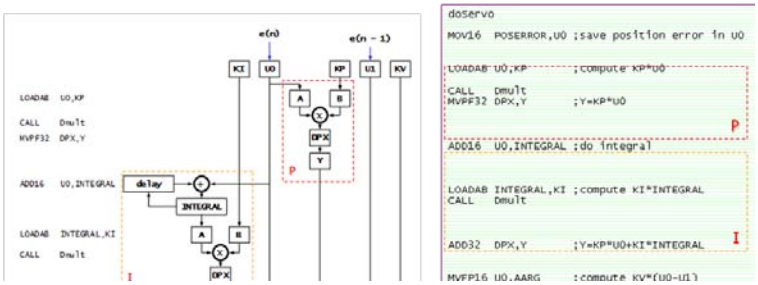
DSP projects with dsPIC

DSP training

Benefits

- Learn DSP by creating a real system
- Analyze DSP system requirements
- Specify, design and apply DSP
- Estimate computational requirements
- Implement on Microchip dsPIC™



Project-based learning

In this project-based series of classes you learn DSP by installing a real-time DSP development platform, developing and debugging an application to create your own real-time DSP system to keep. A series of five 1-day classes separated by time with assignments for you to work at home to practice and reinforce what you learnt.

Class aims

We take you through installing the development system (which you keep), programming, capturing signals, designing, implementing and debugging real-time applications on the dsPIC™ hardware.

Class topics

The class covers analyzing expected signal and noise and using these to guide specification and design of the processing, as well as implementation of each stage on the dsPIC hardware.

- The DSP Starter Kit
- Installing and configuring
- Programming
- Capturing signals
- A spot frequency analyzer
- A filter application
- Echo and reverberation
- Equalization and compensation

The DSP Starter Kit

How to install, set up and use the dsPIC Starter Kit.

- The dsPIC processor
- Starter Kit components
- Memory Map
- Development Environment
- Programming

Signals

Sampling and analyzing signals.

- Digital signals
- Sampling with the hardware
- Aliasing
- Signal to Noise ratio
- Processing Gain

Frequency

Viewing DSP as operations in the frequency domain.

- Frequency domain analysis
- Fourier Transforms
- The dsPIC FFT function
- A spot frequency analyzer

Filtering

Understanding and implementing digital filters.

- Convolution and correlation
- Implementing a filter
- Filter specifications

Filter applications

Implementing some simple real-time filter applications.

- Echo and revereberation
- Chorussing
- Equalization
- Compensation

Target audience

This class is aimed at programmers and engineers who want to learn by implementing real DSP systems, through a series of 1-day classes with homework assignments between classes.

Time and arrangements

This course is a series of five 1-day classes with homework assignments between. 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

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