




# Proteus VSM for PIC® Bundle 8bit

## System Level Simulation for Microchip Technologies™ PIC® Variants.

### Summary

Proteus Virtual System Modelling (VSM) combines mixed mode SPICE circuit simulation, animated components and microprocessor models to facilitate co-simulation of complete microcontroller based designs. The Proteus VSM Bundles include the following main software modules:

- Professional Schematic Capture module
- ProSPICE professional Simulation Engine
- All supported VSM microcontroller variants in the 8-bit and 16-bit PIC Families.
- All of the Proteus Embedded Simulation Peripheral Libraries.
- VSM Studio IDE with automatic compiler configuration.
- Over 10,000 standard simulation models.

 *Proteus VSM for PIC® Bundle products are ideal if you need to simulate more than one family of PIC micro-controllers.*

## Variants

The following is a current list of supported variants in the PIC10/12 family:

- PIC10F200, PIC10F202, PIC10F204, PIC10F206
- PIC10F220, PIC10F222, PIC10F320, PIC10F322
- PIC10LF320, PIC10LF322, PIC12C508A, PIC12C509A
- PIC12C671, PIC12C672, PIC12CE518, PIC12CE519
- PIC12F508, PIC12F509
- PIC12CE673, PIC12CE674, PIC12F510, PIC12F609
- PIC12F615, PIC12F629, PIC12F675, PIC12F683
- PIC12F1501, PIC12LF1501, PIC12F752,  
PIC12HV752
- PIC12F1822, PIC12LF1822, PIC12F1840,  
PIC12LF1840
- PIC12F1571, PIC12F1572, PIC12LF1571,  
PIC12LF1572

The following is a current list of supported variants in the PIC16 family:

- PIC16C61, PIC16C62B, PIC16C63A, PIC16C64A
- PIC16C65B, PIC16C66, PIC16C67, PIC16C72A
- PIC16C73B, PIC16C74B, PIC16C76, PIC16C77
- PIC16F506, PIC16F526, PIC16F610, PIC16HV610
- PIC16F630, PIC16F631, PIC16F648A, PIC16F676
- PIC16F616, PIC16HV616, PIC16F627A, PIC16F628A
- PIC16F677, PIC16F684, PIC16F685, PIC16F687
- PIC16F688, PIC16F689, PIC16F690, PIC16F716
- PIC16F722A, PIC16F723A, PIC16F724, PIC16F726
- PIC16F727, PIC16LF722A, PIC16LF723A, PIC16LF724
- PIC16LF726, PIC16LF727, PIC16F785, PIC16HV785
- PIC16F818, PIC16F819, PIC16F83, PIC16F84A
- PIC16F87, PIC16F870, PIC16F871, PIC16F873
- PIC16F873A, PIC16F874, PIC16F874A, PIC16F876
- PIC16F876A, PIC16F877, PIC16F877A, PIC16F88
- PIC16F882, PIC16F883, PIC16F884, PIC16F886
- PIC16F887, PIC16F913, PIC16F914, PIC16F916
- PIC16F917, PIC16F946, PIC16F1454, PIC16F1455
- PIC16F505, PIC16F707, PIC16LF707, PIC16F1788
- PIC16LF1788, PIC16F1789, PIC16LF1789
- PIC16F1459, PIC16LF1454, PIC16LF1455, PIC16LF1459
- PIC16F1503, PIC16LF1503, PIC16F1507, PIC16LF1507
- PIC16F1508, PIC16LF1508, PIC16F1509, PIC16LF1509
- PIC16F1516, PIC16LF1516, PIC16F1517, PIC16LF1517
- PIC16F1518, PIC16LF1518, PIC16F1519, PIC16LF1519
- PIC16F1574, PIC16LF1574, PIC16F1575, PIC16LF1575
- PIC16F1578, PIC16LF1578, PIC16F1579, PIC16LF1579
- PIC16F1703, PIC16F1704, PIC16F1705, PIC16LF1703
- PIC16LF1704, PIC16LF1705, PIC16F1707, PIC16F1708
- PIC16F1709, PIC16F1823, PIC16F1824, PIC16F1825
- PIC16F1826, PIC16LF1707, PIC16LF1708, PIC16LF1709
- PIC16F1784, PIC16F1786, PIC16F1787, PIC16LF1784
- PIC16LF1786, PIC16F1829, PIC16LF1823, PIC16LF1824
- PIC16LF1787, PIC16LF1825, PIC16LF1826, PIC16F1827
- PIC16F1828, PIC16LF1827, PIC16LF1828, PIC16LF1829
- PIC16F1933, PIC16F1938, PIC16F1934, PIC16F1936
- PIC16F1937, PIC16F1939, PIC16LF1933, PIC16LF1934
- PIC16LF1936, PIC16LF1937, PIC16LF1938, PIC16LF1939
- PIC16F1946, PIC16F1947, PIC16LF1946, PIC16LF1947
- PIC16F1615, PIC16L1619, PIC16LF1615, PIC16LF1619
- PIC16F1847, PIC16LF1847

