# EDbot Micro V11 information sheet

**PIC18F1220 Configuration**

EDbot Micro V11 uses every pin of the PIC18F1220 to perform numerous functions, such as driving motors to move EDbot forward, backward, and turning. Also, there is an RGBLED that can be programmed to turn, red, blue, green, or a combination of colors. There are two switches for programming High and Low priority interrupts. Finally, EDbot has 2 pairs of infrared proximity sensors connected to pins that can be configured for Analog to Digital conversion.

The table and graphic below shows the configuration of the PIC18F1220.

|  |  |  |
| --- | --- | --- |
| **Registers <bit #>** | **Pin # - Name - Type** | **Function** |
| Port A <0> | 1 – RA0 - input | Infrared Receiver – Right side |
| Port A <1> | 2 – RA1 - output | Infrared Transmitter – Right side |
| Port A <2> | 6 – RA2 - input | Infrared Receiver – Left side |
| Port A <4> | 3 – RA4 - output | Infrared Transmitter – Left side |
| Port A <3> | 7 – RA3 – output | Red color – RGB LED |
| Port B <5> | 11 – RB5 - output | Green color – RGB LED |
| Port B <2> | 17 – RB2 - output | Blue color – RGB LED |
| Port A <7> | 16 – RA7 - output | Motor – right – Positive |
| Port A <6> | 15 – RA6 - output | Motor – right – Negative |
| Port B <3> | 18 – RB3 - output | Motor – left – Positive |
| Port B <4> | 10 – RB4 - output | Motor – left - Negative |
| Port B <0> | 8 – RB0 - input | Interrupt 0 switch |
| Port B <1> | 9 – RB1 - input | Interrupt 1 switch |
| Port A <5> | 4 – RA5 – output | PIC Reset switch (MCLR’) |
| Port B <6> | 12 - RB6 - input | Reserved for PICkit programming |
| Port B <7> | 13 – RB7 - input | Reserved for PICkit programming |
| VCC | 14 | 2V-5V power |
| GND | 5 | Ground |

**Tri-State Configuration**

Because of the pin configuration, the tri-state configurations for Ports A & B will tend toward the following:

TRISA: 0x05

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PORTA bit** | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| **In/out** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |

TRISB: 0xC7

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PORTB bit** | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| **In/out** | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |

ADCON1:

* All Digital : 0x7F
* IR REC’s, AN0, AN2, and AN3 (LED): b01110010 = 0x72