Get Started Today with PIC32 Microcontrollers

PIC32 Starter Kits

Getting started is easy with any of the fully integrated PIC32 Starter Kits featuring simple installation, getting started tutorial and PIC32 starter board with easy USB connection to your PC. The Starter Kits include:

- MPLAB IDE and MPLAB C32 C Compiler†
- PIC32 Starter Board with Integrated Programmer and Debugger
- Code Examples, Documentation, Tutorials and Sample Projects, Optional I/O Expansion board allows signal breakouts and connections for PICtail™ Plus Daughter Cards

†Lite version has **no code size limit** and full optimizations. After 60 days some optimizations are disabled.

Starter Kits

PIC32 Starter Kit (DM320001)

General Purpose 32K RAM

USB II Starter Kit (DM320003-2)

USB, 2 x CAN 128K RAM

PIC32 Ethernet Starter Kit (DM320004)

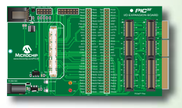
USB, 1 x CAN, 10/100 Ethernet 128K RAM

Add Functionality

PIC32 I/O Expansion Board (DM320002)

Supports PICtail™ Plus Daughter Boards

- Easy access to every signal
- $72 (USD)



FREE Microchip Software Libraries

www.microchip.com/pic32libraries

USB	USB Host, Device, On-the-Go with Class Drivers
Graphics	Microchip Graphics Library
CAN	CAN API Library for PIC32 with Integrated CAN Controller (in compiler) Standalone CAN Library - includes support for MCP2515
Connectivity	Microchip TCP/IP with SSL and BSD IrDA® Stack* ZigBee® Pro Protocol Stack** ZigBee® Smart Energy Profile Suite** MiWi™ Protocol Stack for 802.15.4 Networks
Audio and Speech	Audio Library for PIC32MX: Speex, ADPCM and WAV
Encryption	AES 128-, 196- and 256-bit Encryption & Decryption Library Public Key Cryptography Library (RSA)
Basic Libraries	16- and 32-bit File System Libraries FatFs File System Library DSP Library (located in MPLAB C compiler for PIC32) Math Library (located in MPLAB C compiler for PIC32) Peripheral Library (located in MPLAB C compiler for PIC32) EEPROM Emulation IEC 60730 Class B Software**
Boot Loader	Serial Port Boot Loader USB Host Boot Loader**

* Contact Microchip for availability.
** Software planned for future - get the latest updates at www.microchip.com/pic32libraries.

MICROCHIP

64-pin | 100-pin

MICROCHIP PIC32™

32-bit Embedded Microcontrollers

Product Key

Self-Write – Ability to write to its own Flash program memory
PMP8 – Parallel Master Port 8-bit
PMP16 – Parallel Master Port 16-bit
RTCC – Real-Time Clock Calendar
Trace – Hardware Trace Feature
4/2 ch DMA – 4 General/2 Dedicated Channels Direct Memory Access

10 ADC 10-bit, up to 1 MSPS
Two Comparators
USB On-The-Go
Embedded CAN Module
Ethernet

All parts contains additional 12 KB of boot Flash that can be used for general program memory.

