Quick Tour For The Designer

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Chapter Overview

This chapter takes you on a quick tour through the SCOPE workspace and its main features. There are no lengthy explanations or discussions here. This chapter will not teach you how to use SCOPE. The goal here is simply to familiarize you quickly with the essentials of the SCOPE environment, so that you have the knowledge you need to proceed further with learning how to develop circuits and devices in SCOPE – for which, by the way, the tutorials are the logical next step.

We recommend that you run SCOPE while going through this chapter (and later chapters as well) and directly examine and try out each feature or technique as it is introduced. By doing so, you'll become familiar and comfortable with the SCOPE environment in the shortest possible time. This will vastly speed up the learning process as you progress into the more advanced features. Hint: expand Acrobat Reader to full-screen – the manual is designed to be comfortably viewed in this format.

In creating this manual, we've tried to avoid lapsing too quickly into "SCOPE-speak". Instead, new terms are introduced as needed, and are not used before they've been "properly introduced". There are a few exceptions. For example, early on in this chapter you'll encounter the terms *device* and *module*. You don't need to know much about them at this point, other than that they are screen objects which you can manipulate in SCOPE.

So – here goes ....

Workspace Overview

This section lists and briefly describes the central features of the SCOPE workspace.

The Mouse

SCOPE is, by and large, a mouse-driven program. Apart from entering the occasional name or numerical value (and ignoring keyboard shortcuts for the moment), everything is done (or can be done) using the mouse.

Just for the sake of clarity, the "mouse rules" are reviewed below. They're basically the same as those you are already used to as a Windows user:

The **left** mouse button is always used, *unless* the right button is specifically mentioned. *Click*, *double-click*, *click-and-hold*, *click-and-drag*, *drag-and-drop*, etc. all involve the left mouse button.

The term *Click on (object)* signifies a single click on an object and is used interchangeably with the term *Select (object)*.

The **right** mouse button is used *only* to open context menus – i.e., menus belonging to individual objects (tools, modules, etc.), as opposed to the fixed program menus.

The Menu Bar

This is always present at the top of the SCOPE screen. The two buttons at the far right end of the menu bar perform the familiar functions of **minimizing** the SCOPE screen to a button on the Windows Task Bar and **closing** the program.

The Menu Bar provides centralized access to most of the features of SCOPE. Each individual menu function is described in full detail in a later section of this manual. Here is an overview of the menus:

The **File Menu** provides functions for loading and saving projects as well as for clearing the SCOPE project space and exiting from SCOPE. All SCOPE sessions begin here.

The **Edit Menu** includes standard program functions such as Copy, Cut, Paste, and Delete which operate on a selected item or using the contents of the Clipboard, along with several SCOPE-specific circuit editing commands.

The **Window Menu** provides access to various SCOPE windows and configuration tools, allowing you to hide them or make them visible on an individual basis. Many of these are the same as those provided by Pulsar. They deal mainly with program options and the *use* of finished devices, rather than with device construction.

The **Design Menu** lets you show or hide the various tools used in device and module construction and modification, so you see only the ones you need at the moment (there are quite a few!). These tools are powerful

but easy to use, *after* you've become familiar with the basic features and underlying concepts of SCOPE.

The **Help Menu** provides access to the Tool Tips and Help Window options – the SCOPE online help system.

The Project Window

This is the primary SCOPE construction area. The components of a project – the individual devices and modules – appear in this window when a project is loaded. Connections can be added and removed here, and creation and modification of modules and devices – on both the circuit and graphical levels – is also carried out primarily via this window. The name of the current project file appears in the top edge of the Project Window frame.

The File Browser

This special-purpose window lets you navigate file directories and access files of interest in SCOPE – modules, devices, samples, bitmaps etc. Items are dragged directly from the File Browser and dropped – usually into the Project Window or onto an object within the window, sometimes onto other tools. Common file operations such as copy, paste and delete and rename are also possible here. The File Browser is covered in depth later in this chapter.

The Toolbar

The Toolbar appears directly below the Menu Bar when SCOPE is started. It is a compact control panel which provides buttons for switching the most commonly-used design tools and options on and off. The selection includes all of the items in the Design Menu and the Help Menu. Whether you use the menus or the Toolbar to access these items is a question of personal preference, although the Toolbar is faster as a rule. The Toolbar can itself be displayed or hidden via the Window Menu.

