MIOS Pin List

This list gives you an oversight over the pin usage of MIOS.

Name	Class	Core Port:Pin	PIC Pin #	Direction	Additional Information
RA0	A	J5:A0	2	Input	analog pin
RA1	A	J5:A1	3	Input	analog pin
RA2	A	J5:A2	4	Input	analog pin
RA3	A	J5:A3	5	Input	analog pin
RA5	A	J5:A4	7	Input	analog pin
RE0	A	J5:A5	8	Input	analog pin
RE1	A	J5:A6	9	Input	analog pin
RE2	A	J5:A7	10	Input	analog pin
RA4	K	J4:SD	6	Input / Output	IIC data pin SD, external 1k pull-up, can be used by an application for other purposes so long MIOS_IIC_* won't be called
RC0	B	J6:RC / J7:RC	15	Output	used to address the AIN multiplexers or the MF module. In both cases driven by an interrupt service routine.
RC1	B	J6:SC / J7:SC	16	Output	used to address the AIN multiplexers or the MF module. In both cases driven by an interrupt service routine.
RC2	D	J7:SO	18	Output	used as serial output to the MF module, driven by an interrupt service routine.
RC3	C	J6:SI / J10:PWM	17	Output	used to address the AIN multiplexers, driven by an interrupt service routine / SID PWM. This pin is stuffed with an external 10k pull-up which could be useful for an application which uses this pin as input
RD0	E	J8:SO	19	Output	serial output to the DOUT chain, driven by an interrupt service routine if MIOS_SRIO active
RD1	E	J9:SI	20	Input	serial input to the DIN chain, used by an interrupt service routine if MIOS_SRIO active
RD2	F	J8:RC / J9:RC	21	Output	serial latch output, used by an interrupt service routine if MIOS_SRIO active
RD3	F	J8:SC / J9:SC / J10:SC	22	Output	serial clock output, used by an interrupt service routine if MIOS_SRIO active / SID SC
RC4	G	J10:RC	23	Output	SID RC / free for applications without restrictions if second CLCD not used
RC5	G	J10:SO	24	Output	SID SO / free for applications without restrictions
RD4	E	J14	27	Output	touch sensor strobe signal, used by an interrupt service routine if MIOS_SRIO active and TS_Sensitivity > 0
RD5	H	J4:SC / J10:MD / J15:RS	28	Output	clock output to IIC / SID MD / address signal to LCD
RD6	H	J10:MU / J15:RW	29	Output	SID MU / RW signal to LCD
RD7	I	J15:E	30	Output	enable signal to LCD (exclusive!)

Name	Class	Core Port:Pin	PIC Pin #	Direction	Additional Information
RB0	J	J15:D0	33	Input / Output	LCD data line #0
RB1	J	J15:D1	34	Input / Output	LCD data line #1
RB2	J	J15:D2	35	Input / Output	LCD data line #2 / CAN Tx
RB3	J	J15:D3	36	Input / Output	LCD data line #3 / CAN Rx
RB4	J	J15:D4	37	Input / Output	LCD data line #4
RB5	J	J15:D5	38	Input / Output	LCD data line #5
RB6	J	J15:D6	39	Input / Output	LCD data line #6
RB7	J	J15:D7	40	Input / Output	LCD data line #7

The pins are divided into following classes:

- Class A: analog inputs, which can be optionally used as digital inputs or outputs like demonstrated in the j5_dout and j5_din example if the MIOS_AIN and MIOS_MF driver are not used
- Class B: digital pin which is free for applications if neither the MIOS_AIN multiplex driver, nor the MIOS_MF driver is active Also free if MIOS_AIN doesn't run in mux mode
- Class C: digital pin which is free for applications if the MIOS_AIN multiplex driver isn't active
- Class D: digital pin which is free for applications if the MIOS_MF driver isn't active
- Class E: digital pin which is free for an application if the MIOS_SRIO driver isn't active. Can also be shared with other devices if the application accesses the pin from an interrupt service routine or if it disables all interrupts for a short time (< 300 uS!). Touchsensor Pin.
- Class F: digital pin which is free for an application if the MIOS_SRIO driver isn't active.
- Class G: free pin which can be used by the application without any restrictions
- Class H: digital pin which can be shared with other modules (LCD/IIC/...) Shouldn't be used from an interrupt service routine
- Class I: digital pin, exclusive for LCD
- Class J: digital IO pin, can be shared with the LCD data lines as IO pins so long J15:E is low (means: MIOS doesn't execute a MIOS_LCD function) Shouldn't be used from an interrupt service routine
- Class K: see description

See also the schematic of the MBHP_CORE module as reference, or this PCB layout:

This table is based on the original from mios_pin_list.txt

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