Part Number: HSWN2000

Hypersignal® Block Diagram

Powerful Simulation/Anlaysis Software for Digital Signal Processing and related Applications

Capabilities

- ***Comprehensive Simulation Environment for many types of Simulation, Analysis, and Systems Modeling***
- ***Flexible Open Software Architecture***
- ***Large standard function library***
- ***Highly efficient architecture allows for extremely fast simulations***
- ***Hierarchical Design Support for Modular Design***
- ***Optional Automatic C Source Code Generation***
- ***Object-Oriented Graphical Software Design Environment simplifies DSP Development***
- ***Capable of Real-time visual DSP design for PC-based or embedded DSP applications (Hypersignal RIDE)***
- ***Virtual Instrumentation and Data Acquisition applications***
- ***Rapid Prototyping of DSP-based Products and Systems***
- ***Telecom, Speech, Military, Medical, Automotive, Image Processing, and many other applications***

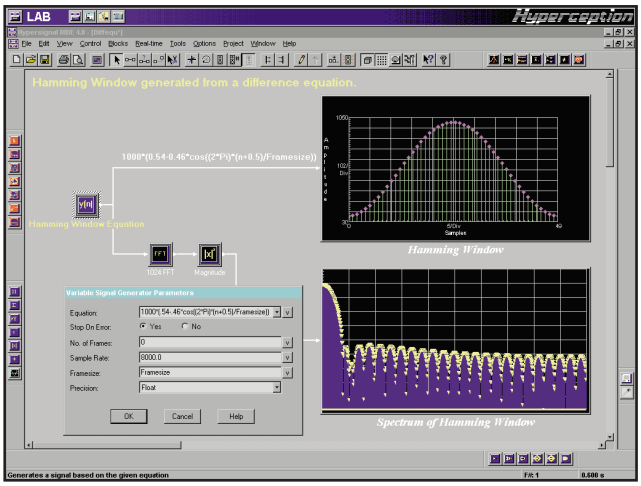
Multi-faceted: supports many types of projects

The comprehensive approach to Hypersignal Block Diagram 4.1 allows it to be used in many types of applications. Although the initial motivation for a visual design tool may be for simulation purposes, it is reassuring to know that the same product line may also be used to incorporate custom, user-developed functions (with the included Block Wizard), and/or to create stand-alone Windows 95/98/NT applications with HAppl, and/or to generate usable ANSI C source code from the visual design (with C Source Code Generator), and/or to have the visual algorithm run in real-time on one of many industry-standard plug-in DSP/Acquisition boards (with RIDE), and/or to move the visual design to a parallel processing based solution (with Pegasus).

Thus, the Block Diagram 4.1 product may be used in many different roles, making it much more versatile than other products and much easier to justify. In addition, since many projects change scope during the development cycle, Hypersignal Block Diagram lowers both the technical and business risks associated with selecting the appropriate development tool. Of course, it does a great job for simulation, systems modeling, and general algorithm development as well. Here are a few reasons to consider Hypersignal Block Diagram for your next engineering project.

Hyperception

The Leader in DSP



Quick and easy proof-of-concept using a visual design method based on an open software architecture

With these powerful low-cost products for visual design, simulation, and real-time development, many universities and first-time customers may now take advantage of cutting-edge visual design tools for DSP and the many related technology fields.

Overview

Hypersignal Block Diagram 4.1 is a complete visual design environment which addresses many facets of today's engineering design projects. This visual programming tool allows for comprehensive dynamic system design and simulation, with the optional capability to move to and support actual real-time hardware in several different ways. This environment may be thought of as a true object-oriented software simulation framework which utilizes reusable software components, called blocks, as the basis for algorithm/project development.

Hypersignal Block Diagram is based on several important premises - it must address extensibility, efficiency, portability concerns, real-time concerns, and rapid development cycles.

The concept behind this package is that engineers no longer have to develop all of their code for a project from scratch. Block diagrams built from these basic blocks may also be inserted into other block diagrams and used in a hierarchical fashion. This visually designed algorithm can then be used for simulation, proof-of-concept designs, final software solutions, or real-time projects in conjunction with a DSP board. It can also automatically generate C source code for the algorithm, which may then be cross-compiled for use in other environments. Since the framework is expandable, blocks can also be created by the end-user (hundreds of blocks already exist), or even exchanged via the internet. We believe that this is the most comprehensive engineering environment available for the design, development, and test of a wide range of DSP and other related projects. Please examine the benefits of using our product in a very wide range of applications including DSP, Communications, Simulation, Signal Analysis, Data Acquisition, and general engineering modeling. You will see that our approach offers distinct advantages over other design methods.

Large Function Library

A large set of block functions comes with the standard Block Diagram product which include DSP functions, Arithmetic functions, Frame/Vector Functions, Transforms, Filters, Communications, and many more types of functions. There are approximately several hundred functions included as standard, so typically most users will not need any of the optional libraries which are available to those users with a particularly specialized area of engineering. We have tried to include the most commonly used functions for DSP and related fields, enabling users to get their projects up and working with the standard Block Diagram product. This approach, combined with the ability to add custom, or user-created blocks quickly and easily under the open software architecture has proven to be an effective combination for serving the needs of our large customer base.

