



Real-time DSP Development

The exciting visual design technology for Real-time DSP applications, Hypersignal RIDE, is changing the way real-time engineering applications are developed! Imagine designing a complete real-time application visually, and seeing it work on a DSP/Acquisition board with real-world signals in a matter of minutes. This is the power behind Hypersignal RIDE.

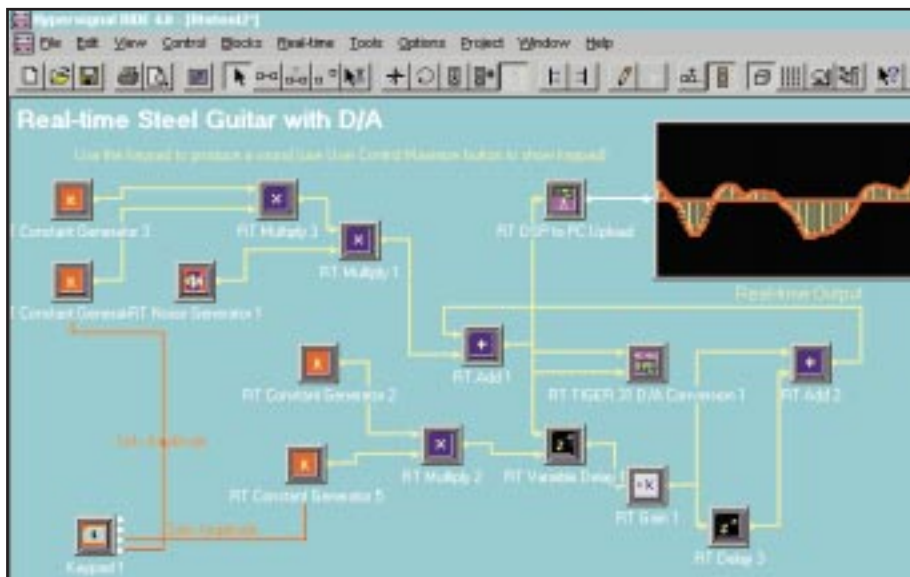
After testing your algorithm real-time, exporting the DSP code for use in an embedded DSP application is only a mouse-click away!

There are many choices for DSP/Acquisition hardware targets available, with more being added all the time. Some of the supported DSP hardware include PCMCIA type III and II boards, PCI and ISA DSP boards, and even stand-alone DSP hardware for direct embedded use! Hypersignal RIDE even supports direct programming of on-board FLASH EPROM memory for some DSP hardware, so completing a stand-alone real-time DSP project is made even easier!

With Hypersignal HAppI, you can turn your complete real-time visual design into a stand-alone Windows 95/NT application in minutes, ready to ship or deliver to your end-user! This is great for high-performance Virtual Instrumentation applications.

If you're not designing your real-time project with Hypersignal RIDE, you are at a definite disadvantage in today's fast moving engineering environment.

Real-time Integrated Development Environment for Digital Signal Processing and related Applications



Example of a simple real-time system for producing an acoustic sound (steel guitar)

Overview

Hyperception's Real-time Integrated Development Environment (RIDE) is a superset of the Hypersignal Block Diagram visual environment which adds support for the design, implementation, and analysis of real-time DSP algorithms and systems. The power of this environment lies in its visual nature and support for industry-standard plug-in DSP/Acquisition boards. Hypersignal RIDE allows DSP applications to be generated very quickly with little or no software coding required. RIDE's support of several different DSP chip families from different semiconductor companies, as well as support for different DSP board vendors, makes its use attractive for many real-time DSP projects. In fact, this device-independent approach even allows different types of DSPs to be used in the same design. The ability to move designs from one DSP technology to another in the same environment means that users don't have to learn multiple tools, and they can easily upgrade their designs in the future for more performance.

The RIDE environment was created by combining DSP hardware with the popular Hypersignal Block Diagram application and powerful Windows DSP board drivers from Hyperception. The driver handles all communications and control of the DSP hardware from the PC environment. The Block Diagram application doesn't

even need to know what DSP hardware is being used. The hardware can actually be "virtual", which eliminates the requirement for a plug-in DSP board. It simply communicates with an installed board driver without having to deal with the DSP-specifics. The RIDE driver handles all board and DSP-specific matters. It links DSP COFF object files, downloads code, data and parameters to the DSP memory, controls the execution of the DSP, and monitors activity on the DSP.

A useful feature of Hypersignal RIDE is that the user interface is the same for both simulated and real-time DSP block functions, and in fact the user may combine both real-time (work done by DSP board) and simulated (work done by PC) functions in the same design. This allows for convenient conversions between design simulations and real-time implementations. The RIDE development process is a very simple one. Blocks are selected from a pull-down menu and connected together to establish a data flow, run-time parameters are adjusted from pop-up dialog boxes, and the entire algorithm is executed with the press of a single button. RIDE provides complete control and observation of your DSP designs. For more detailed information regarding the full set of features and capabilities of this powerful product, contact Hyperception, or see product information sheet HSMK8050.