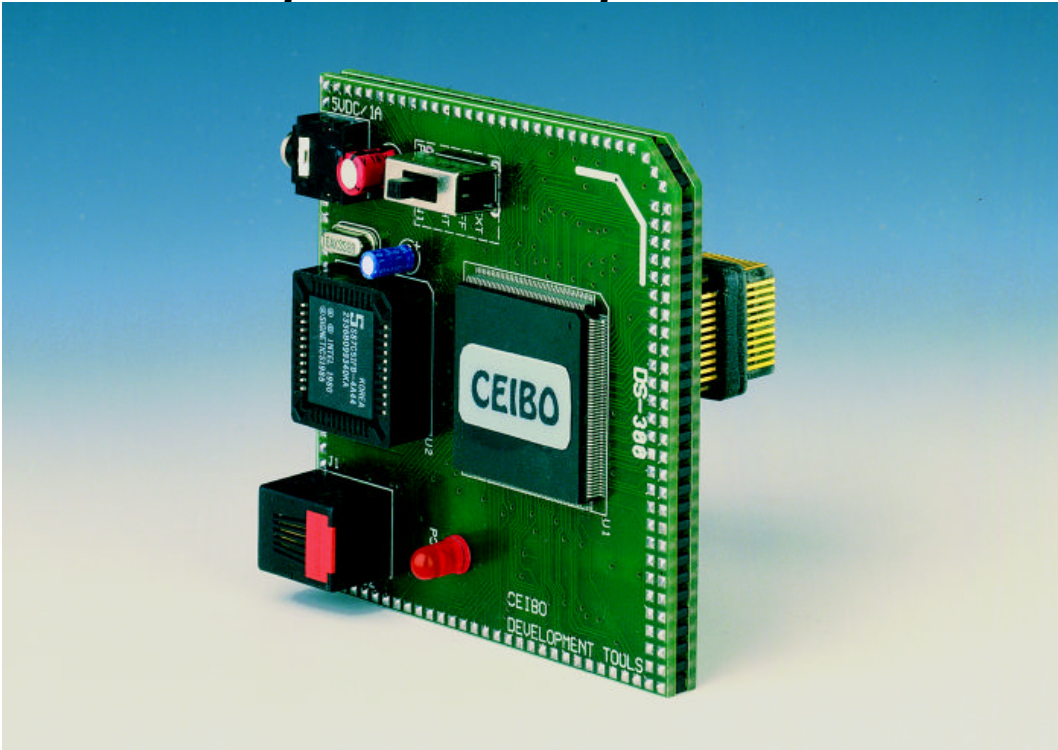# DS-300 Peripheral Development Tools

Development Tools for PSD-3xx Devices

FEATURES

- **Emulates PSD-3xx Devices**

- **Reads from and Writes to Memories**

- **1024 KBits of Emulated EPROM**

- **16 KBits of Emulated SRAM**

- **19 Programmable I/O ports**

- **Full DPLD Emulation**

- **Supports 8 and 16 Bus Bits**

- **Configuration Software for Windows**

- **Software Interface for Programming PSD-3xx**

- **Serially Linked to IBM PC at 115 KBaud**

- **Target Reset Synchronization**

- **Power Supply Included**

DESCRIPTION

DS-300 is a complete software and hardware development tool that allows file generation and emulation of the PSD-3xx devices. The configuration software provides all the elements necessary to set the device with minimum learning time. Memories, I/O ports, bus width and the DPLD are easily setup in a graphic environment that runs under the Windows Operating System. The emulator provides an immediate way to check that the devices are properly configured and allow examination and modification of the memories, and I/O lines. The system emulates PSD-3xx memories. The EPROM is up to 1024 KBits and the SRAM 16 KBits. As the EPROM is emulated by the SRAM device, memory contents may be examined and modified without generating a new file.

SPECIFICATIONS

SYSTEM MEMORY
DS-300 provides 16 KBits of SRAM and 1024 KBits of EPROM overlay memory. This memory may be configured according to all the possibilities of PSD-3xx devices. The EPROM is emulated by a RAM memory, thus allowing to download and modify its contents.