The following is a current list of supported variants in the PIC18 family:

- PIC18F242, PIC18F252, PIC18F442, PIC18F452
- PIC18F248, PIC18F258, PIC18F448, PIC18F458
- PIC18F1220, PIC18F1320, PIC18F2220, PIC18F2331
- PIC18F2320, PIC18F2410, PIC18F2420, PIC18F2431
- PIC18F2510, PIC18F2515, PIC18F2520, PIC18F2525
- PIC18F2610, PIC18F2620, PIC18F4220, PIC18F4320
- PIC18F4331, PIC18F44J10, PIC18F45J10, PIC18F24J10
- PIC18F25J10, PIC18F4410, PIC18F4420, PIC18F4431
- PIC18F4510, PIC18F4515, PIC18F4520, PIC18F4525
- PIC18F4610, PIC18F4620, PIC18F6520, PIC18F6585
- PIC18F8585, PIC18F8680, PIC18F6620, PIC18F6680
- PIC18F6720, PIC18F8520, PIC18F8620, PIC18F8720
- PIC18F8722, PIC18F8627, PIC18F8622, PIC18F8527
- PIC18F6722, PIC18F6627, PIC18F6622, PIC18F6527
- PIC18F6628, PIC18F6723, PIC18F23K20, PIC18F24K20
- PIC18F25K20, PIC18F26K20, PIC18F43K20, PIC18F44K20
- PIC18F45K20, PIC18F46K20, PIC18F2450, PIC18F2455
- PIC18F2458, PIC18F2550, PIC18F2553, PIC18F4450
- PIC18F4455, PIC18F4458, PIC18F4550, PIC18F4553
- PIC18F13K50, PIC18F14K50, PIC18LF13K50,  
PIC18LF14K50
- PIC18F2480, PIC18F2580, PIC18F4480, PIC18F4580
- PIC18F2585, PIC18F2680, PIC18F4585, PIC18F4680
- PIC18F2682, PIC18F2685, PIC18F4682, PIC18F4685
- PIC18F46J13, PIC18F47J13, PIC18LF46J13,  
PIC18LF47J13
- PIC18F25K80, PIC18F26K80, PIC18F45K80,  
PIC18F46K80
- PIC18F65K80, PIC18F66K80, PIC18LF25K80,  
PIC18LF26K80
- PIC18F1230, PIC18F1330, PIC18F2423, PIC18F2523
- PIC18F4423, PIC18F4523, PIC18F6390,  
PIC18F6490
- PIC18F8390, PIC18F8490, PIC18F6393,  
PIC18F6493
- PIC18F8393, PIC18F8493, PIC18F63J90,  
PIC18F64J90
- PIC18F65J90, PIC18F83J90, PIC18F84J90,  
PIC18F85J90
- PIC18F13K22, PIC18F14K22, PIC18LF13K22,  
PIC18LF14K22
- PIC18F2221, PIC18F2321, PIC18F4221,  
PIC18F4321
- PIC18F23K22, PIC18F24K22, PIC18F25K22,  
PIC18F26K22
- PIC18LF23K22, PIC18LF24K22, PIC18LF25K22,  
PIC18LF26K22
- PIC18F43K22, PIC18F44K22, PIC18F45K22,  
PIC18F46K22
- PIC18LF43K22, PIC18LF44K22, PIC18LF45K22,  
PIC18LF46K22
- PIC18F65K22, PIC18F66K22, PIC18F24K50,  
PIC18F25K50
- PIC18F45K50, PIC18LF24K50, PIC18LF25K50,  
PIC18LF45K50
- PIC18F67K22, PIC18F85K22, PIC18F86K22,  
PIC18F87K22
- PIC18F24J50, PIC18F25J50, PIC18F26J50,  
PIC18LF24J50
- PIC18LF25J50, PIC18LF26J50, PIC18F44J50,  
PIC18F45J50
- PIC18F46J50, PIC18LF44J50, PIC18LF45J50,  
PIC18LF46J50
- PIC18F26J53, PIC18F27J53, PIC18LF26J53,  
PIC18LF27J53
- PIC18F46J53, PIC18F47J53, PIC18LF46J53,  
PIC18LF47J53
- PIC18F26J13, PIC18F27J13, PIC18LF26J13,  
PIC18LF27J13
- PIC18LF45K80, PIC18LF46K80, PIC18LF65K80,  
PIC18LF66K80

