

The World Leader in High Performance Signal Processing Solutions



LabVIEW Embedded For Blackfin

Presented By:
Glen Anderson
Software Engineering Manager



About this Module

Through numerous demonstrations, this module provides an introduction to the LabVIEW Embedded for ADI Blackfin development environment.

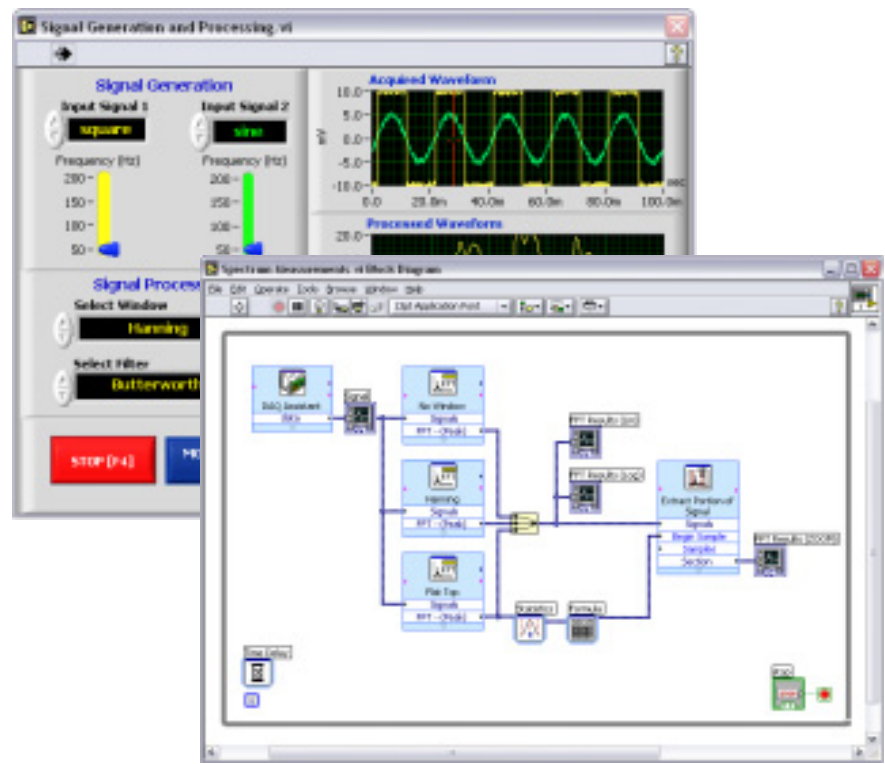


Module Outline

- ◆ **Product Overview**
 - An overview of LabVIEW Embedded for Blackfin
- ◆ **Developing a Simple Application**
 - Building, downloading and running virtual instruments on the blackfin processor
- ◆ **Peripheral Communication**
 - Peripheral control using the Blackfin driver VI's
- ◆ **Debugging Capabilities**
 - Application tuning using Background Telemetry Channels
 - Seamless debugging support through the VisualDSP++ development environment
- ◆ **Product Details**

What is LabVIEW?

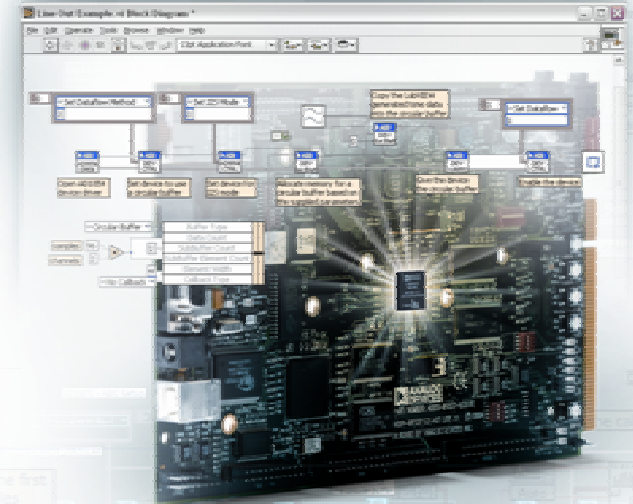
- ◆ Developed by National Instruments Inc. (<http://www.ni.com>)
- ◆ Full graphical programming environment
- ◆ Target desktop, mobile, industrial, and embedded applications
- ◆ Thousands of out-of-the box mathematics and signal processing functions
- ◆ Seamless connectivity with millions of I/O devices



LabVIEW Embedded Module for Blackfin

A comprehensive graphical development approach for embedded design jointly developed by ADI and NI. Seamlessly integrates LabVIEW and VisualDSP++ to deliver an easy to use programming toolset for quicker time-to-market.

