Chapter Four

User Interface

INTRODUCTION

To begin using MicroStation, you must first have an understanding of the basic functions in MicroStation. This chapter covers the basic features of MicroStation’s user interface.

OVERVIEW

MOUSE FUNCTIONS

The mouse is the primary input device for MicroStation’s graphic user interface. On a wheeled mouse, the left button is called the data button while the right button is best used as the reset button. The first time you use MicroStation and click with the right mouse, you will get two options for how the right button is to be treated. For this book, select the default, i.e. press for reset and press and hold for popup menu.

- Left button – Click to enter a data point and place coordinate points, such as a line’s start and end points. You also use it to select commands and menu options from the user interface.
- Right button – Reset performs several different functions, depending upon the current process taking place. Think of it as the “No” button.

Several view operations can be performed using the keyboard and mouse. For example, you can zoom in for a closer look at your work, or you can move your viewing window over your work (panning). Here is how:

- <Shift> and drag while pressing the left mouse button to dynamically pan through your drawing.
- Press or single click the wheel of a wheeled mouse and drag for controlled dynamic panning.
- Press the <Shift> key then press the wheel of a wheeled mouse and drag for rotation.
- Roll the wheel of a wheeled mouse to zoom in and out dynamically.
- Press the <Shift> key and roll the wheel of a wheeled mouse to zoom in and re-center.
- Double click the wheel to fit view.

These are the default mouse functions. If you have assigned other functions to your mouse, your system may behave differently.
The illustration below identifies the different parts of the MicroStation application window:
The main menu bar is located along the top of the application window. It is one of the main sources of commands for controlling MicroStation’s operation. As you select each menu, a list of menu items appears. Each menu item initiates an operation directly, or opens a dialog where you can further define the desired operation.

- If you are looking for a specific tool to use, select Tools from the main menu bar. The resulting menu shows most tools available in MicroStation.
- If you need to adjust design file settings, select Settings from the main menu bar and then look in the list for Design File. (Settings menu > Design File).

**TASK NAVIGATION**

A task is simply a logical grouping of tools. Tasks organize the extensive collection of tools by use. Tasks can contain overlapping sets of tools. For example, a Drawing task and Drawing Composition task contain the same text placement tools.

Default task lists are provided for Drawing tasks and Drawing Composition tasks.

Expand the entries to see sub-tasks, which correlate to toolboxes. Press and hold on a tool, for example Place SmartLine, to see all the tools of that type. Quick left mouse click on a tool to execute that command.
Note the three icons to the right of Drawing. Click each to see the three different ways tools can be presented to you in the Task Navigation area.

The Main Toolbox
Central to the organization of the tools is the Main toolbox. You can identify the Main toolbox by its title bar when it is undocked, or by the icons you see at left. The Main toolbox contains the tools for manipulating or modifying a drawing. Note it automatically appears at the top of the Task Navigation area.

When you press and hold the mouse’s left button, the data button, on a tool in the Main toolbox, you see a menu that gives you access to all the tools in that toolbox.

You can open an individual toolbox by clicking on a tool and selecting *Open as Toolbox* from the pop-up menu. You can then place, or dock, the toolbox in a convenient location anywhere on the screen. You can also customize the toolboxes. Right click on a tool in the box to display a list of the tools available in the toolbox. If you enable one that has been disabled, it will appear in the toolbox.

There are two tools that do not have an associated toolbox, Element Selection and Delete Element. All the other tools in the Main toolbox have a small black triangle at the lower right corner, indicating that the associated toolbox includes other tools.

Dialogs and Alerts
Dialogs appear whenever you select a menu item that is followed by an ellipsis (…), such as “Open…” Simply enter the requested information in the dialog and then select an action such as OK, Done or Apply.

Alert boxes appear whenever you are about to do something in the design file that may be hard to reverse. Take note and select OK or Cancel carefully.

Starting and Stopping Commands
When working with MicroStation’s tools, a left mouse button, or data button, click is referred to as entering a *data point*. A right click is called a reset. You use a reset to back up a step during a command or to end an operation.

The first time you click reset, a dialog appears. It prompts you to select the functionality you want to associate with the right mouse button. The default is the suggested MicroStation behavior, reset.
If you select this option, a right click is a reset. You can reset and continue to press the right mouse button to open a menu called the Reset pop-up menu. You also have the option to switch to default Windows behavior. If you select this option a right click opens the Reset pop-up menu immediately.

This menu provides convenient access to tools for manipulating elements, for example, Copy, Move, Scale and Delete. There are also Cut/Copy/Paste options. Options change depending upon the element the pointer is over when the menu opens.

The Tool Settings Window
Most tools have options to control their operation. These appear in the Tool Settings window. You may enter information required for a tool’s individual parameters in its Tool Settings. The Tool Settings window floats in the application window, but it has the ability to be docked.

This window is open by default upon start-up as Element Selection. If you close the Tool Settings window, new Tool Settings will automatically appear when you select the next tool, for example if you select the Hatch Area tool as shown.

