



















Momenta User's
Reference Manual

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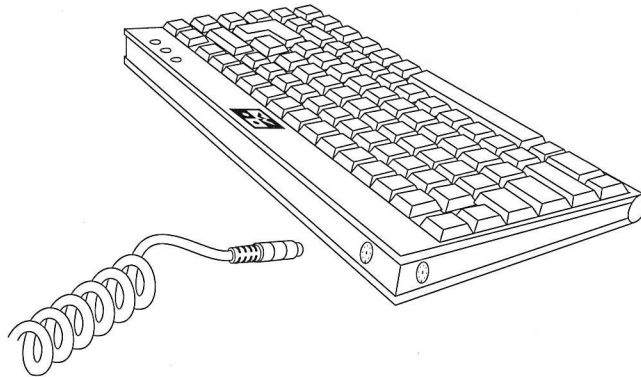
Chapter 1: Setup

If you've set up the Momenta Computer according to the instructions on the Get Started Fast! sheet, you've already done most of what's covered in the first half of this chapter. This chapter explains how to connect the stylus and keyboard, set up the screen, and turn the computer on and off. It also tells you how to connect peripheral devices, including the Momenta Floppy Drive.

Connecting the Keyboard and the Stylus

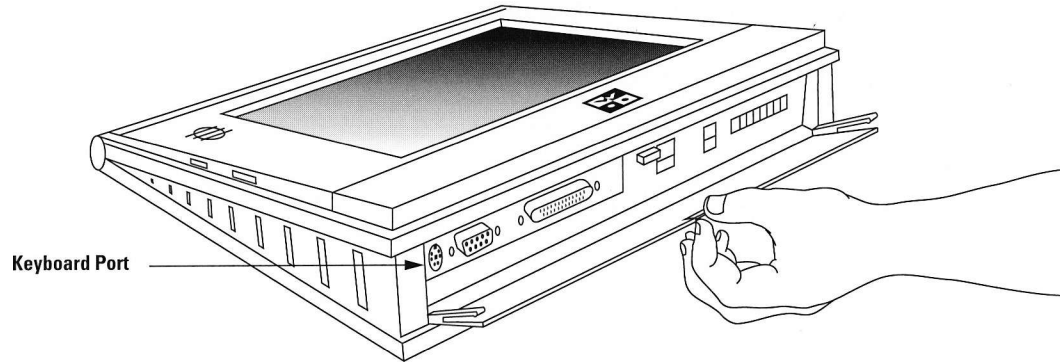
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1. Plug the short, coiled section of Momenta's shielded keyboard cable into the keyboard port at the back edge of the keyboard (Momenta logo facing up).



2. Pull down the back panel (the panel at the back edge of the computer), and plug the other end of the keyboard cable into the keyboard port (Momenta logo facing up).

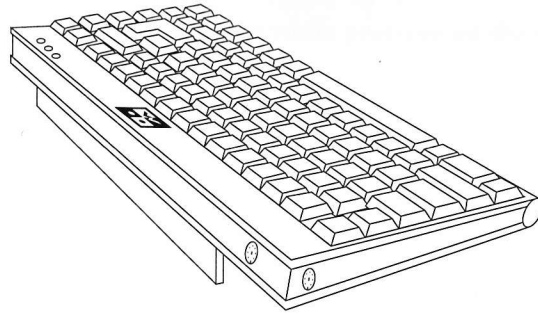
The back panel is held firmly in place, so you may have to pull hard.



You can connect or disconnect the keyboard at any time, whether the computer is on or off.

