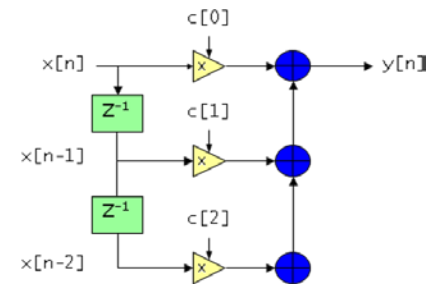
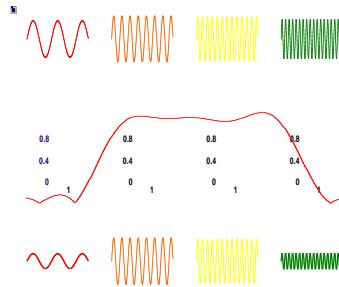


FIR filters

DSP training

Benefits

- Analyze system filtering requirements
- Specify, design and apply FIR filters
- Analyze required arithmetic precision
- Estimate computational requirements
- Implement FIR filters cost effectively



FIR filters

FIR filters are the most common application of DSP. To use them effectively you must know how to estimate filtering requirements based on the signals, noise, and application goals; design filters to meet those requirements; and implement those filters cost effectively.

Class aims

We show how you can analyze the signal and noise characteristics to guide the choice and design of FIR filters for an application goal, decide clear quantitative design specifications and choose design parameters, and estimate hardware requirements

Class topics

The class covers analyzing expected signal and noise and using these to guide specification and design of the FIR filter, as well as the actual FIR filter design.

- Signals and Noise
- Processing Gain
- Designing filter specifications
- Frequency domain
- Window functions
- Sampling
- Sizing
- Filtering
- Filtering to enhance SNR
- Filtering applications
- FIR filter design

Signals and Noise

How to estimate, measure and analyze signal and noise characteristics to guide the required filter specification.

- Signal and Noise
- Signal to Noise Ratio
- Processing Gain
- Equivalent Noise Band Width

Frequency domain

Why filtering is defined as a frequency domain operation and discuss the consequences.

- Frequency domain analysis
- Window functions
- Figures of Merit

Sampling

How to decide upon sampling, its effects and the consequences for designing FIR filters.

- Sampling
- Aliasing
- Resolution

Sizing

How to specify filters based on signal and noise characteristics and the application goal, and to estimate computational requirements.

- Filter length
- Arithmetic precision
- Computational complexity

Design

How to design, implement and analyze FIR filters.

- FIR filter design
- Frequency response
- Impulse response

Target audience

This class is aimed at programmers, engineers and managers designing products which will use FIR digital filtering, and who wish to fully understand and be able to apply the techniques of specifying, designing and implementing FIR digital filters.

Time and arrangements

This class takes 3 days. Check our schedule at:

www.bores.com/index_schedule.htm

It can also be presented 'on site' by special arrangement and the material can be adapted if you have specific needs.

Booking and questions

Call us by phone or send an email to book or to ask questions:

- contact Dr Chris Bore
- mobile +44 7921 153219
- email: chris@bores.com

About Us

BORES Signal Processing train managers, engineers and programmers to understand and use DSP and streaming media processing.

- established 24 years
- excellent reputation
- worldwide activities
- www.bores.com