Pin Count

Program Memory Size	64-pin	100-pin
512 KB	8/8 DMA, RAM 128K, RTCC, Self-write, 80 MHz, PMP8, Oper. Voltage: 2.3-3.6, 10, I/O Pins: 53 — PIC32MX795F512H	8/8 DMA, RAM 128K, RTCC, Self-write, Trace, 80 MHz, PMP16, Oper. Voltage: 2.3-3.6, 10, I/O Pins: 85 — PIC32MX795F512L
	8/8 DMA, RAM 64K — PIC32MX775F512H	8/8 DMA, RAM 64K — PIC32MX775F512L
	8/4 DMA, RAM 128K — PIC32MX695F512H	8/4 DMA, RAM 128K — PIC32MX695F512L
	8/4 DMA, RAM 64K — PIC32MX675F512H	8/4 DMA, RAM 64K — PIC32MX675F512L
	8/4 ch DMA, RAM 64K — PIC32MX575F512H	8/4 DMA, RAM 64K — PIC32MX575F512L
	4/2 DMA, RAM 32K — PIC32MX440F512H	4/2 DMA, RAM 32K — PIC32MX460F512L
	4/0 DMA, RAM 32K — PIC32MX340F512H	4/0 DMA, RAM 32K — PIC32MX360F512L
256 KB	8/8 DMA, RAM 64K — PIC32MX775F256H	8/8 DMA, RAM 64K — PIC32MX775F256L
	8/4 DMA, RAM 64K — PIC32MX675F256H	8/4 DMA, RAM 64K — PIC32MX675F256L
	8/4 DMA, RAM 64K — PIC32MX575F256H	8/4 DMA, RAM 64K — PIC32MX575F256L
	4/2 DMA, RAM 32K — PIC32MX440F256H	4/2 DMA, RAM 32K — PIC32MX460F256L
	4/2 DMA, RAM 32K — PIC32MX340F256H	4/2 DMA, RAM 32K — PIC32MX360F256L
128 KB	4/2 DMA, RAM 32K — PIC32MX440F128H	4/2 DMA, RAM 32K — PIC32MX440F128L
	4/0 DMA, RAM 32K — PIC32MX340F128H	4/0 DMA, RAM 32K — PIC32MX340F128L
	RAM 16K — PIC32MX320F128H	RAM 16K — PIC32MX320F128L
64 KB	RAM 16K — 40 MHz, 80 MHz†, PMP8, Oper. Voltage: 2.3-3.6, 10, I/O Pins: 53 — PIC32MX320F064H	
32 KB	RAM 8K — 40 MHz, PMP8, Oper. Voltage: 2.3-3.6, 10, I/O Pins: 51 — PIC32MX420F032H	
	RAM 8K — PIC32MX320F032H	

Pin Count

On-Line Software Resources Compatible with PIC® MCUs

MPLAB IDE Integrated Development Environment
www.microchip.com/mplab

TCP/IP Stack & Source Code
www.microchip.com/tcpip

USB Source Code & Drivers
www.microchip.com/usb

Libraries (Select libraries are FREE)
www.microchip.com/pic32libraries

Code Examples
www.microchip.com/pic32codeexamples

For up-to-date product information visit: www.microchip.com/pic32

†Available in 40, 80 MHz operating speed. November 2009 DS39906C

64-pin | 100-pin

RESOURCES

Innovation is Easy with Microchip ...

Innovations result in your ability to create, improve and transform an application, while minimizing development time and project costs. Innovation is easier than ever with increasing levels of performance and features in Microchip's broad portfolio of products.

Customized Application Design Centers & Links

- Specific Reference Designs
- Design Examples
- Programming Specifications
- Detailed Application Notes
- Web Seminars
- Code Examples
- Source Code
- "Getting Started" Documents
- Data Sheets

Automotive Design Center
www.microchip.com/auto

Battery Management
www.microchip.com/battery

eXtreme Low Power Microcontrollers
www.microchip.com/XLP

Home Appliance Design Center
www.microchip.com/appliance

Human Interface
www.microchip.com/humaninterface

mTouch™ Design Center
www.microchip.com/mtouch

Advanced Graphics
www.microchip.com/graphics

Segmented LCD
www.microchip.com/lcd

Audio & Speech Solutions
www.microchip.com/audio

Intelligent Power Supply Design Center
www.microchip.com/power

Lighting Design Center
www.microchip.com/lighting

Motor Control Design Center
www.microchip.com/motor

Mechatronics Design Center
www.microchip.com/mechatronics

Medical Solutions Design Center
www.microchip.com/medical

Switch-Mode Power Supply Link
www.microchip.com/smps

System Design
- 3V System Design Center **www.microchip.com/3volt**
- EMC Design Solutions **www.microchip.com/emc**
- eXtreme Low Power Microcontrollers **www.microchip.com/XLP**

Utility Metering Design Center
www.microchip.com/metering

Wired Connectivity
www.microchip.com/wired
- CAN - **www.microchip.com/can**
- LIN - **www.microchip.com/lin**
- USB - **www.microchip.com/usb**
- Ethernet - **www.microchip.com/ethernet**

Wireless Connectivity
www.microchip.com/wireless
- Infrared **www.microchip.com/infrared**
- KEELOQ® Authentication **www.microchip.com/keeloq**
- Radio Frequency **www.microchip.com/rf**

Application Notes and Code Examples

FREE **www.microchip.com/pic32docs**

FREE **www.microchip.com/pic32codeexamples**

Third-party Application Software and Hardware Support

ASHLING — The Development Systems Company
AVIX-RT
CMX SYSTEMS
DIGILENT®
easyGUI
eflightworks
expresslogic
freeRTOS
Green Hills Software Inc.
LAUTERBACH
Macraigor Systems — Complete JTAG Debug Support
Micrium — Empowering Embedded Systems
MICRO/SYS
OLIMEX
PUMPKIN — Real-Time Software
RAMTEX
RoweBots
SEGGER
sparkfun ELECTRONICS
TechToys
zero G