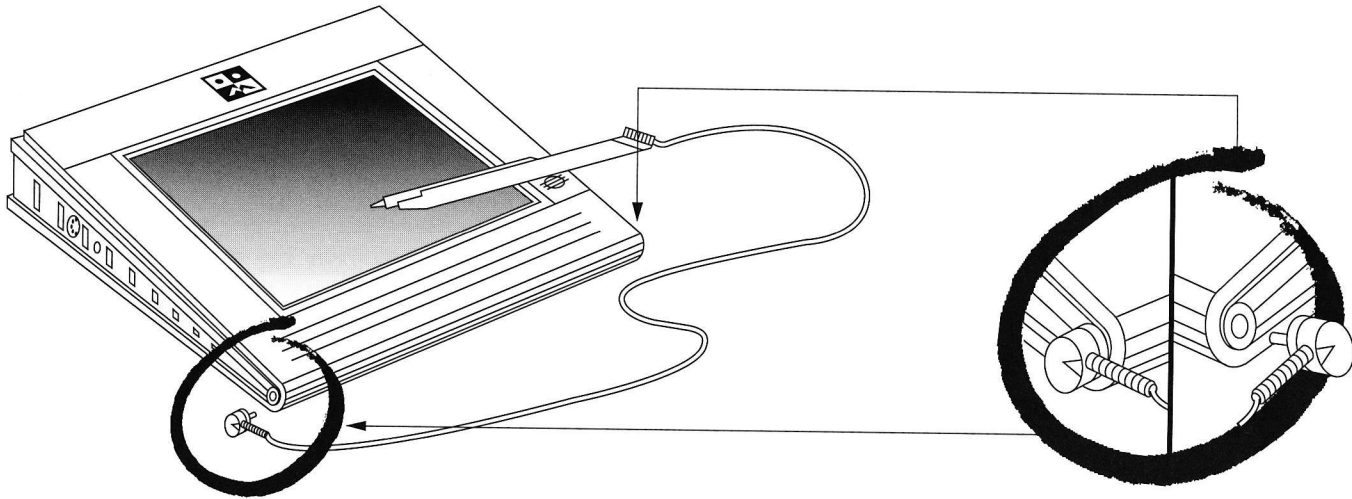
Warning: *This keyboard must use only the Momenta shielded interface cable.*

You can adjust the height of the keyboard to suit your needs, using the pull-down bar under the keyboard.



3. **Plug the stylus cord into the stylus port on the right or left side of the computer. Be sure it is firmly plugged in.**

If you're right-handed, use the right port; if you're left-handed, use the left port.

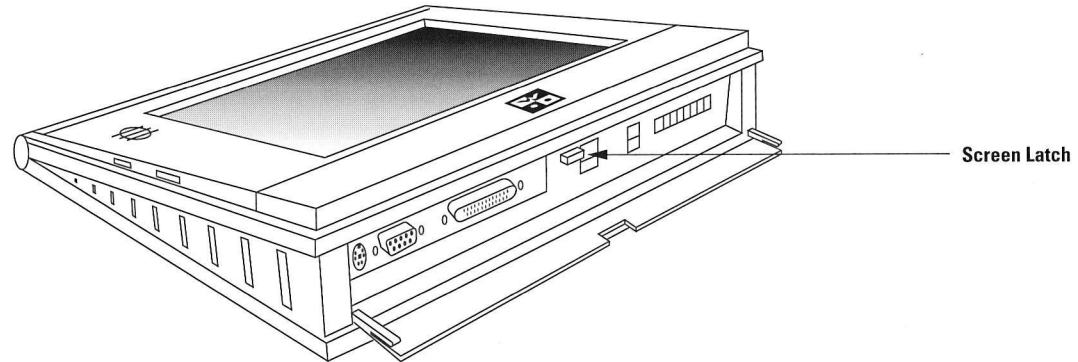


You can connect or disconnect the stylus at any time.

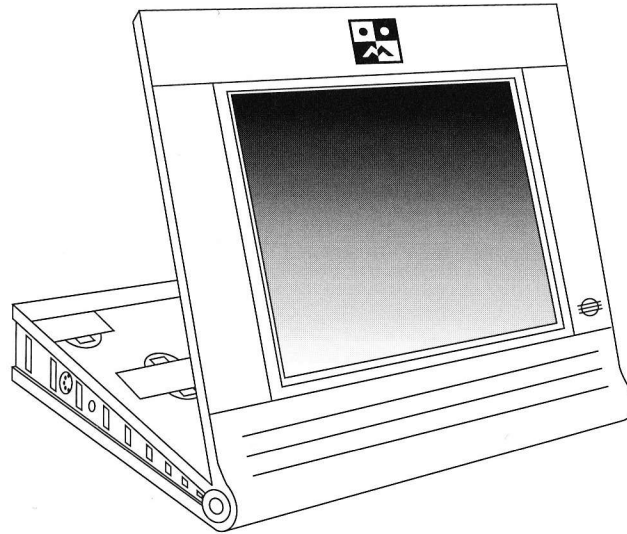
Setting Up the Screen

You can tilt up the screen so you can see it comfortably. If you can't lift up the screen, you probably need to unlatch it.

