C_MIRO and C_STAMP Features

C_MIRO is a PIC18F452 micro-controller based 40 pin module designed to be used stand alone on a breadboard and has on-board power and serial port connectors.

C_STAMP is based on PIC18F252 micro-controller. It is designed as a 24 pin module which is compatible with the Parallax Board of Education (BOE). It can replace the Basic Stamp 2 module on the BOE. It utilizes the power and serial port connectors present on the BOE.

C_STAMP can also be used stand alone on a breadboard, as a lower cost alternative to C_MIRO, if the users make their own power supply (adapter) connector, serial port connector and serial cable. Complete construction details are available in a separate document.

The main functional difference between the two modules is that C_MIRO has 12 additional I/O pins (Port D and Port E) as compared to C_STAMP. All other internal hardware and peripheral features as well as the Assembly Language and C Programming features, are exactly identical. In other words any program written for C_MIRO will work on C_STAMP, if it does not use Ports D and E.

C_MIRO and C_STAMP modules have the following common features:

- Based on Microchip PIC 18F series micro-controllers.
  - RISC CPU Features:
    - C compiler optimized architecture/instruction set
    - 16k words (32k bytes) Flash Program Memory
    - 1536 bytes RAM Data Memory
    - 256 bytes EEPROM Data Memory
    - High/Low interrupt priority levels
    - 8 x 8 Single Cycle Hardware Multiplier
  - Peripheral Features:
    - General purpose individually addressed I/O pins
    - High current sink (25mA) / source (25mA) capable output pins
    - Three external interrupt pins
    - Four 8/16 bit timer modules
    - Two Capture/Compare/PWM (CCP) modules
    - Master Synchronous Serial Port (MSSP) module
      - Support for 3-wire SPI™ or 2-wire I2C™ Master and Slave mode
    - Addressable USART module
      - Support for RS-232 or RS-485
    - 10-bit Analog-to-Digital Converter module
      - 8 input channels available on C_MIRO
      - 4 input channels available on C_STAMP
    - Low power consumption, suitable for battery operation
  - 20 MHz oscillator frequency (approximately 5 MIPS (Million Instructions Per Second)).
  - Microchip MPLAB Integrated Development Environment (IDE).
  - Microchip C language compiler (Student Edition) (C18).
  - C library functions for configuring and using the internal hardware peripherals.
  - Built-in Bootloader for downloading programs to Flash memory via PC serial port.
  - Solderless Breadboard based experiment and expansion arrangement.