- ◆ **Leverages the system design capabilities and graphical programming of LabVIEW**
- ◆ **Targets Blackfin high performance, low power processor family**
- ◆ **Delivers fully integrated solution from concept to deployment**
- ◆ **Offers ability to reuse existing embedded algorithms**



Who can benefit?

◆ Domain Experts

- The ease of use and power of LabVIEW enables the domain expert to focus on what they do best

◆ Embedded Developers

- Faster development cycle with reusable components out of the box

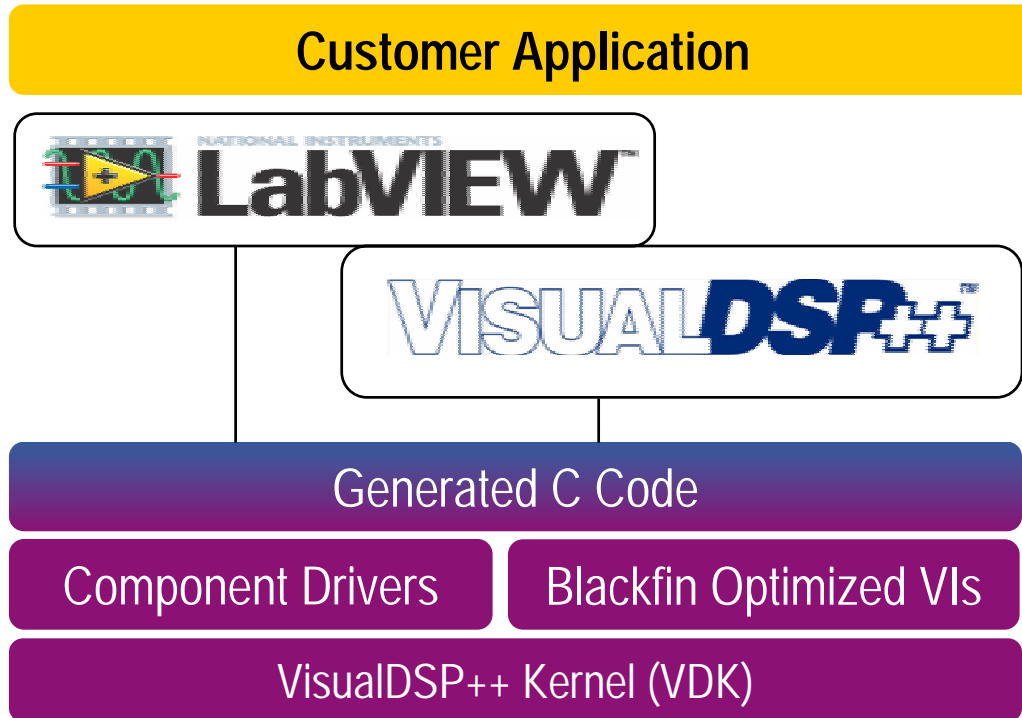
◆ Test Engineers

- Leverage existing LabVIEW expertise in the design and implementation cycle as well as test

◆ Quality Engineers

- Consistent use of common tools through the product life cycle means less integration issues and better product quality

