SCOPE /SDK

Version 4.0

User Manual

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The Creamware
SCOPE /SDK *User Manual*

Dear SCOPE Developers,

this manual will guide you through the functionality of your SCOPE environment. It is the reference to each and every window and function you will find in your development suite.

The user manual is divided into four parts:

The first part gives an introduction to the SCOPE environment. It starts with a brief description of the underlying paradigm, explains the file management and guides you through the user interface of your SCOPE development suite. All windows, dialogs and operations are discussed so that you get a brief overview.

The second part is dedictated to the three main processes of the SCOPE / SDK - Circuit Design, Surface Design and Device Design. These three processes describe the creation of a device - from adding the first module until the optimization and protection of the ready-to-use device.

How to use the this manual?

Due to the flexibility and vast functionality of the SCOPE /SDK this manual is as well a guide to familiarize yourself with this development platform as it is a reference that should always be within reach of your desk. You may want to consult it from time to time to look up procedures or explanations on specific topics.

Working through this manual thoroughly is the best way to exploit the functionalities of SCOPE after a short time.
However, it is assumed that your SCOPE software and hardware is set up proberly. If you encounter any problems concerning the installation, you might want to consult the 'Installation Guide' first.

It is an excellent idea to work through the 'Quick Start' first to get a brief overview of the SCOPE /SDK, even though it is not strictly required.

SCOPE /SDK Manual: Main Table of Contents

Part I: Concepts

Description:

The **SCOPE** development platform provides developers with unique possibilities and a great flexibility. Digital signal processing is brought to a new level by combining and exploiting the possibilities of both, of a dedicated DSP hardware and of the host computer's hardware and operating system.

SCOPE relies on a component-oriented approach for designing signal processing entities. Starting with a single component - the so called module - you can build circuits of virtually any complexity. The underlying concepts of this component-oriented approach, how to save files and an overview over the SCOPE application is given during the first part of the User Manual.

The module as most important element of the approach will be examinated in the first chapter. What is a module? It consists of which components? How can a module be customized? Where are the dependencies of a circuit towards a module.

The second chapter is about file management of SCOPE files. The most important file types are introduced and the procedure to load and save files is explained. Additionally some tips concerning the handling of files complete this chapter.

The third chapter eyes the user interface of the SCOPE application. The main windows, the windows from the menus and the different tools are explained.

Part II: Processes

Circuit Design

Hierarchies
- *Layers*
- *Navigation*

Modules
- *Adding modules*
- *Selecting modules*
- *Renaming modules*
- *Modules operations*
- *Positioning modules*
- *Saving modules*
- *Removing modules*

Pads
- *Selecting Pads*
- *Changing the orientation*
- *Hiding Pads*
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- *Changing the I/O type*
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Connections
- *Making connections*
- *Antennas*
- *Over viewing connections*
- *Releasing connections*
- *Converters*
- *Connections and the orientation of Pads*

Organizing the circuit
- *Folding*
- *Exported Pads*
- *Exporting Pads*
- *Undoing exportations*
- *Unfolding*
- *Move into*
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- *Dragging in the Project Explorer*

Circuit Controls
- *Adjusting control ranges*

Creating Pads from Vars
- *Creating Pads*
- *Deleting Pads*

Connection-centered navigation

The second Project Window

Freezing the content of windows

Buidling groups
- *Grouping modules*
- *Ungrouping modules*
- *Hiding groups*

Routing via dummy Pads
- *Switches*

Assigning static values

Color Coding

Description:
The **SCOPE fusion platform** is a digital signal processing environment. It provides the possibility to build custom devices. This process generally involves three steps: Designing a circuit, designing a surface and finally, designing a device.
Circuit Design includes all steps to undertake while constructing the processing network of your future device: Adding and removing modules, making connections, signal routing, structuring and saving the circuit.

Part III: Tutorials

Part IV: Appendix

Conventions

To make reading this manual as comfortable as possible there are some conventions.
There are some terms and abbreviations we would like to make clear at this point.

Mouse actions

The SCOPE /SDK as most computer programs nowaday is to a great percentage operated by the mouse. There are some terms and abbreviations we would like to make clear at this point.

Clicking/picking sth
Move the mouse over an object or a name and press the left mouse button.

Double-click
Move the mouse over the object or the name an click two times consecutively

Right-click
Move the mouse over an object or a name and press the right mouse button.

Selecting
Click something with the mouse

Dragging
Select sth and while holding the mouse button down move the mouse.

Drag and Drop
Select sth and while holding the mouse button down move it to another window. Release the mouse button over the other window will drop it to this window.

Ctrl-dragging
Dragging while holding the <Ctrl>-key pressed.

Shift-dragging
Dragging while holding the <Shift>-key pressed

LMB
left mouse button

RMB
right mouse button; most often used if you should press the RMB to open the *context menu*.

Notation agreements

Commands or windows that can be found in a specific menu may be listed that way:

menu -> item
(e.g. View -> Settings)

If the menu is not from the menu bar but from a specific window the name of the window comes first:

window -> menu -> item
(e.g. File Browser -> Dir -> Up)

If there are further sub-menus they are listed as further sections in that string.

Folders always begin with capital letters. Its path is always listed (unix notation). If it is not explicitly marked the root directory for this path is the Module Library folder within your installation. So a path may read:

/Circuit Design/Basics/

The Basics folder in the Circuit Design directory inside the Module Library.

When refering to keys on your computer keyboard the strings or characters that can be found on those keys are set in '<'/'>' brackets to emphazise that the specific key is meant.

Whenever a module from the Module Library is meant we use SMALL CAPITAL letters in the text.