

# MIOS Pin List

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

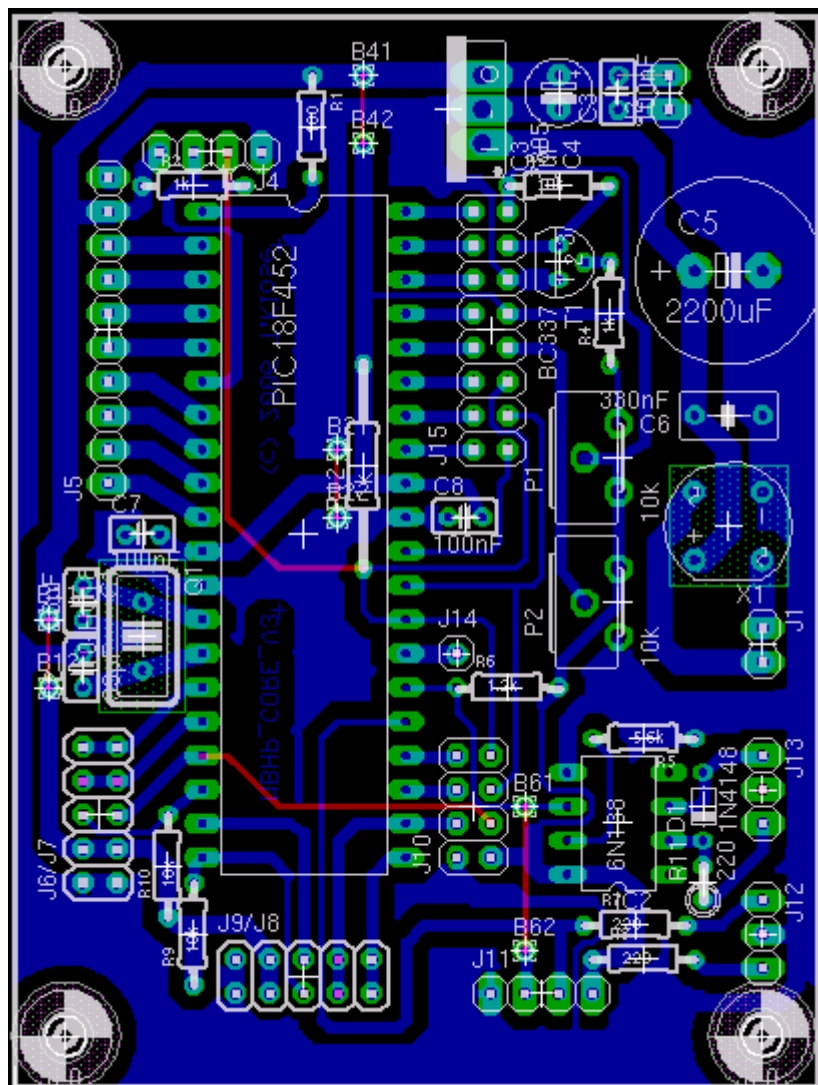
| Name | Class | Core Port:Pin           | PIC Pin # | Direction      | Additional Information   |
|------|-------|-------------------------|-----------|----------------|--|
| RA0  | A     | J5:A0                   | 2         | Input          | analog pin   |
| RA1  | A     | J5:A1                   | 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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