1. Pull down the back panel (if it's not already down).
2. Press up on the screen latch.



3. Tilt up the screen while pressing on the screen latch.

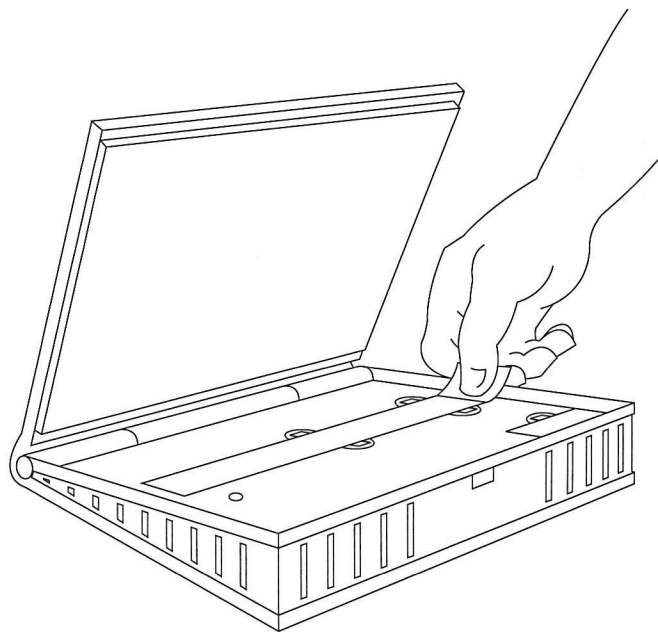


Turning the Computer On and Off

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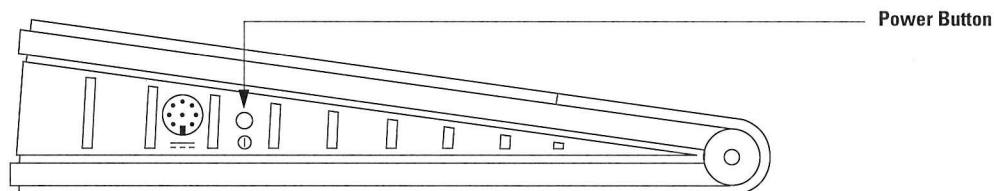
1. **First time only:** Remove the plastic battery tab.

Grasp the plastic tab jutting out of the main battery compartment (under the screen) and pull the tab straight up.



You can run the computer for several hours on the batteries that come with it, or plug it into an electrical outlet. For information on using the batteries and the AC adapter/battery recharger, see Chapter 2: Power.

2. Turn on the computer by pressing the power button on the left side of the machine.



The machine beeps once and comes on, running on the batteries installed at the factory. A series of startup screens, which you can ignore, scrolls by.

If you're turning on the computer for the first time, it displays an invitation to take the on-line tutorial, which takes you through some of the steps involved in using the computer. If you want to take the tutorial (or don't want to take it), follow the directions on the screen.

3. When you're ready to turn off the computer, press the power button and hold it in until you hear two beeps.

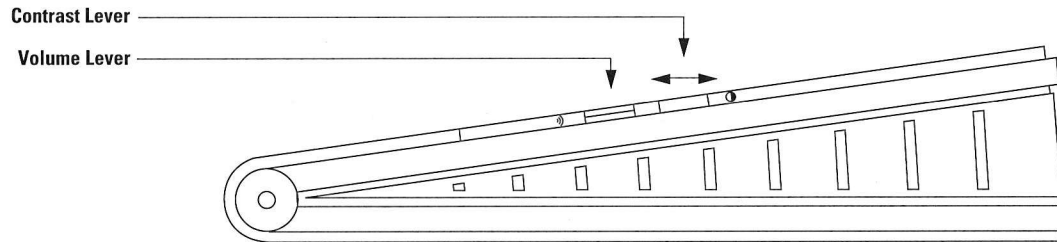
Unlike most computers, the Momenta Computer saves your work automatically and continually, which means you don't have to tell it to save your documents before you turn it off. The next time you turn on the computer, everything will come back exactly as you left it, so you can get to work right away. (If you're not going to use the computer for a