Tools

These are control-panel objects which provide access to program settings or serve as tools for information display and object or circuit editing and other operations in SCOPE. Tools can be opened and closed via their entries in the Window, Design and Help Menus (and in most cases also via buttons on the Toolbar).

Any combination of SCOPE tools can be open at one time. With very few exceptions, actions performed using these tools take effect immediately (or are interactive), and the tools don't need to be closed or otherwise exited before other operations can be performed.

Tool Tips

This is part of the SCOPE online help system. It functions as an "information probe" for smaller details such as buttons and faders, or more importantly, individual module connection pads. Simply position the cursor over one of these items, and after a brief delay, a short informational message "bubble" will pop up next to the cursor.

Tool Tips can be helpful to you as a beginning SCOPE user by reminding you, for example, what each of the buttons on the Toolbar or the File Browser is for (since these don't have text labels). However, its main purpose is the display of long-format names for module connection pads – an important function indeed, as the short-format names which appear on the modules themselves are often rather cryptic and, especially with special-purpose signals, relatively difficult to remember.

Tool Tips is normally active when SCOPE is started. It can be switched on or off via the Toolbar or the Help Menu.

The Help Window

This is the "big brother" to Tool Tips – a tool featuring a window in which extended text messages are displayed. As with Tool Tips – but faster – these messages appear instantly when the mouse cursor is positioned over modules and module connection pads.

The Help Window can be considered as one of the design tools. It is not a general-purpose program help feature, but instead (like Tool Tips) provides information about individual circuit modules and their connection pads. In effect, it serves as an online module reference guide. We recommend that you leave it open while working with SCOPE and observe the information which appears there.

Utmost Basics

Starting SCOPE

Mentioned here just for the sake of completeness: Double-click the SCOPE icon deposited on the Windows desktop by the SCOPE installer.

SCOPE projects and project files

A SCOPE **project** is simply a SCOPE setup: the objects loaded into SCOPE at the moment, all of the connections between these objects, and all other information needed to fully describe the setup (screen positions of the objects, their hierarchical relationships, etc.).

A **project file** is a file containing all of this information. These files are identified by the extension ***.pro***. They allow the *complete* setup (but not its individual components) to be saved and later reloaded.

All operations which cause the current SCOPE setup to be discarded (*Open/New/Close Project* and exiting from SCOPE, as described below) give you a chance to save the setup first, if it has been modified since it was loaded or since the last time it was last saved.

Loading an existing SCOPE project

Click on *File* in the Menu Bar to open the File Menu, then on *Open Project*. A standard Windows *Open File* dialog appears, showing all *.pro* files in the Projects directory. Double-click on a file name or select it and click *Open*.

(**Note to Pulsar users:** loading projects by dragging them directly from the File Browser into the Project Window is *not* possible in SCOPE – you must open them via the File Menu.)

Exiting SCOPE

Open the File Menu as described above, then click *Close Program*. You can also quit SCOPE by clicking the *Close* button at the far right end of the Menu Bar, or using the standard Windows keyboard shortcut *Alt-F4*.

Other File Menu operations

Save Project saves the current SCOPE setup into the current project file – the *.pro* file from which it was loaded, or into which it was last saved.

Save Project As opens a standard Windows *Save As* dialog, allowing you to save the setup under a new or different name or in a different directory.

New Project clears the current SCOPE setup and loads the *default* project. This is simply the set of modules which appear in the Project Window when you start SCOPE. It provides a basis for starting a new project from scratch. You can customize the default project to suit your needs.

Close Project clears the current SCOPE setup, without

Handling Screen Features

Opening and closing windows and tools

Windows and tools are opened by clicking on the associated items in the Window Menu, Design Menu or Help Menu. These items normally appear dark in the menus. If a particular window or tool is already open, the corresponding item appears highlighted in the menu. Clicking this item then closes the window or tool. Some windows and tools also have associated keyboard shortcuts – these are indicated in the menus.

Windows and tools can also be closed by clicking their *Close* buttons (usually in their upper right corner).

Tip: SCOPE tools, windows and control surfaces can be left open indefinitely, in any combination. The smaller ones can sometimes become hidden behind other screen features. Often, the fastest way to get to a particular tool on a crowded screen is to simply close it and reopen it via its menu entry or via the Toolbar. This brings it all the way forward again.

