

## Filter Basics Part 4: Key Filter Types And Technologies

Source: [Knowles Precision Devices, LLC](#)

To choose the right filter for your application, you first need to have a solid understanding of how to evaluate filter types and identify the specific filter technology that will best suit your application.

### Filter Types

To start, there are four filter response types that can be used to define the frequencies that will be removed or allowed by the filter.

#### Low Pass

Low pass filters allow frequencies below a given frequency to pass (be transmitted or received) while rejecting frequencies above the given frequency.

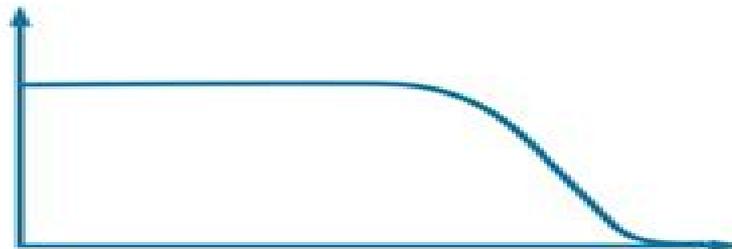


Figure 1. An illustration of a how a low pass filter works.

#### High Pass

High pass filters function in the opposite manner of a low pass filter. High pass filters let frequencies above a given frequency pass through the filter while rejecting frequencies below the given frequency.



Figure 2. An illustration of a how a high pass filter works.

#### Band Pass

Band pass filters pass frequencies between two frequencies (set upper and a lower limits) while rejecting all other frequencies.



# Filter Basics Dsp

**H Kauffman**



## **Filter Basics Dsp:**

**Fundamentals of Analog and Digital Signal Processing** Li Tan, Jean Jiang, 2007-05-01 The book is suitable to be used as a one semester senior level course for the undergraduate engineering technology program including electronics computer and biomedical engineering technologies However the book could also be useful as a reference for undergraduate

engineering students science students and practicing engineers **DSP for Embedded and Real-Time Systems** Robert Oshana, 2012-07-12 This book includes a range of techniques for developing digital signal processing code tips and tricks for optimizing DSP software and various options available for constructing DSP systems from numerous software components

**Designing Audio Effect Plug-ins in C++ with Digital Audio Signal Processing Theory** William C. Pirkle, 2013 Includes bibliographical references and index **FPGAs: World Class Designs** Clive Maxfield, 2009-02-24 All the design

and development inspiration and direction a hardware engineer needs in one blockbuster book Clive Maxfield renowned author columnist and editor of PL DesignLine has selected the very best FPGA design material from the Newnes portfolio and has compiled it into this volume The result is a book covering the gamut of FPGA design from design fundamentals to optimized layout techniques with a strong pragmatic emphasis In addition to specific design techniques and practices this book also discusses various approaches to solving FPGA design problems and how to successfully apply theory to actual design tasks The material has been selected for its timelessness as well as for its relevance to contemporary FPGA design issues Contents Chapter 1 Alternative FPGA Architectures Chapter 2 Design Techniques Rules and Guidelines Chapter 3 A VHDL Primer The Essentials Chapter 4 Modeling Memories Chapter 5 Introduction to Synchronous State Machine Design and Analysis Chapter 6 Embedded Processors Chapter 7 Digital Signal Processing Chapter 8 Basics of Embedded Audio Processing Chapter 9 Basics of Embedded Video and Image Processing Chapter 10 Programming Streaming FPGA Applications Using Block Diagrams In Simulink Chapter 11 Ladder and functional block programming Chapter 12 Timers

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**Digital Filtering** Russell M. Mersereau, Mark J. T.  
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world applications open many chapters with motivational examples

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**Single Sideband Systems and Circuits** William E. Sabin, Edgar O.  
Schoenike, 1995 A comprehensive reference on single sideband SSB communications including SSB circuit and equipment  
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*ICASSP 81*, 1981

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