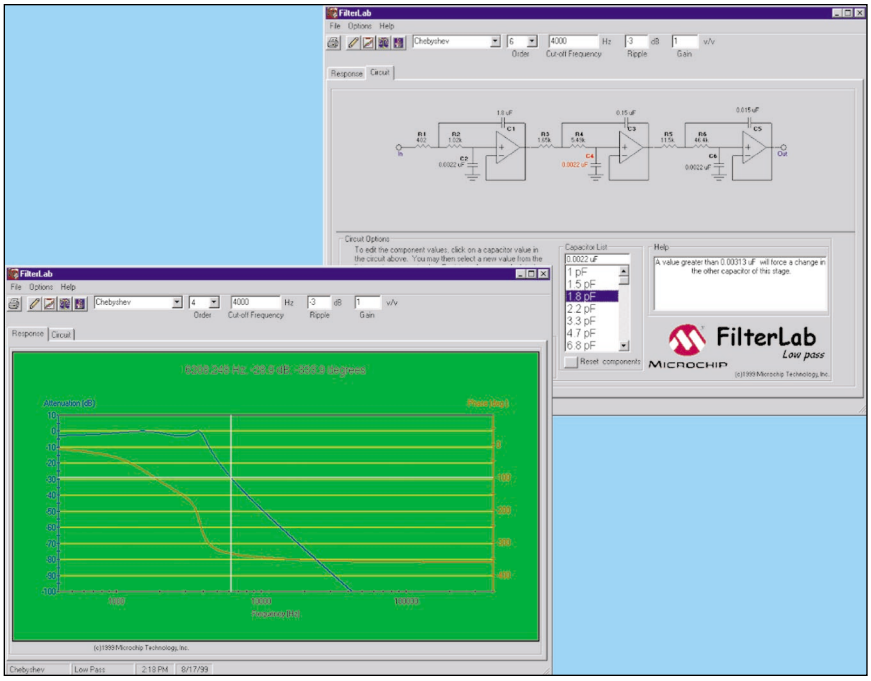
FilterLab™

Active Filter Software Design Tool



The difficult job of low-pass, active filter design is made easy with FilterLab software.

FilterLab is an innovative software tool that simplifies active filter design. Available at no cost from Microchip's web site (www.microchip.com), the FilterLab active filter software design tool provides full schematic diagrams of the filter circuit with component values and displays the frequency response.

FilterLab allows the design of low-pass filters up to an 8th order filter with Chebyshev, Bessel or Butterworth responses from frequencies of 0.1 Hz to 10 MHz. Users can select a flat passband or sharp transition from passband to stopband. Options, such as minimum ripple factor, sharp transition and linear phase delay, are available. Once the filter response has been identified, FilterLab generates the frequency response and the circuit. For maximum design flexibility, changes in capacitor values can be implemented to fit the demands of the application. FilterLab will recalculate all values to meet the desired response, allowing real-world values to be substituted or changed as part of the design process.

FilterLab also generates a spice model of the designed filter. Extraction of this model will allow time domain analysis in spice simulations, streamlining the design process.

Further consideration is given to designs used in conjunction with an analog-to-digital converter. A suggested filter can be generated by simply inputting the bit resolution and sample rate via the Anti-Aliasing Wizard. This eliminates erroneous signals folded back into the digital data due to the aliasing effect.

Features:

- Multiple Filter Order and Responses with Gain Option
  - Ability to select Bessel, Butterworth or Chebyshev filter response
  - Up to 8th-order filters can be simulated
  - Circuit diagram and component values given
- Bode Plot with Phase Margin
  - Resultant Bode plot generated
- Circuit Implementation
  - Standard 1 percent resistors
  - Standard capacitor values generate and user adjustable
  - Circuit configuration: Sallen-Key (noninverting) or multiple feedback (inverting)
- Spice Model Generated
  - Spice Model of entire filter generated
  - Allows for streamline of simulations
- Anti-Aliasing Wizard
  - Filter optimization for Analog-to-Digital Converter base on bit resolution and sample rate

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The Embedded Control Solutions Company®

FilterLab

Ordering Information:

Model Name:
FilterLab

Devices Supported:
PC

Host System Requirements:
PC with 386 or higher processor.
Pentium® recommended
8 MB Memory, 32 MB recommended
16 MB hard disk space, 20 MB recommended
600 x 800 Monitor
Microsoft® Windows 95/98
CD-ROM Drive

Customer Support:

Microchip maintains a worldwide network of distributors, representatives, local sales offices, Field Application Engineers and Corporate Application Engineers. Microchip's Internet home page can be reached at: www.microchip.com

Development Tools from Microchip	
MPLAB® IDE	Integrated Development Environment
MPASM™ Assembler	Universal PICmicro macro-assembler
MPLINK™ Object Linker	Linker
MPLIB™ Object Librarian	Librarian
MPLAB® C17	C compiler for PIC17CXXX MCUs
MPLAB® C18	C compiler for PIC18CXXX MCUs
C Compilers	Sold by third-party vendors (HI-TECH, IAR, CCS)
MPLAB® SIM Simulator	Software Simulator
MPLAB® ICD	In-Circuit Debugger
ICEPIC™ Emulator	Low-cost in-circuit emulator
MPLAB® ICE 2000	Full-featured modular in-circuit emulator
PICSTART® Plus Programmer	Entry-level development kit with programmer
PRO MATE® II Device Programmer	Full-featured, modular device programmer
KEELOQ® Evaluation Kit	Encoder/Decoder evaluator
KEELOQ® Transponder Evaluation Kit	Transmitter/Transponder evaluator
microID™ Developer's Kit	125 kHz and 13.56 MHz RFID development tools
MCP2510 CAN Developer's Kit	MCP2510 CAN evaluation/development tool
MXDEV™ 1 Analog Evaluation System	Evaluation kit for MCP devices

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