

MPLAB® Code Configurator

A Flexible, Powerful Code Development Tool for Modern PIC® Microcontrollers



Summary

Embedded systems requirements are growing as the feature set of many new end products is increasing at an exponential rate. Wireless communications, advanced control techniques and new human interfaces are becoming common across all embedded markets. This change is driven by evolving consumer demand and enabled by massive advances in semiconductor technology. Each new feature or function added to an end product requires a corresponding increase in system complexity and more sophistication from its control elements.

These increasingly complex control elements place an immense burden on product designers, as each new function requires additional code and debugging time. For highly integrated systems, the bulk of an engineer's design budget is often spent eliminating timing concerns caused by the feature integration. Because of this, managing the cost of software development has become a top priority for many companies.

Microchip's PIC microcontrollers are designed to support increasing levels of functional integration without concern for timing issues or increased power consumption. By integrating flexible, intelligent hardware peripherals, PIC MCUs enable designers to create functional building blocks that operate efficiently with and autonomously of the CPU.

These intelligent hardware peripherals can now be easily configured to perform desired functions using the MPLAB Code Configurator—ultimately accelerating code development.

Introducing MPLAB Code Configurator



MPLAB Code Configurator is a user-friendly plugin that seamlessly integrates with your existing MPLAB X Integrated Development Environment (IDE) to provide an easy setup and configuration experience with your chosen PIC microcontroller.

MPLAB Code Configurator offers a simple graphical representation of the selected PIC MCU and its on-chip peripherals and allows designers to quickly arrange hardware peripherals into functional building blocks without an in-depth setup of registers or flags. The tool also displays package pins in both a graphical and tabular format, which makes pin and I/O configuration as easy as a mouse click.

MPLAB Code Configurator generates function and peripheral drivers in seamless, easy-to-understand C code for ultimate flexibility and portability. Its ease of use will help significantly reduce your software development time and get your product to market quicker.

Key Features

Flexible

You can use it for simple configuration of your microcontroller in-system or to create complex functions with groups of integrated peripherals. Many PIC MCUs and their peripherals are supported, with new ones added regularly.

Intelligent

MPLAB Code Configurator can alert you of a potential pin or function conflict. It creates efficient code with a small memory footprint.

Easy to Use

Intuitive Graphical User Interface provides a visual representation of your selected PIC MCU, with an “aerial view” of the package. Pin selection and configuration is done via mouse click.

Saves Time

Generates simple, clearly documented APIs without the hassle of register-level setup. Its C code output can be easily modified for quick platform-level development.

It's FREE

Available as a plug-in for the free MPLAB X IDE. Learn more at www.microchip.com/MCC.



MICROCHIP

The MPLAB Code Configurator saves time by simplifying the process of setting up and configuring peripherals. Also, the tool displays alerts or warnings if you have not configured a required parameter and helps avoid common setup mistakes.

Get Started with the MPLAB Code Configurator in Five Easy Steps

1. Start a new project inside MPLAB X IDE with your selected PIC MCU family
2. Install the MPLAB Code Configurator Plug-in
3. Choose which peripherals and functions you want to include in your project
4. Use the easy GUI to setup each of your peripherals
5. Click “Generate Code”

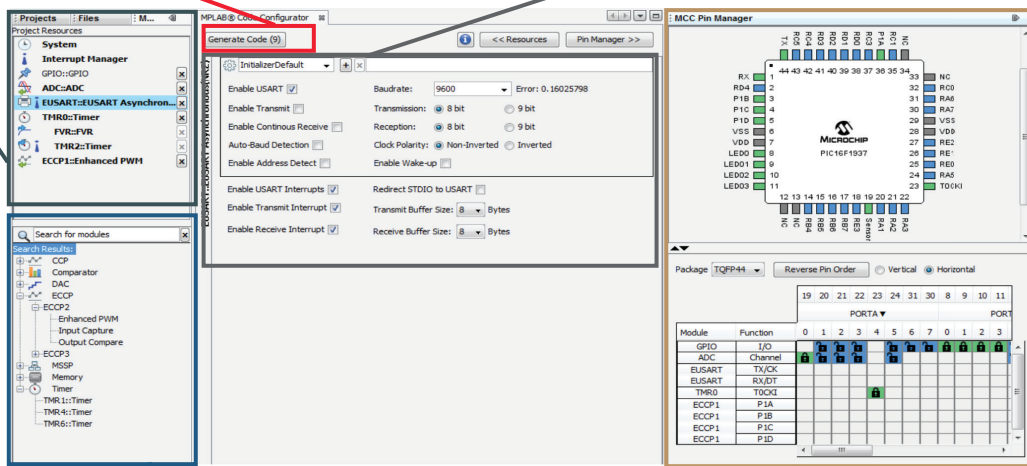
Project Resources Section

- Includes all of the peripherals or functions you want to use in your project
- Each peripheral has a simple user interface to set up the basic configuration and related pins

Module Composer Window

- This window changes depending on the peripheral selected in the project resources section so there is a customized GUI to setup each different peripheral
- Easily set up your GPIOs as inputs or outputs and with the snap of a button—configure them to start high or low and show which pin you want them to be active on
- Easy graphical setup of logic gates for the Configurable Logic Cells (CLC)
- Allows saving custom names for easy code readability

Click the “Generate Code” button and view the source file for your project



Device Resources Section

- Once you’ve chosen your MCU, this section populates with the peripherals and functions available on that product
- You pick which ones you want in your project, easy as a double click
- Then they show up in the Project Resources Section
- Choose from peripherals and functions such as UART, Timer, CLC, Comparator, ADC, DAC, interrupts, GPIO and much more

Pin Manager Window

- Helps you plan your pin layout and lock the functions to specific package pins
- View in both graphical and tabular formats
- Easy setup for products with Peripheral Pin Select (PPS) with many remappable pins
- Smart pin management: automatically selects the pins needed to go with the peripheral configurations chosen in the Module Compose Window

All of the settings are interconnected:

- Once you setup the system level clock, all of the modules like the timer or SPI are aware of the chosen clock frequency
- Smart interconnection between modules that are dependent on each other



MICROCHIP

www.microchip.com/MCC

Visit our web site for additional product information and to locate your local sales office.

Microchip Technology Inc. • 2355 W. Chandler Blvd. • Chandler, AZ 85224-6199

Microcontrollers • Digital Signal Controllers • Analog • Memory • Wireless