Architectural Overview



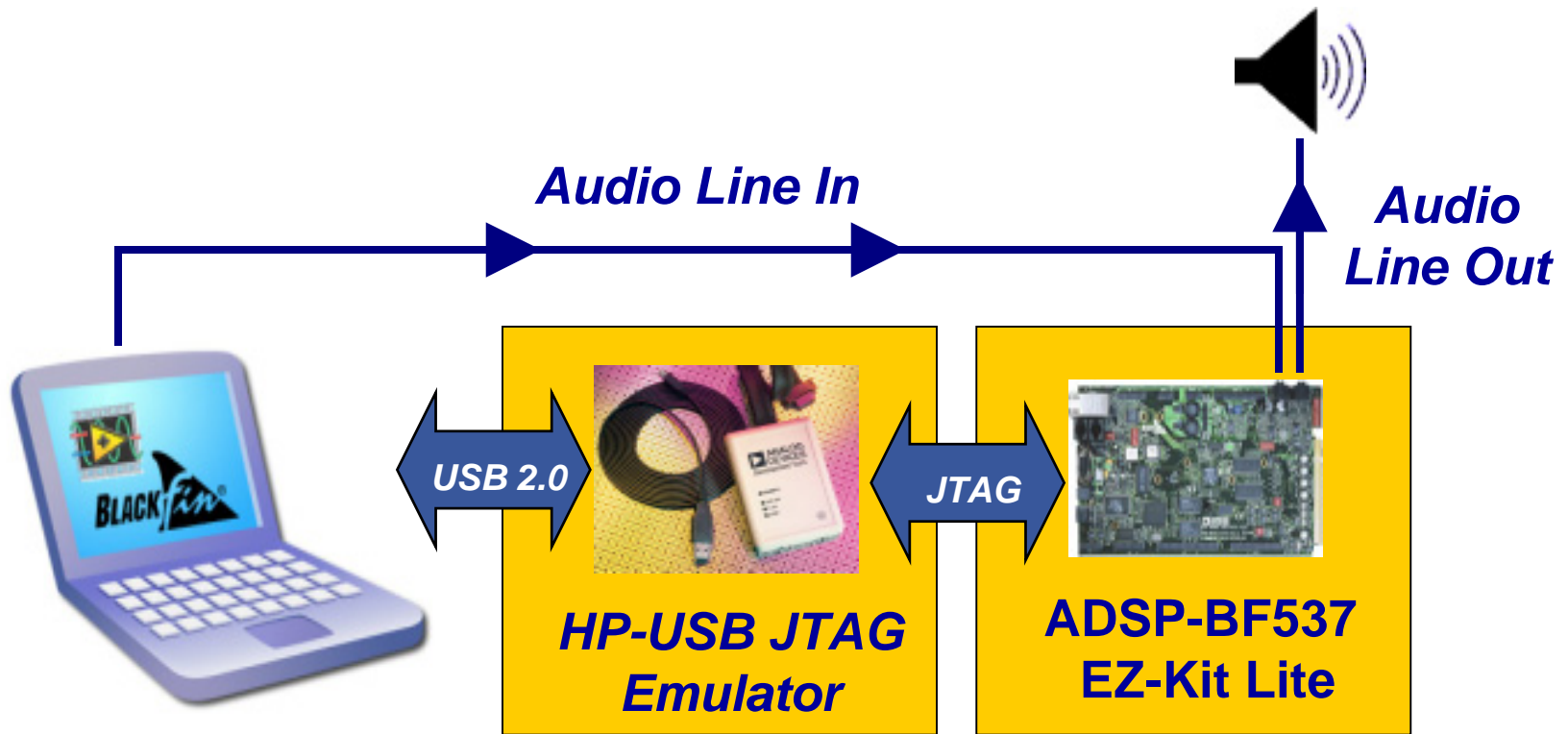
Blackfin EZ KIT Lite Evaluation Hardware

◆ Features

- 600Mhz ADSP-BF537 Blackfin Processor
 - High-performance debug agent
 - Integrated Ethernet
 - Educational Laboratory Virtual Instrumentation Suite (NI ELVIS) interface
- ## ◆ Emphasis on modularity and expandability
- Numerous I/O Daughter Cards Available for system prototyping



Demonstration Setup





Product Details

- ◆ **Available from both Analog Devices and National Instruments**
- ◆ **Full technical support support through National Instruments**
- ◆ **Package Includes:**
 - **NI LabVIEW Full Development System**
 - **ADI VisualDSP++ Full Development Seat**
 - **LabVIEW Embedded Module for ADI Blackfin**
 - **ADSP-BF537 EZ-Kit Lite evaluation package**
 - **Cabling and headphones**
 - **Data acquisition adapter**
 - **Automatic software updates and support available**

Conclusion

- ◆ **The LabVIEW Embedded Module for ADI Blackfin Processors delivers:**
 - **Faster time to market of embedded systems**
 - **The ability to more quickly incorporate advanced features and functions as market technologies change**
 - **Improved quality through consistent use of common tools through the product life cycle.**



For Additional Information

- ◆ On LabVIEW: <http://www.ni.com/labview>
or National Instruments : <http://www.ni.com>
- ◆ On VisualDSP++ :
<http://www.analog.com/processors/resources/crosscore>
or Analog Devices : <http://www.analog.com>

Or click the “Ask A Question” button