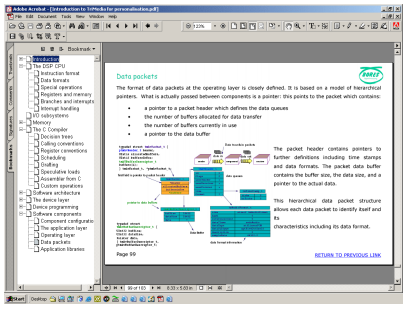
Introduction to TriMedia

DSP eBook series

Benefits

TriMedia is a powerful, but sometimes complex, processor. This concise and friendly eBook explains how TriMedia works. You will learn about:

- The TriMedia CPU core
- Programming and software tools
- Internally-parallel SIMD operations
- The I/O peripheral architecture
- The Software Architecture



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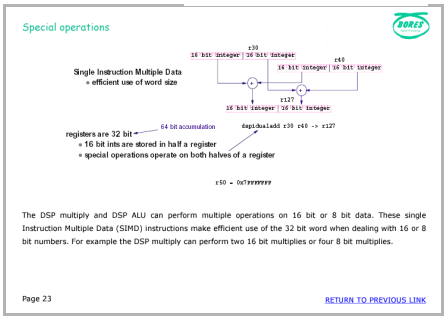

...or print

What is an eBook?

This eBook is an electronic book in Adobe Acrobat™ file format. Clear explanations supported by color diagrams make it easy and helpful to read. You can view it on-screen or print sections to read away from the computer.

Contents

TriMedia documentation is comprehensive but may be too much for a beginner, and is presented in a form more useful for reference than for initially learning. In this eBook we concentrate on understanding the TriMedia and on knowing how and why the parts work together, as a basis for getting started quickly and productively.

Background

We outline the intended applications for TriMedia and explain the reasons behind design choices in its implementation.

- Which applications TriMedia addresses
- Reason for the choice of VLIW
- 'System-level' on chip integration
- Outline of core and software tools

DSP CPU core architecture

We describe the essential core architecture and explain the special features.

- the CPU core architecture
- Instruction format
- Data formats
- Special SIMD operations
- registers and memory
- Branches and interrupts
- Interrupt handling

I/O subsystems

Memory

- Data cache
- Cache coherency
- The Data Highway

The Compiler

- Decision trees
- Calling conventions
- Register conventions
- Scheduling
- Grafting
- Speculative loads
- Assembler from C
- Custom operations

Software Architecture

- Guidelines for structured code
- Software layers
- The Device Layer
- The Application Layer
- The Operating Layer

Peripheral architecture

- Peripheral architecture
- The Device Layer
- Device libraries
- Device programming
- Video output
- Video input
- Video output overlay
- Image Co-Processor
- Audio I/O
- Synchronous Serial Interface
- I^2C bus
- PCI bus

Software components

- The software component model
- Component configuration
- The Application Layer
- The Operating Layer
- Data packets
- Application Libraries

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How much the eBook costs

- Introduction to TriMedia: £25.00

Your credit card is charged in pounds Sterling: the credit card company will convert to your local currency at their exchange rate. For guidance, on 28th March 2002 £20 Sterling works out at about $35 or €40.

To book or find out more

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TriMedia foundation seminars

The 'TriMedia foundation' is a 4-day series of seminars designed to give a thorough understanding of all aspects of the TriMedia processor. The series can be followed as a 4-day session or as separate 1-day sessions, by arrangement.

- TriMedia CPU core
- TriMedia cache architecture
- TriMedia optimization
- TriMedia peripheral architecture
- TriMedia Software Architecture

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