Using slide-out drawers

Some SCOPE tools and device surfaces include "drawers" containing additional controls in logical groups. These stay tucked away out of sight when not needed, to keep the surface from becoming overly large or cluttered. In some cases, especially with Pulsar synths, drawers may also contain drawers of their own. When first getting acquainted with a new tool or device surface, be on the lookout for drawers and take a look inside any you find, so that you know what each drawer contains.

Drawer "handles" appear as dark grey tabs with labels on them to indicate what's inside the drawer. Click on the handle to pop the drawer open or slide it shut again.

Moving windows, tools and device surfaces

All SCOPE screen features other than the Menu Bar can be moved about onscreen as desired. This is done by simply dragging them with the mouse. You do need to make sure to click on a spot which has no other mouse-activated function. For example, clicking and dragging directly on a knob or fader will move *it*, but not the object it is a part of.

Tools and control surfaces can be moved by dragging any "featureless", non-functional point on the object. To move a window, you must drag it by the *top* edge of its frame. Dragging the other edges of the window frame will resize the window rather than moving it. Dragging *inside* the window frame often produces a window-specific action and is not effective for moving the window.

Tip: Objects become transparent while being dragged. This lets you see what you're about to cover up. It can also be a quick way to see what's currently hidden behind an object.

Resizing and scrolling windows

SCOPE windows, including the File Browser, can be resized by dragging the side or bottom edges of the window frame, or its lower right-hand corner. Other SCOPE program features, as a rule, are not resizable.

SCOPE windows, as with windows in any normal Windows program, can have horizontal and vertical scroll bars. These appear or vanish automatically as a window is resized (or as its content changes), depending upon whether the window content is too large to be viewed all at once with the current window size.

Minimizing and restoring windows and device surfaces

SCOPE windows and device control surfaces can be minimized, so that they appear only as small icons onscreen, by clicking on their *Minimize* buttons. The icons, which (optionally) are instantaneously-generated shrunken versions of the actual window or surface, show up at the bottom of the screen and can be dragged elsewhere as desired. The full-sized object is restored by double-clicking on its icon.

Tools are either open (visible) or closed (hidden) – they cannot be minimized.

Maximizing the Project Window

The Project Window features a *Maximize* button which expands it to fill the SCOPE screen, or restores it to its normal state if already maximized. Normal moving and resizing of this window is disabled while it is maximized.

Using The File Browser

The File Browser is a resizable window used to bring devices, modules and other types of objects into a project. (Don't confuse the File Browser with the File Menu, which is used for loading, saving and closing projects.)

Getting around in the File Browser

The browser displays folders and files in the currently selected folder. The name of this folder, including the full path which leads to it, appears in the field directly above the display window. If you like, you can click on this field at any time and type in a new path (followed by the *Enter* key) to switch directly to a specific folder.

If the current folder contains folders, these come first in the display, followed by the files, with each category sorted alphabetically. Folder names are shown in yellow, with a folder icon next to each. File names are blue and have various icons next to them, depending on the file type. To go "down" into a folder, double-click on its name. Double-click on the yellow "**<..**" at the very top of the list to go back "up" one level in the directory tree (to the "parent" folder of the current folder). As you navigate, the folder path name display above the display window is continually updated to show you where you are.

Tip: Instead of double-clicking on folder names, you can navigate more easily by single-clicking on the folder *icons* next to the names. However, to *select* a folder, you must

click on the folder name and not on its icon.

The row of buttons along the left edge of the browser corresponds to the available disk drives in your system. Click on these buttons to switch directly from drive to drive.

File Browser function buttons

These buttons at the top of the File Browser (refer to the illustration at right) are similar to those in Windows Explorer and other Windows programs. They let you perform the most common file management tasks directly within SCOPE, as described below.

Tip: These buttons have icons rather than text labels (as is generally true of tools in SCOPE). If you have trouble remembering what a particular button is for, simply hesitate – with the mouse cursor over that button – and Tool Tips will automatically remind you.

Up One Folder takes you "up" one level in the directory tree to the "parent" folder of the current folder.

Create New Folder creates a new folder within the current folder.

Cut and ***Copy*** work together with ***Paste***. Use *Cut* and *Paste* to move a file or folder as follows:

– Select the file or folder in the File Browser.

– Click the *Cut* button.

– Switch to the destination folder and click *Paste*.

