

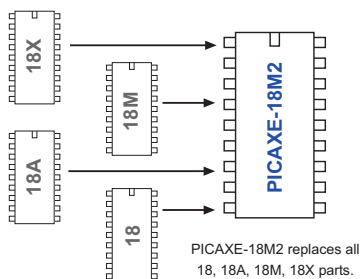
# PICAXE-18M2 Information

Introducing the **new generation PICAXE-18M2** part for education...

... more memory capacity and features at no extra cost!

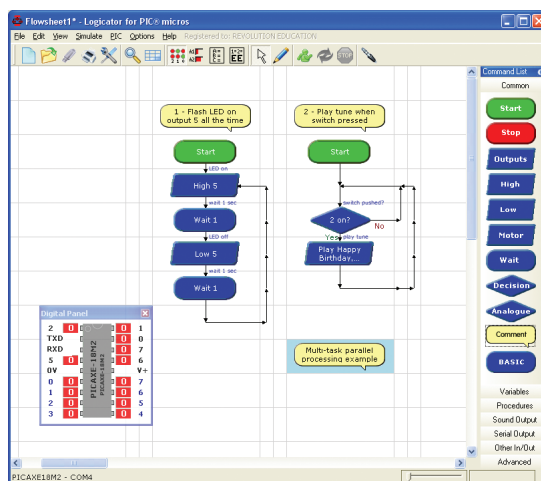
The new **PICAXE-18M2** microcontroller builds on the pedigree of the ever popular 18 pin PICAXE microcontrollers by adding these **new and improved features at no extra cost:**

- Almost every pin is **individually configurable**, so, for instance, the 18M2 can now have 10 outputs instead of 8 – the choice is yours! Therefore M2 chips can be used in either the ‘traditional’ fixed pin format or the new flexible ‘user configured’ format.
- Many extra **ADC channels** are now also available on other pins.
- The reset and serial input pins can now be used as **2 extra input pins**, giving 2 more general purpose input pins for your project. If desired the reset pin can still be configured to give a reset function via the new ‘reset’ command.



- The 18M2 can now run **four separate tasks in parallel**, allowing a Logicator flowsheet to contain 4 separate start cells and 4 separate flowchart tasks. Multi tasking is also supported in BASIC program listings.
- The 18M2 device replaces all of the older 18/18A/18M/18X parts and so gives 18X equivalent memory capacity (2048 bytes, up to 1800 lines of program) at the same price as the older 256 byte 18A/18M – so that is **8x the memory capacity** of the older parts for no extra cost!
- Fully **backwards compatible** with all existing 18 pin PICAXE project boards and programs written for any older 18 pin PICAXE part.

- New lower **1.8V operation** now makes the 18M2 ideal for use with 3V battery packs - save the cost of one battery!
- **Twice as many (now 28) general purpose byte variables**, with a total of 256 bytes of RAM.
- New ‘**time**’ variable counts elapsed seconds.
- Separate **256 bytes** of non-volatile data EEPROM memory.
- Faster internal resonator (**up to 32MHz**) means up to 8x faster program processing.
- Full support for common features such as **ring tone tunes, servos, digital temperature sensors** and infra-red input and output on any pin.
- Full support for advanced features like DAC, SR latch, hardware serial commands (for much faster baud rates), **i2c memory devices** and hardware PWM control of motors.
- The PICAXE-18M2 is a new custom part factory manufactured by Microchip Inc. for Revolution Education and so is **factory engraved with the full PICAXE-18M2 name** – no more confusing PIC numbers for students to decipher!



Feature:	18M2	18	18A 18M	18X
Memory Capacity (bytes)	2048	128	256	2048
Max. Memory Capacity (lines)	1800	110	220	1800
General Variables (bytes)	28	14	14	14
Total RAM (bytes)	256	14	62	110
Data EEPROM (bytes)	256	128-P	256-P	256
Max. Operating Speed (MHz)	32	4	8	8
Lowest Operating Voltage (V)	1.8	3	3	3
Gosub Limit	255	15	15	255
Fully Configurable I/O Pins	✓	✗	✗	✗
Parallel multi-tasking (starts)	4	✗	✗	✗
Elapsed Time Variable	✓	✗	✗	✗
Servo Support	✓	✗	✓	✓
Musical Ringtone Tune Support	✓	✗	✓	✗
Infra-red Input and Output	✓	✗	✓	✓
Digital Temp. Sensor Support	✓	✗	✓	✓
Software Serial Support	✓	✓	✓	✓
Hardware Serial Support	✓	✗	✗	✗
Hardware I2C Support	✓	✗	✗	✓
Hardware SR Latch	✓	✗	✗	✗
Hardware Motor PWM	✓	✗	✗	✗
Factory Engraved PICAXE Name	✓	✗	✗	✗
Guide Price (£, educational)	1.30	1.30	1.30	2.99

## PICAXE-18M2

DAC / ADC2 / C.2	1	18	C.1 / ADC1
SRQ / pwm C.3 / Serial Out / C.3	2	17	C.0 / ADC0
Serial In / C.4	3	16	C.7
C.5	4	15	C.6
OV	5	14	+V
SRI / B.0	6	13	B.7 / ADC7 / hpwm D
i2c sda / ADC11 / B.1	7	12	B.6 / ADC6 / pwm B.6 / hpwm C
hserin / ADC10 / B.2	8	11	B.5 / ADC5 / hserout / hpwm B
hpwm A / pwm B.3 / ADC9 / B.3	9	10	B.4 / ADC4 / i2c scl

18M2 expected release date: Q1 2010