while—say, several hours—it’s a good idea to turn it off, to preserve the screen and other components.)

Adjusting the Contrast and Volume

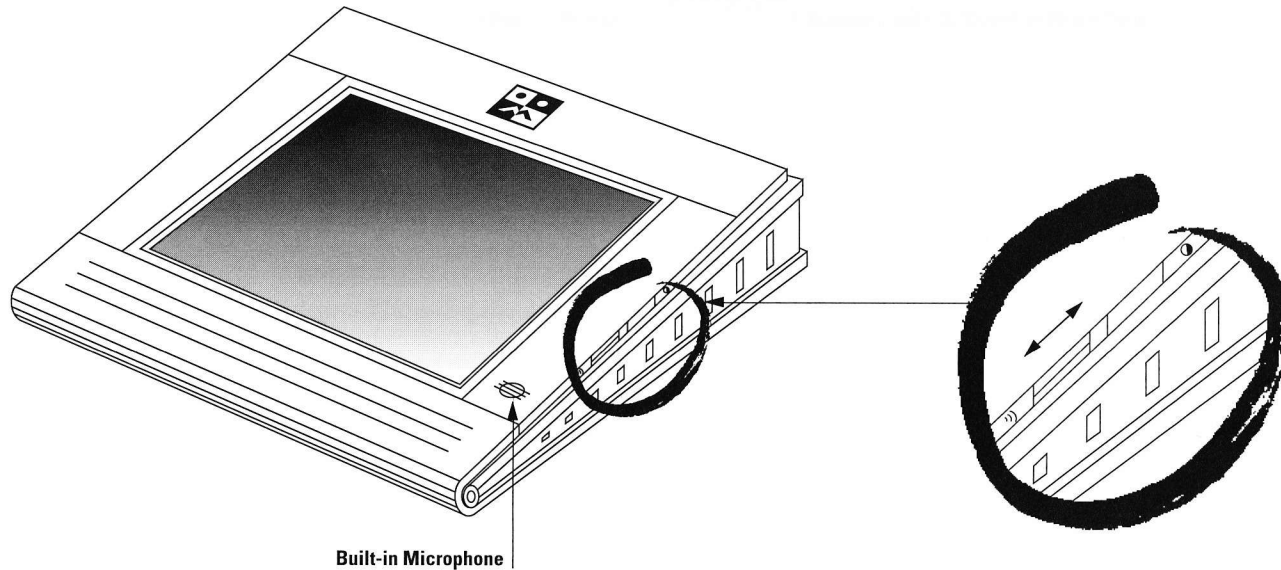
If you’ve turned on the computer and can’t see anything on the screen, you probably need to adjust the contrast. You can adjust the contrast, and the volume of the built-in speaker, using the levers on the right side of the screen.

