PDSP Demonstrator

The PDSP Demonstrator is a microprogram development tool for the PDSP device family offering device and system simulation facilities based upon functional models of the devices. It Includes a powerful line editor for microprogram file preparation, a simulator with user control of program execution and an interactive trace facility which incorporates a print and plot function. It runs on an IBM-PC or any compatible machine under the MS-DOS operating system, the minimum configuration comprising one 360Kb floppy disc unit and 512Kb of RAM. It is therefore a convenient and powerful method of introducing the new user to the devices by 'animating' the traditional data sheet, giving a real ability to experiment with particular algorithms and speed breadboard system development.
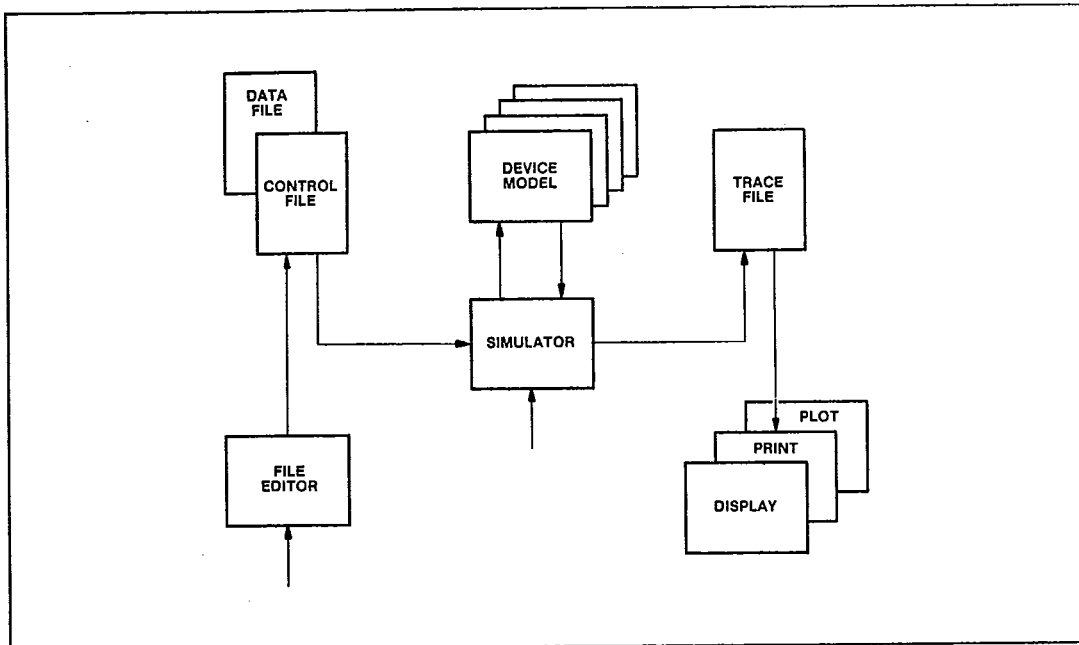

Fig.1 Demonstrator functional block diagram

FEATURES

■ DSP Microprogram Development Environment
■ Device/System Simulator with Programmable Breakpoint Control
■ Interactive Trace Facility Including Print Function
■ Graphical Representation of I/O Data
■ Powerful Microprogram Editor
■ High Level Program Construction using Macros
■ User Friendly Interface
■ Standard Application Microprogram Library
■ IBM-PC Compatible Software on a Single Floppy Disc

APPLICATIONS

■ Application Microcode Development
■ Debugging Aid
■ Test Vector Generation
■ Training Aid

THE PDSP DEMONSTRATOR RANGE

The Demonstrator is available in several versions offering facilities ranging from the simulation of individual devices to the simulation of complete system solutions to common DSP problems.

The following provrams are currently available in the PDSP Demonstrator range:-

Device Function Demonstrator 1

Supports programming and simulation of the following devices:

■ **PDSP1601/A** Augmented Arithmetic Logic Unit
■ **PDSP1640/A** 40MHz Address Generator
■ **PDSP16112/A** Complex Number Multiplier
■ **PDSP16318/A** Complex Accumulator

Each model is a faithful reproduction of the real device and is programmed in accordance with its data sheet specification. All four models are programmed as individual devices only.

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COMPLEX ARITHMETIC DEMONSTRATOR

Includes the same four devices as the Device Function Demonstrator 1 but supports the programming and simulation of these devices in the following system configurations:

- Dual 1640 demonstrating 16 bit addressing
- Fast Fourier Transform Processor comprised of one PDSP16112 and two PDSP16318 devices
- Complex Arithmetic Processor comprised of one PDSP16112 and one PDSP16318 device

The PDSP1601 device model is retained for programming and simulation as an individual device.

GETTING STARTED

Loading the ANSI Device Driver

The ANSI device driver is an independent software module used by the operating system to drive the display screen. It incorporates facilities for cursor movement and screen erasure which the PDSP Demonstrator requires.

To enable MS-DOS to load the ANSI device driver the CONFIG.SYS file must contain the statement:-

DEVICE = ANSI.SYS

You can use the line editor EDLIN to modify the CONFIG.SYS file in the root directory as follows where <CR> implies carriage return:-

Enter EDLIN CONFIG.SYS <CR>
Enter I <CR>
Enter DEVICE = ANSI.SYS <CR>
Press CTRL-C <CR>
Enter E <CR>

The CONFIG.SYS file is now prepared for MS-DOS to set the correct running environment for the PDSP Demonstrator. Refer to your PC manual for further details about EDLIN or the CONFIG.SYS file. Re-boot the PC Operating System before using the Demonstrator.

The PDSP Demonstrator is available NOW from Plessey Semiconductors.