If you click *Copy* instead of *Cut* in the above procedure, clicking the *Paste* button will copy the file or folder to the destination directory, leaving the original intact.

Delete deletes the currently selected file or folder.

The ***View Mode*** button changes the way the contents of the current directory are displayed in the File Browser. The available display modes are similar to those offered by Windows Explorer: *name list only*, *name list with small icons*, *name list with large icons*, and *auto-arranged large icons*. Click on this button to switch from one mode to the next. The default mode is *name list with small icons*, as depicted in the foregoing illustrations.

In the large-icon modes, SCOPE files are represented by icons which, in the case of devices with control surfaces (e.g., synthesizers), are miniature versions of the surfaces themselves. These are similar to the icons used in SCOPE to represent a minimized device or surface. An example of one of these view modes is shown at right. The same applies to graphical modules such as the control and display element and surface component modules found in the SCOPE module library, as well as to libraries of colors, gradients and surface textures, which makes this mode extremely useful for browsing these libraries.

View mode: *auto-arranged large icons*

The ***File Filters*** button opens an auxiliary button bar with buttons for switching various file types on and off in the File Browser display. This is discussed in detail below.

SCOPE file types – filtering the view

SCOPE uses several SCOPE-specific file types, which are distinguished via their filename extensions. You'll see these extensions if you look at SCOPE directories in Windows Explorer. However, they are *not* shown in the File Browser. Instead, a corresponding small or large icon appears along with each file name to signify its type.

By default, the File Browser view is already pre-filtered. It shows only SCOPE project, device and module files, plus folders. At times you may want to restrict the view further (e.g., to view modules only). This can be done via the buttons on the *Filters* button bar, which is opened by clicking on the File Browser's *File Filters* button. Click the file type buttons in the *Filters* button bar in and out to control which file types appear in the list (buttons appear indented when switched on). The icons on these buttons correspond to those displayed next to file names in the File Browser when the list with small icons view mode is selected (and as usual, Tool Tips can help jog your memory if you forget what a particular icon stands for).

The button at the bottom disables all filters and permits files of all types (including non-SCOPE files) to be displayed in the File Browser. This is a "temporary

override" of the other buttons on the *Filters* button bar and does not affect the states of the other buttons.

Renaming files and folders

Files and folders can be renamed "in place" in the File Browser. This appears as shown at right. Simply select the file or folder and press *F2* to begin editing its name – or, right-click on the file and select *Rename* from the context menu which pops up. You can position the cursor as desired using the cursor keys to modify an existing name, or just begin typing to enter a new name. Save the name edit by hitting *Enter*, or cancel it by hitting *Esc*.

Bringing objects into a project via the Browser

Last but by no means least! This is done by dragging the name of the desired object – a device or module, a sample, a bitmap, a color file, etc. – directly from the File Browser window. The name itself doesn't move, but the cursor changes its shape when you drag it away from the name. This shows that it's "loaded" and ready to drop the object in any location which is appropriate for the particular type of object. Most often, you'll use this technique to drop devices and modules into the Project Window.

Tip: If the Project Window is empty and SCOPE

The Toolbar And The Design Tools

The Toolbar

The Toolbar is a compact control panel whose buttons permit opening and closing (i.e., showing and hiding) the most often-used design tools, including Tool Tips and the Help Window, both described earlier in the Quick Tour.

The Toolbar appears directly below the Menu Bar when SCOPE is started. The Toolbar is itself a tool which can be displayed or hidden via the Window Menu and repositioned onscreen as desired.

The button functions are indicated in the accompanying illustrations. They include all of the options in the Design and Help Menus, plus a few from the Window Menu. This makes the Toolbar a handy shortcut for these functions. The icons on these buttons correspond to those displayed next to the corresponding items in the various menus (and of course, Tool Tips is there to inform you – *if* you haven't switched it off). Buttons appear indented when their associated options or tools are switched on (in the images here, only the Tool Tips option is on).

Tip: SCOPE tools can be left open indefinitely, in any combination. Tools always appear on top of other screen features (e.g., windows and device surfaces), but they can become hidden behind other tools. If you're having trouble finding a particular tool on a crowded screen,

simply close it and reopen it via the Toolbar to bring it back to the top.