- 1. Adjust the contrast by sliding the contrast lever up or down.**



- 2. Adjust the volume by sliding the volume lever up or down.**

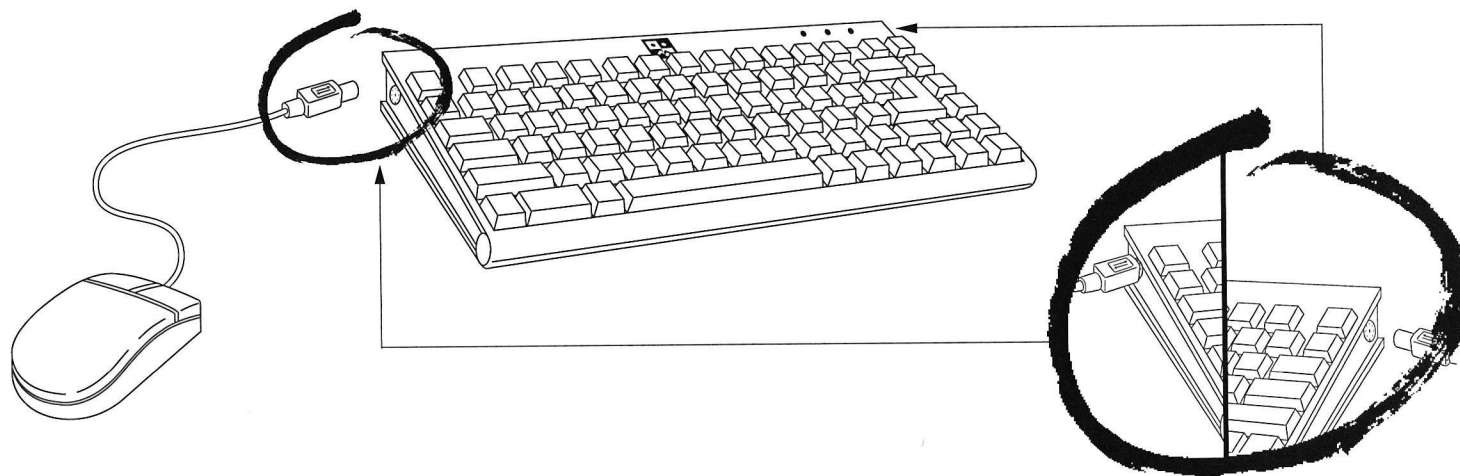
This lever controls the volume of the computer's built-in speaker. (Note that this lever does not control the volume of the power on, power off, and low battery beeps.)



Connecting Peripheral Devices

You can connect a wide range of peripheral devices to the computer. There are two mouse ports on the keyboard and industry-standard serial, parallel, and phone ports behind the back panel.

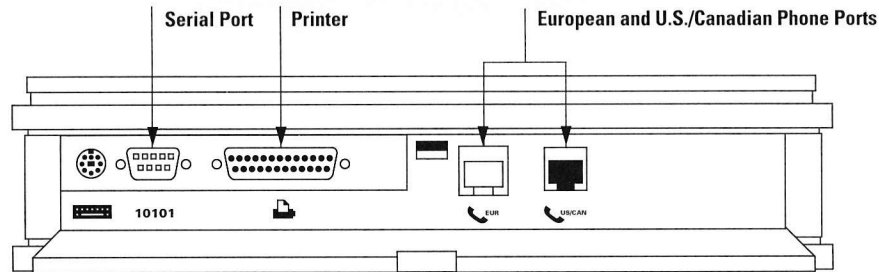
Warning: Do not connect a peripheral device (other than a printer) to the Momenta Computer unless you've first made sure that it's electrically compatible, as explained in Appendix C: Connecting Peripheral Devices: Pin Assignments. For information on connecting printers, see Chapter 10: Printing and Faxing.



Here's a brief description of the ports and their uses.

On the right and left sides of the keyboard:

- Mouse ports: Two IBM PS/2-compatible 6-pin ports, to connect a mouse or other pointing device. If you want to use a mouse, just connect it to the left or right mouse port before you turn the computer on. Don't install any mouse drivers (software that enables the machine to use a mouse), because the machine already has them.



Behind the back panel:

- **Serial port:** An IBM PC-compatible RS-232C 9-pin serial port, to connect the Momenta Computer to another computer, or to a serial printer, a bar-code scanner, or other serial device. This port serves as DOS COM 1.

A serial file transfer cable comes with the computer. For details about transferring files, see Chapter 11: Working in MS-DOS.

- **Printer (parallel) port:** An IBM PS/2-compatible 25-pin parallel port, to connect a parallel printer, the Momenta Floppy Disk Drive, or a SCSI device (connected through a standard SCSI adapter). This port serves as DOS LPT 1.
- **European and U.S./Canadian phone ports:** An RJ-11 port, to connect the computer to a U.S./Canadian telephone or phone line, and an RJ-45 port, to connect it to a European telephone or phone line.

