mathsoft SOLUTIONS

signal processing extension pack for mathcad®

Extend the built-in functionality of Mathcad with the essential tools for signal processing

PRODUCT OVERVIEW

The Signal Processing Extension Pack, coupled with Mathcad, provides a powerful design solution for iterative exploration and investigative analysis.

With its extensive signal processing, analysis and visualization capabilities, this Extension Pack is ideal for electrical design, DSP, audio, recording and research engineers, as well as other engineers and scientists involved in a broad range of signal processing applications, in industries such as telecommunications, test and instrumentation, manufacturing, defense, control systems, home entertainment, medicine and more. It is also a valuable tool for students studying electrical engineering.

This robust Mathcad add-on tool provides a total of over 70 built-in signal processing functions, including functionality in signal filtering, spectral analysis, time-frequency analysis and spectral estimation. In addition, Visual Basic application examples illustrate how to use Visual Basic scripting with Mathcad for signal processing applications. The Extension Pack also gives you full support for multichannel and complex signals, and provides Window arguments for all filtering signals.

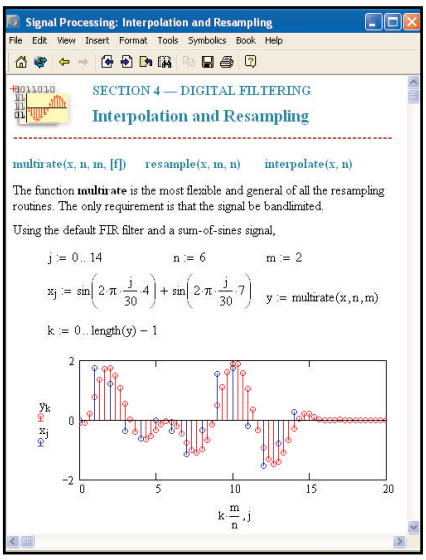

Figure 1. Built-in functions for filtering digital signals simplify analysis procedures, and make it easy to perform iterative, what-if scenarios.

Mathcad's easy-to-use environment is ideal for iterative exploration, investigative analysis and what-if scenarios. Plus, the Signal Processing Extension Pack builds upon Mathcad's superior technical design environment, so you can incorporate your signal processing work with publication-quality technical documents, graphs and presentations created in Mathcad.

Combined with your Mathcad desktop, this Extension Pack provides substantial depth and breadth, along with the same superior ease-of-use, flexibility and extensibility of award-winning Mathcad.

KEY CAPABILITIES

- Analog and Digital Signals and System Analysis
- Audio WAVE files
- Convolution and Correlation
- FFT and IFFT Fast Fourier Transforms and Inverses
- FIR and IRR Filter Design
- Harlety, Walsh and Hilbert Transforms
- Joint Time-Frequency Analysis
- Lowpass Filtering
- Signal Filtering
  - Filtfilt function
  - Multirate function
  - Median filtering
- Spectral Analysis
  - Real and complex cepstrum
  - Signal windowing functions
  - MUSIC method for spectrum estimation
- Time Frequency Analysis
  - Short-time Fourier transform
  - Common BTFRs
- Time-dependent autocorrelation
- Time Series Analysis

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With 20 years of experience, Mathsoft Engineering & Education, Inc. provides comprehensive solutions that streamline the engineering process in a way that can be documented, verified and reused, enabling engineering and product innovation.

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SPECIFICATIONS

System Requirements

- Mathcad 12 or higher
- Windows® XP, 2000 or higher
- 5 MB free hard disk space

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