The Project Explorer tool and SCOPE modes

The Toolbar provides quick access to the design tools. Most of these are visual design tools – to which an entire separate chapter of the manual is dedicated. Aside from Tool Tips and the Help Window, both described earlier, there is one other Toolbar function which you should take good note of now: namely, the *Project Explorer* tool.

This tool is the central resource for the examination and modification of module circuits, devices and surfaces. It's deceptively simple-looking when first opened. However, it contains many drawers which display exhaustively complete information about the structure of a device – its internal hierarchy, the modules it contains, their connections and so on. As a rule, these displays are interactive – you can modify virtually any aspect of a device or circuit via one or another section of this tool. Owing to its extensive capabilities, the Project Explorer tool is described in detail in its own chapter.

Important to note now, however, are the three mode buttons on the small main surface of the Project Explorer tool. These modes – one of the three is always in effect – determine the behavior of objects in the Project Window and the operations on them which are possible at any time. You'll need to know how to use these buttons and

Mode buttons

modes as soon as you begin working in the Project Window. A brief description of these modes follows. Note that each one has an associated keyboard shortcut.

Use Mode (Ctrl-U)

The default "user" mode. Modules and devices can be added and deleted via the Project Window, and connections between them can be modified, but they cannot be repositioned within the window. Faders, buttons and other graphical controls can be *operated* using the mouse, but graphical elements (controls, displays, labels etc.) cannot be repositioned on the surfaces they are attached to, nor in the Project Window, if not attached to a surface. It is not possible to go inside a device or module.

Move Mode (Ctrl-M)

Modules and devices can be added and deleted via the Project Window, and connections between them can be modified. Permits repositioning of modules and "unattached" graphical elements within the Project Window (but not, therefore, the *operation* of graphical controls), as well as entering a device or module to view and modify its internal structure. Device surfaces can still be operated normally, but Move Mode also permits the repositioning of graphical elements on a device surface, when working *inside* a device.

Edit Mode (Ctrl-E)

Permits direct manipulation of the individual graphical components from which screen objects are built. Most Use/Move mode operations are not possible in this mode.

The graphical design tools

The other tools accessible via the Toolbar buttons are concerned with graphical design and editing. It's not important to know much about them right at this point. As mentioned earlier, they are covered in depth in their own chapter of the manual, in addition to being briefly introduced in the tutorials. The overview below will give you an idea of the possibilities they offer.

The **Text Editor** is used for editing the text content of surface text elements, including labels on device surfaces, module and module pad names, and so on. It also provides extensive control over text appearance: size, font, rotation, alignment modes, etc.

The **Bitmaps/Animations** tool is used to apply single bitmaps and animation bitmap sequences to objects of the corresponding types.

The **Dynamic Bitmaps** tool is used to apply bitmaps to dynamic bitmap (resizable) objects and to adjust their appearance parameters, including whether or not they are used as "bump" or contour maps upon which colors, color gradients or texture maps can be overlaid.

The **Fill Style** tool permits selection of the fill style (single color, gradient or texture map or no fill style) for a dynamic bitmap object. It therefore determines whether or not any effect is produced through the use of the next three tools described following.

The **Color Selector** tool is a color-wheel color selector used to select the color of objects (including text) in single-color mode, or to select the colors with which a color gradient is produced.

The **Gradient Designer** tool permits design of custom color gradients (color fading pattern) parameters. These gradients can be applied to graphical text and dynamic bitmap objects. The Color Selector tool is used in conjunction with this tool for selection of gradient colors.

The **Texture Importer** tool is used to select texture maps to be applied to the surfaces of dynamic bitmap objects which are in texture-map mode, and to control the way in which the texture maps are applied. Specific types of bitmap files can be imported via this tool and optionally saved as SCOPE texture map files.

The **Blitter Options** tool is to control the manner in which an object is drawn onscreen. Among other things, this includes illumination mode effects and transparency values.

The **Shadow Options** tool is used to activate or deactive shadowing effects for individual objects, as well as to

control shadow intensity, sharpness, and orientation for objects whose shadow option is enabled.

The **Alignment** tool is used to adjust the alignment and alignment behavior of objects with respect to their background surfaces – for example, to keep a button in the lower right corner of a resizable control surface when the surface is resized.

The **Dimensions** tool permits direct control over the dimensions and position of an object.

Finally, the **Transfer Options** tool permits single-click copying of any of the aforementioned graphical parameters of an object, individually or in any combination, to one or several other objects.