The computer comes with an RJ-11 cable and an RJ-11 jack. On Momenta computers sold in the United States and Canada, the European port is blocked by a plastic tab that must be removed before the port can be used. On computers sold in Europe, the U.S./Canadian port is blocked by a similar tab. For details on connecting to a telephone or phone line, see the "Faxing" section of Chapter 10: Printing and Faxing.

Connecting a Floppy Disk Drive

You can connect an external 3.5" floppy disk drive to the computer to store or transfer files and applications. Here's how to connect the floppy disk drive to the computer:

- 1. Be sure that the computer and the floppy disk drive are both turned off.**
- 2. Pull down the back panel (if it's not already down), as explained earlier in this chapter.**
- 3. Plug the floppy disk drive cable into the printer port, tightening the screws on the cable connector.**

Chapter 4: Momenta Basics

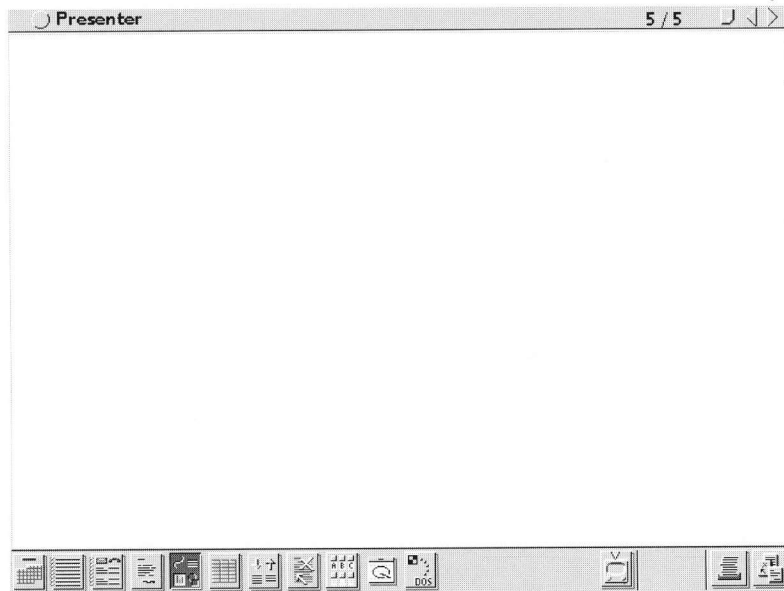
This chapter introduces you to basic operations on the Momenta Computer, and provides brief illustrated instructions for each one. Among other things, it explains how to use the stylus and the keyboard, how to create a document, and how to work with the paper that documents are composed of.

As you read this and the following chapters, keep one thing in mind: Most of what you see on the screen is the electronic equivalent of paper, and is designed to be used like paper. So if you want to write something down, just pick up the stylus and write away.

Getting to Work

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When you turn on the computer, the screen comes to life and displays a page in one of the Momenta *applications* that comes with the computer.



At the bottom of the screen is a row of *buttons* called the *dock*, which gives you immediate access to the applications and the *paper* they provide, and to the *accessories* that help you do your work. The computer comes with more than a dozen applications and accessories, such as Momenta Memo, which you can use to write memos and other documents, Momenta Calendar, which enables you to keep track of appointments, and Penware's PenCell, which you can use to create spreadsheets or work with spreadsheets created on a PC. You'll learn more about the dock, paper, and accessories later in this chapter.

At the top of the screen is a *title bar* which displays the name of the document or accessory you're working in and contains controls that enable you to manipulate the document or accessory. These controls are also discussed later in the chapter.