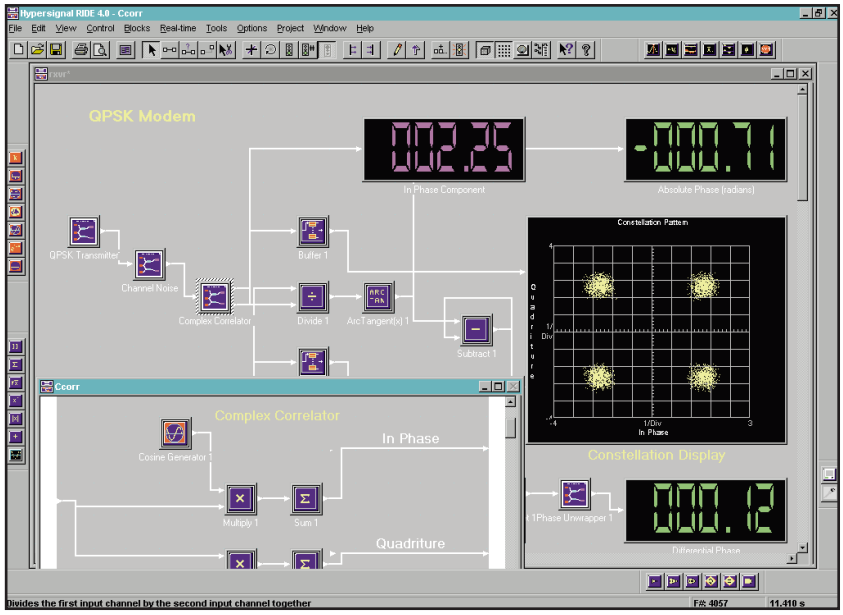
Hypersignal Block Diagram

Interactive Design

A good visual design environment provides interactive control and observeability of the design at execution time, which allows "on-the-fly" types of analysis and "what if" scenarios. With Hypersignal Block Diagram, the user can change design parameters quickly with pop-up menus or controls, and immediately observe the results with graphical text and waveform displays. Virtually all blocks have parameters the user can modify to achieve the desired function. To adjust these parameters, the user simply clicks on the block's icon and a menu appears. The parameters are easily edited and modified. In a textual design environment, it can be painful to change parameter values and obtain results interactively. Since the Hypersignal Block Diagram environment allows designers to change the structure or design parameters quickly, it prevents interruptions of the design thought process. This results in more efficient design activities which can lead to a tremendous time savings.

User Interface

Hypersignal Block Diagram 4.1 has an even better user interface than before. It now supports user customizable toolbars for creating user-specific menus appropriate to their applications. In addition, full Cut/Copy/Paste support has been added which now supports data connection paths as well. Powerful new annotation support has been added for easy "on-screen" documentation within simulation worksheets. An Undo/Redo function which correctly keeps track of virtually all simulation worksheet changes has been incorporated into the product as well. For better visibility into a project, a sliding project information view has been added for all simulation worksheets. Hierarchy navigation buttons are now available to facilitate interactive subsystem worksheet design. In short, we feel that this is the best user interface for the development of DSP and related engineering projects.



Example of a QPSK modem design using hierarchy for its subsystems

Open Software Architecture

No development tool has all of the functions which will be required for all projects. Typically, most companies have proprietary algorithms or unique approaches to their engineering projects. Therefore it is essential for a development tool (especially a comprehsive visual design environment) to have a solid architecture for expansion at the user level, with an efficient and workable method of adding new functions to the environment. Our product excels at this particular aspect to real-world designs.

Since our block functions are actually Windows Dynamic Link Libraries (DLL's), produced by standard Windows compilers such as Microsoft's Visual C/C++, adding customized functions is very straightforward.

The included Block Wizard makes adding your own functions very easy, since it generates literally all of the files required to correctly build the new block function DLL without the engineer ever needing to write code, with the exception of their own application specific function.

Ordering Information

Part Number:

HSWN2000 - Hypersignal Block Diagram **(Standard Edition)**
HSWN2100 - Hypersignal Block Diagram **(Professional Edition)**
HSWN2200 - Hypersignal Block Diagram **(Enterprise Edition)**
HSWN2300 - Hypersignal Block Diagram **(Academic Edition)**

Options/Related Products:

HSWN2500 - ANSI C Source Code Generator
HSWN2515 - Image Processing Library
HSWN2520 - Advanced Transmission Library
HSWN2525 - Advanced Speech Library
HSWN4000 - Hypersignal ImPro Lab
HSWN5000 - HAppI Run-time Application Builder
HSWN6000 - Hypersignal VIDSP Studio
HSWN7000 - OORVL DSP Design Studio
HSWN8000 - Hypersignal RIDE
HSPL3310 - Pegasus Parallel Processing System

Hyperception
The Leader in DSP

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