I/O PORTS
The emulator supports 19 I/O ports that may be individually used as a microcontroller I/O port expansion, programmable address decoder or latched address output. The outputs can be selected as open drain or CMOS.

BUS WIDTH
DS-300 allows configuration of memories as 8 or 16 bit wide. The emulator may be used with any microcontroller supported by the PSD-3xx devices.

PROGRAMMABLE ARRAYS
Two programmable arrays, PAD A and PAD B, are fully emulated by DS-300. A total of 40 product terms and up to 16 inputs and 24 outputs are set by the downloaded file and may be modified by the integrated software environment.

BUS SIGNALS
DS-300 includes address latches for multiplexed address/data bus, supports non-multiplexed address/data bus mode, allows definition of ALE and Reset polarity and permits the selection of read and write signals as RD/WR or R/W/E.

TRACK MODE
The emulator supports the address/data track mode, which enables an easy interface to shared resources with other microcontrollers or a host processor.

CONFIGURATION SOFTWARE
DS-300 includes configuration software that runs under Windows Operating Systems. The software integrates the configuration of the device and communications with the DS-300 emulator. The software menus are: FILE, VIEW, COMPILE, OPTIONS, WINDOW, EMULATOR and HELP.

FILE MENU
The file menu allows file downloading and saving and also defines the printer setup. The format is compatible to other existing file generators and programs. The file may be displayed in graphics mode showing the chip configuration and memory contents in hex format.

VIEW MENU
The view menu is used for a graphic representation of the chip and allows the setup change just by placing the cursor on the selected variables and clicking the options. The additional memory map screen may be used to define and display the chip selects graphically.

COMPILE MENU
The selected chip options may be compiled and the resulting file can be saved for future debugging purposes or for programming the device. The software generates error messages, a list of free resources and the memory map information.

EMULATOR MENU
This menu is used to interact with the hardware through the DS-300 emulator. The different emulation options are used for downloading a file, resetting the device and selecting many hardware possibilities.

HOST CHARACTERISTICS
IBM PC or compatible systems with 2 MBytes of RAM, one floppy disk drive, one RS-232 interface card for the PC, Windows 3.1 or later.

INPUT POWER
5VDC from external power supply or from the target circuitry.

MECHANICAL DIMENSIONS
8cm x 8cm.

ITEMS SUPPLIED AS STANDARD
Emulation header, 44-pin PLCC male connector, user and configuration software, user's manual and RS-232 interface cable.

WARRANTY
Two years limited warranty, parts and labor.

PSD CONFIGURATION SOFTWARE

This software package runs under Windows and has all the necessary graphic representations to easily configure your application.

CHIP CONFIGURATION WINDOW

The following figure shows a typical Chip Configuration window. From this windows you just select the option and configure the selected device.
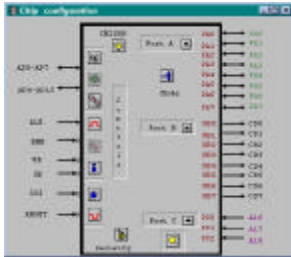

Figure 1: Chip Configuration

PORT CONFIGURATION WINDOW

Port options are displayed by pressing the maximize button. Every single Port line may be changed or all the bits defined simultaneously by clicking the corresponding Change All buttons.

The following figure shows the expanded Port signals. Clicking the buttons will toggle the different configurations: open drain, CMOS, I/O and bus option.

Figure 2: *Port Configuration*

MAP CONFIGURATION WINDOW

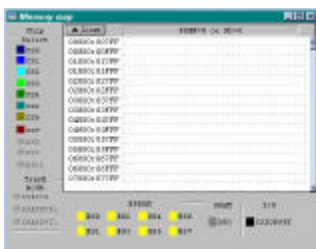The following figure shows a typical Map Configuration window.

Figure 3: Map Configuration

All chip selects are defined from this window. Clicking the desired parameter and then painting the memory partition assigns values to the parameters. Local menus are available by moving the cursor to the appropriated area and clicking the right button.

DS-300 - ORDERING INFORMATION

Item	*Description*
DS-300	Emulator, Configuration Software, Power Supply, Cables
PSD-MAP	Configuration Software only for PSD-3XX.