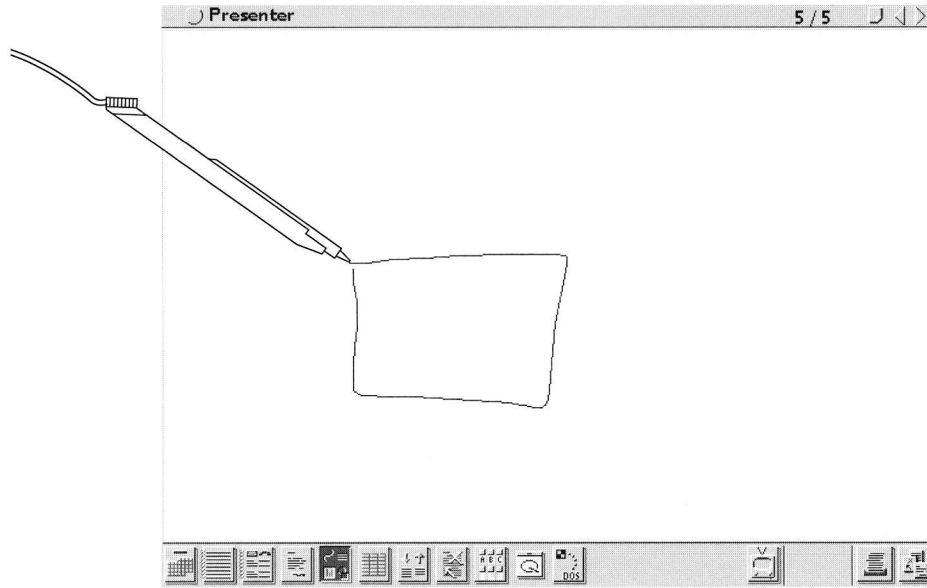
Using the Stylus and Keyboards

The Momenta Computer comes with a stylus and two kinds of keyboards: a *hardware keyboard*, which is made of plastic and which you can plug into the computer, and several *software keyboards*, which you can display on the screen and can use by tapping their keys with the stylus. (For more information about the keyboards, see “Hardware and Software Keyboards” below.)

You'll probably do most of your work with the stylus, because it's so easy to use and because every application has been designed to work with it. There isn't much to know about using the stylus, since it's really nothing more than a pen—an electronic pen, to be sure, but a pen nonetheless.

Holding the stylus like a pen, you write and draw on the screen as you would on an ordinary piece of paper. You don't have to press hard or write slowly; write as you normally do.

As you move the stylus across the glass, a *digitizer*—a complex electronic device that's built into the glass and other parts of the computer—detects the stylus' position, and causes *ink* to be displayed on a *liquid-crystal display* under the glass. Although the ink is an electronic image, it looks and acts very much like real ink.

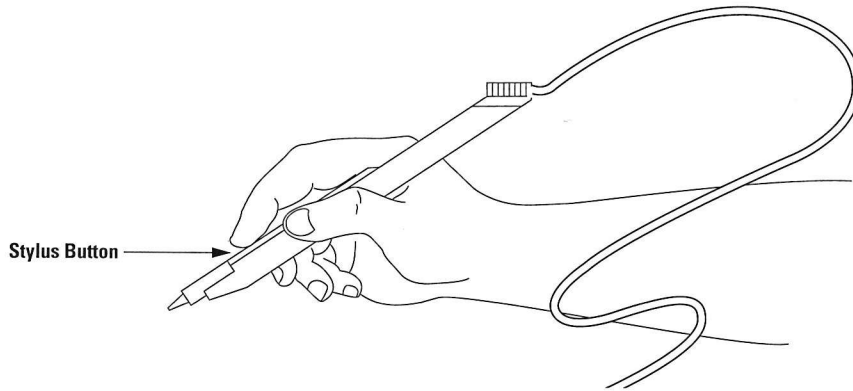


The stylus works only when its tip touches the screen; nothing happens if it comes in contact with something else, even the screen of another Momenta Computer (one that the stylus isn't connected to). Don't worry about touching floppy disks, cassette tapes, and other data storage media with it, because it won't harm them.