The following is a current list of supported variants in the PIC24 family:

- PIC24FJ32GA004, PIC24FJ48GA002, PIC24FJ48GA004
- PIC24FJ64GA002, PIC24FJ64GA004, PIC24FJ16GA004
- PIC24FJ64GA006, PIC24FJ128GA006, PIC24FJ64GA008
- PIC24FJ128GA008, PIC24FJ64GA010, PIC24FJ96GA010
- PIC24F16KA101, PIC24F08KA102, PIC24F16KA102
- PIC24FJ128GA010, PIC24F04KA200, PIC24F08KA101
- PIC24FJ96GA008, PIC24FJ96GA006, PIC24FJ16GA002
- PIC24FJ64GA106, PIC24FJ192GA106, PIC24FJ256GA106
- PIC24FJ128GA108, PIC24FJ192GA108, PIC24FJ256GA108
- PIC24FJ64GA110, PIC24FJ128GA110, PIC24FJ256GA110
- PIC24FJ32GA102, PIC24FJ32GA104, PIC24FJ64GA104
- PIC24FJ32GA002, PIC24FJ64GA102, PIC24FJ192GA110
- PIC24FJ64GA108, PIC24FJ128GA106, PIC24F04KA201

The following is a current list of supported variants in the dsPIC33® family:

- dsPIC33FJ12GP201, dsPIC33FJ12GP202, dsPIC33FJ32GP202
- dsPIC33FJ32GP204, dsPIC33FJ16GP304, dsPIC33FJ12MC201
- dsPIC33FJ12MC202, dsPIC33FJ32MC202, dsPIC33FJ32MC204
- dsPIC33FJ16MC304

## Features

Please see individual product families for features and information on model details.

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## Limitations

Please see individual product families for information on model limitations of variants in that family.

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## Compilers

### Supported Third Party Compilers

Proteus VSM models will fundamentally work with the exact same HEX file as you would program the physical device with. However, far more debugging information is available when using a compiler to write the firmware and providing these object files to Proteus in place of the HEX file provides a much richer working environment.

We recommend you use the free Labcenter VSM Studio IDE. This will greatly simplify the task as it will automatically configure supported compilers to work with a Proteus VSM simulation.

If you prefer to work inside your own IDE then you will need to set your compiler options manually. After compiling for debug, all you need to do is specify the debug file from the compiler as the program property of the microcontroller on the schematic.

### VSM Studio supported toolchains

- IAR
- HI-TEC
- Microchip XC8
- Microchip XC16
- Proton+
- CCS
- Source Boost
- Byte Craft



With continual development on the Proteus Design Suite we endeavour to keep all content updated with the latest product details. On rare occasions this may not happen immediately, and website content will then be incomplete or inaccurate. We will attempt to correct any such errors as soon as possible, E&OE.