TOOLS

One Unified Development Environment for the 8-, 16- and 32-bit PIC® Microcontroller Portfolio

MPLAB® IDE Integrated Development Environment

FREE

A unified GUI for Microchip and third party software/hardware development tools. Use this integrated tool set for developing and debugging PIC MCU and dsPIC® DSC embedded applications. FREE d**ownload: www.microchip.com/mplab**

MPLAB® C32 C Compiler (SW006015)

Optimized C Compiler with full peripheral, DSP and math libraries.
Free evaluation version available.

PIC32 Development Tools

Choose a Platform:

Starter Kit Platform

PIC32 Starter Kit (DM320001)

USB II Starter Kit (DM320003-2)

PIC32 Ethernet Starter Kit (DM320004)

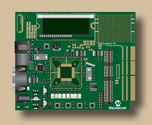
OPTIONAL

PIC32 I/O Expansion Board (DM320002)

OR

Explorer 16 Platform

Explorer 16 Development Board (DM240001)



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PIC32 Plug-in Modules (MA320001) (MA320002) (MA320003)

AND

MPLAB® ICD 3 In-Circuit Debugger (DV164035)

OR

MPLAB® REAL ICE™ In-Circuit Emulation System (DV244005)

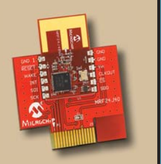
PICtail™ Boards Common to Both Development Platforms

Graphics PICtail™ Board (AC164127-3)

ECAN/LIN PICtail™ Plus Daughter Board (AC164130)

802.11 ZeroG PICtail™ (AC164136-2)

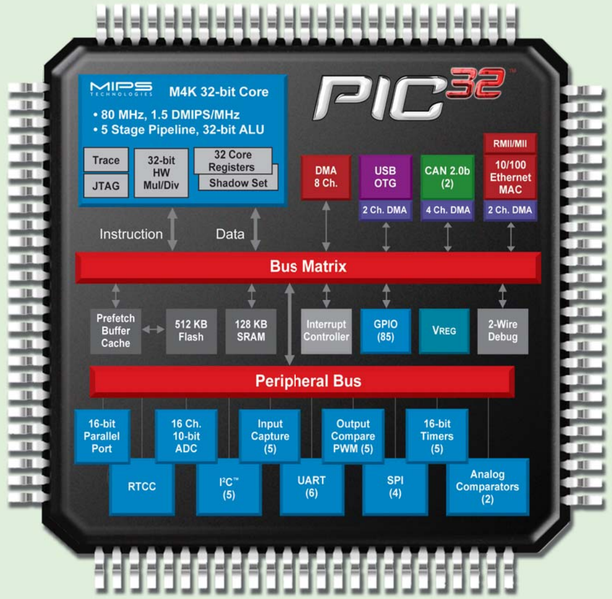
MRF24J40MA 2.4 GHz RF Card (AC164134)



... and many more!

PERFORMANCE

32-bit PIC32 Microcontroller Block Diagram



High Performance & Memory

Power your RTOS, Touch Screens and Complex Applications

- 80 MHz, 1.56 DMIPS/MHz MIPS M4K Core
- 512K Flash with pre-fetch cache
- 128K RAM for data and program execution
- Fast interrupts and context switch

Industry Leading Compatibility

Create Scalable Products in a Consistent Environment

- Common MPLAB® development tools
- Pin & peripheral compatible with 16-bit PIC MCUs
- Common software stacks across MCUs
- Common tools environment ~600 PIC MCUs

More Design Options

Simplify Your System Design Through Integration

- Extensive analog and digital peripherals
- USB Host/Device/OTG, Dual CAN, 10/100 Ethernet
- Up to 16 DMA channels
- 16-bit parallel master port

Microchip Advanced Parts Selector (MAPS)

Electronic product selector tool
- 8 and 16-bit Microcontrollers
- 16-bit Digital Signal Controllers
- Analog
- Memory
- Parametric search filter

www.microchip.com/maps

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- Targeted design topics to meet your specific needs and experience level

MICROCHIP Regional Training Centers

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- Forum link provides access to knowledge base and peer help: **http://forum.microchip.com**
- Buy link provides locations of Microchip Sales Channel Partners: **www.microchip.com/sales**