Many tools' Tool Settings have a downward arrow at the lower right corner of the window. This arrow is used to expand the Tool Settings and access additional options. Click the arrow again to collapse.

The Key-in Browser
The term “Key-in” refers to the act of typing in a value or command using the keyboard. There is a key-in interface available since some commands, like the one for backing up a file, need to be entered from the keyboard. There is also a set of utilities that can be activated only by key-in.

The key-in browser is not displayed by default, but can be opened from the Utilities menu on the main menu bar by selecting Utilities menu > Key-in or Help > Key-in Browser. The browser can be docked at the top or bottom of the screen.

The Status Bar
The status bar is an important part of the user interface since it provides a view into MicroStation’s operation. The status bar contains all of the information that is most often associated with a command line, without having an actual command line. MicroStation continually displays information about its operation in the status bar. Messages include the following:

- The current tool in use
- Prompts for additional steps for the current tool as well as additional information
- The Snaps icon and menu
- The Locks icon and menu
- The status of key parameters

Click on several different tools and watch as the status bar messages change. The name of the tool is displayed, followed by a prompt that instructs you how to start using the tool. Notice that when you
hold the pointer over a tool as if waiting for a tool tip, a different message appears than when you actually choose the tool. The message describes what the tool does.

**View Windows**

MicroStation’s design windows are called views. You can open more than one view to aid in the design process.

MicroStation can have as many as eight views open at any time. They are all active and ready for input. Titled View 1 through View 8, they provide direct access to your graphic data. The reason for eight view windows is simple; you may want to view more than one portion of a design at the same time and at varying degrees of detail.

View windows are re-sizable, movable, and collapsible. Closing all the view windows in a DGN file is not the same as closing the file. You have closed all of the design windows, but the file is still open. The title bar at the top of the application window displays the name of the open file.

**View Controls**

By default, this toolbox appears at the upper left corner of each view window. The viewing action will be applied to the view window from which you select the view-related tool. For example, if you select Fit View in View 1, only View 1 will be fit to view.

**The Element Selection Tool**

Element Selection is a tool for selecting objects from a design file. MicroStation defaults to the Element Selection tool whenever no other tool is active. When you open a design file, you will notice that Element Selection is active by default at the top of the Main toolbox.

Element Selection is a very versatile tool. Not only can you use it to select individual elements, you can also use it to modify or move elements and to group elements together.
Docking and Undocking Toolboxes

To dock a box, click and drag it to the border of the application window either up by the primary toolbar, down by the AccuDraw, right by the Task Navigation, or left by the main toolbox (refer to figure on page 14).

Certain toolboxes can be undocked by selecting the vertical dotted line on the side, indicated by the small arrow and tear it away from the border of the application window, into the drawing area. The vast majority of the tools can be opened as their own toolbox by a right mouse click and selecting “Open as Toolbox.”

SNAPPING

All engineering drawing applications include tools to help you select precise coordinate locations in a design, such as the end point of a line or the center of a circle. This operation is called snapping.

AccuSnap

MicroStation provides a wonderful tool called AccuSnap. With AccuSnap all you need to do is get the pointer close enough to the point to which you wish to snap and AccuSnap moves to the snap point and stays there until you move the mouse away. A successful snap using AccuSnap displays a bold, yellow X at the snap point.

There are many snap modes available and they are available in the Snap Mode button bar which can be found at Settings menu > Snaps > Button Bar. Snaps are also available from a popup menu when you click on the Status bar Snap icon.

One of the most popular snap modes is the Keypoint snap. This snap mode will find end points of elements and other points in between, depending on the Keypoint Snap Divisor that is set by selecting Settings > Locks > Full.

You can open the Snaps menu from the icon on the prompt line at the bottom of the screen or from Settings menu>Design File>Snaps.

The Snaps available for any given tool will vary with ineligible snaps grayed out.

- Nearest- Snap to the geometrically closest point.
- Keypoint- Snap to the nearest logical point. (end point of line, center of circle, vertex of rectangle, etc.)
- Midpoint- Snap to the nearest entity or complex chain midpoint.
- Center- Snap to the center of nearest object.
- Origin- To the origin of cell or text string.
• **Bisector**- Bisector of entity.
• **Intersection**- To the intersection of two elements.
• **Tangent**- An element placed tangent to a curved element, its precise location set by a second data point.
• **Tangent from**- An element placed tangent to a curved element with the location on the curved element set by the first data point.
• **Perpendicular**- A line starting from a selected element and perpendicular to it, its precise location set by a second data point.
• **Perpendicular from**- As above but starts at exactly the point chosen.
• **Parallel**- Parallel to a line.
• **AccuSnap Settings**- To turn AccuSnap on or off, to turn automatic element highlight on or off, use the settings which are found by clicking the snap icon on the lower right of the MicroStation V8i window and then select AccuSnap.
• Multi-snaps allows AccuSnap to automatically snap to different snap modes such as all keypoints and all element centers at the same time.