active turns on "CAM_PWR" switch LED	output	no connect	configure as output and drive to a logic low state
43	AN14/RB14		I/O	output	LASER_PWR_LED	high level active turns on "LASER_PWR" switch LED	output	no connect	configure as output and drive to a logic low state
44	AN15/OCFB/CN12/RB15		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
45	VSS								
46	VDD								
47	IC7/U1CTS/CN20/RD14	D	I	input		EIA 232 port UART1 clear to send	same	same	
48	IC8/U1RTS/CN21/RD15		O	output		EIA 232 port UART1 ready to send	same	same	
49	U2RX/CN17/RF4	F	I	input		UART 2 receive data	same	same	
50	U2TX/CN18/RF5		O	output		UART 2 transmit data	same	same	
51	U1TX/RF3		O	output		UART 1 transmit data	same	same	
52	U1RX/RF2		I	input		UART 1 receive data	same	same	
53	SDO1/RF8		O	output	SPI1_MOSI	SPI1 data out - not used in lapbox, configure as output and drive to a logic low state	output	SPI1_MOSI	SPI1 data out - D/A converter
54	SDI1/RF7		I	input	SPI1_MISO	SPI1 data in from A/D converter.	input	SPI1_MISO	SPI1 data in from A/D converter.
55	SCK1/INT0/RF6		I/O		SPI1-2_SCLK	Synchronous serial clock input/output for SPI1		SPI1-2_SCLK	Synchronous serial clock input/output for SPI1
56	SDA1/RG3	G	I/O		I2C1_SDA	Synchronous serial data input/output for I2C1. Provides comms to external memory and environmental sensors.		I2C1_SDA	Synchronous serial data input/output for I2C1. Provides comms to external memory and environmental sensors.
57	SCL1/RG2		I/O		I2C1_SCL	Synchronous serial clock input/output for I2C1.		I2C1_SCL	Synchronous serial clock input/output for I2C1.
58	SCL2/RA2	A	I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
59	SDA2/RA3		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
60	TDI/RA4		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
61	TDO/RA5		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
62	VDD								
63	OSC1/CLKIN/RC12		I	input		Primary oscillator crystal input.	same	same	
64	OSC2/CLKO/RC15		I/O	output		Primary oscillator crystal output	same	same	
65	VSS								
66	INT3/RA14	A	I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
67	INT4/RA15		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
68	IC1/RD8	D	I/O	output	Spare jumper	configure as output and drive to a logic low state	same	same	
69	IC2/RD9		I/O	output	Spare jumper	configure as output and drive to a logic low state	same	same	
70	IC3/RD10		I/O	output	I2C1_EEPROM_WP	EEPROM write protect line	same	same	
71	IC4/RD11		I/O	output	Spare jumper	configure as output and drive to a logic low state	same	same	
72	OC1/RD0		I/O	output	Spare jumper	configure as output and drive to a logic low state	same	same	
73	PGED2/SOSCI/CN1/RC13	C	I	input		32.768 kHz low-power oscillator crystal input	same	same	
74	PGEC2/SOSCO/T1CK/CN0/RC14		O	output		32.768 kHz low-power oscillator crystal output	same	same	
75	VSS								
76	OC2/RD1	D	I/O	output	Spare jumper	configure as output and drive to a logic low state	same	same	
77	OC3/RD2		I/O	output	Spare jumper	configure as output and drive to a logic low state	same	same	
78	OC4/RD3		I/O	output	no connect	configure as output and drive to a logic low state	input	/AFT_H2O_ALRM	Configure as input and read state of AFT water alarm. Low level = water alarm state
79	IC5/RD12		I/O	output	no connect	configure as output and drive to a logic low state	input	/FWD_H2O_ALRM	Configure as input and read state of FWD water alarm. Low level = water alarm state
80	IC6/CN19/RD13		I/O	output	no connect	configure as output and drive to a logic low state	output	2X_EXTENDER	Configure as output and drive extender motor function. High level = normal zoom, Low level = 2x extender in place
81	OC5/CN13/RD4		I/O	output	no connect	configure as output and drive to a logic low state	output	CAMERA_PWR	Configure as output and drive camera power switch. High level = camera on, Low level = camera off
82	OC6/CN14/RD5		I/O	output	no connect	configure as output and drive to a logic low state	output	/LASER_PWR	Configure as output and drive laser power switch. High level = laser on, Low level = laser off
83	OC7/CN15/RD6		I/O	output	no connect	configure as output and drive to a logic low state	input	/OVERTEMP	Configure as input and read state of overtemp hardware shutdown. Low level = overtemp shutdown state
84	OC8/UPDN//CN16/RD7		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
85	VCAP								
86	VDD								
87	C1RX/RF0	F	I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
88	C1TX/RF1		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
89	C2TX/RG1	G	I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
90	C2RX/RG0		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
91	AN22/CN22/RA6	A	I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
92	AN23/CN23/RA7		I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
93	PWM1L/RE0	E	I/O	output	no connect	configure as output and drive to a logic low state	output	no connect	configure as output and drive to a logic low state
94	PWM1H/RE1		I/O	output	JOYSTK_REV_SW	high level active switch input turns on JOYSTK_REV function	output	no connect	configure as output and drive to a logic low state
95	RG14	G	I/O	output	JOYSTK_SEN_SW	high level active switch input turns on JOYSTK_SEN function	output	no connect	configure as output and drive to a logic low state
96	RG12		I/O	output	PORT_LIGHT_SW	high level active switch input turns on PORT_LIGHT function	output	no connect	configure as output and drive to a logic low state
97	RG13		I/O	output	PORT_CAM_SW	high level active switch input turns on PORT_CAM function	output	no connect	configure as output and drive to a logic low state
98	PWM2L/RE2	E	I/O	output	STBD_CAM_SW	high level active switch input turns on STBD_CAM function	output	no connect	configure as output and drive to a logic low state
99	PWM2H/RE3		I/O	output	STBD_LIGHT_SW	high level active switch input turns on STBD_LIGHT function	output	no connect	configure as output and drive to a logic low state
100	PWM3L/RE4		I/O	output	2X_EXTENDER_SW	high level active switch input turns on 2X_EXTENDER function	output	no connect	configure as output and drive to a logic low state