Note: *If ink isn't appearing where you put it (for instance, it seems to show up a fraction of an inch away from the tip of the stylus), the computer probably needs to be calibrated. For information about calibration, see Chapter 12: Maintenance and Troubleshooting.*

The Stylus Button

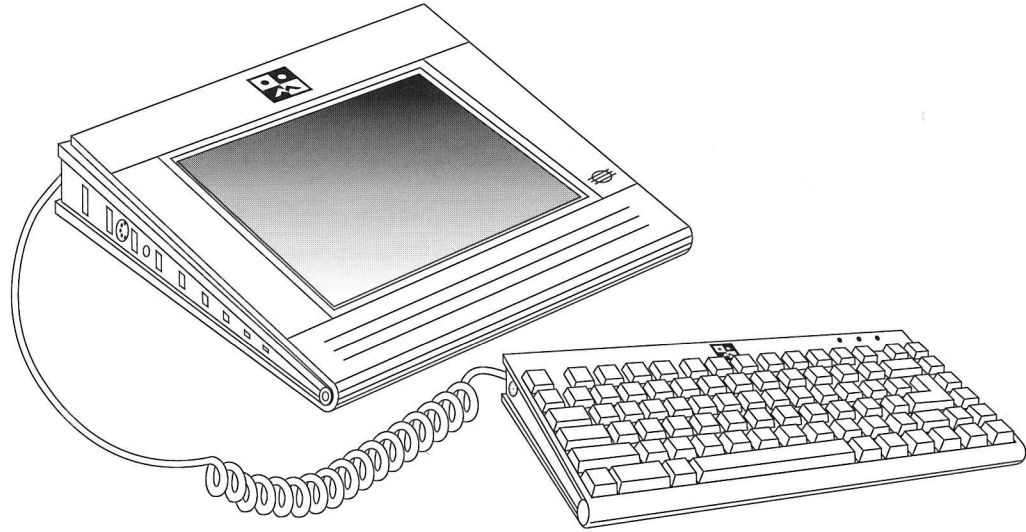
You may already have noticed that there's a long, narrow button in the center of the stylus. You use the stylus button in special situations to enhance the power of the stylus; you don't have to use this button during the normal course of your work. Try not to hold the stylus in a way that leads you to press the button inadvertently, or you may get unintended effects.



Hardware and Software Keyboards

In many applications, you can use a keyboard to enter text. Whether you use a hardware or software keyboard is up to you; the results are the same.

The hardware keyboard contains the usual alphanumeric keys plus several special-purpose ones, and is described in detail in Appendix B, "The Hardware Keyboard."

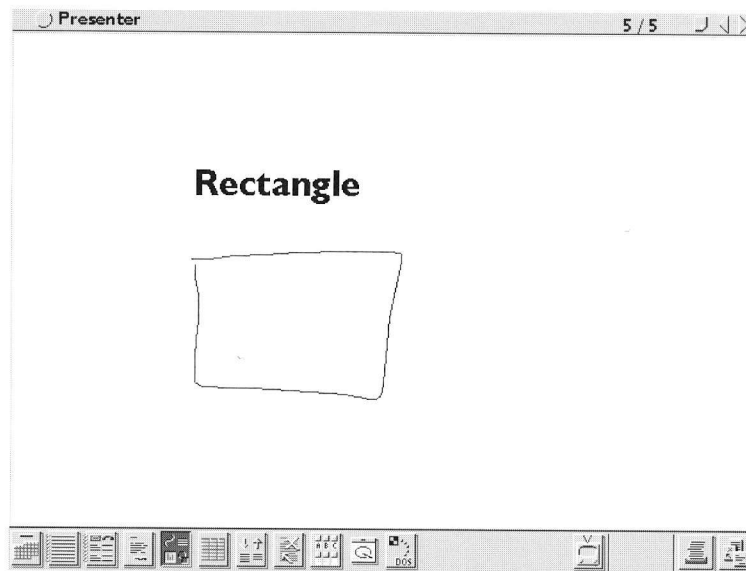


The computer also contains several software keyboards, or *tap keyboards*, which you can use in place of the hardware keyboard. Having tap keyboards means that you don't need the hardware keyboard to type. Tap keyboards are ideal for people who aren't experienced typists, or for situations where it's impractical to use the hardware keyboard, such as a business meeting. For information about the tap keyboards, see Chapter 9: Managing Your Time and Work, and Chapter 11: Working in MS-DOS.



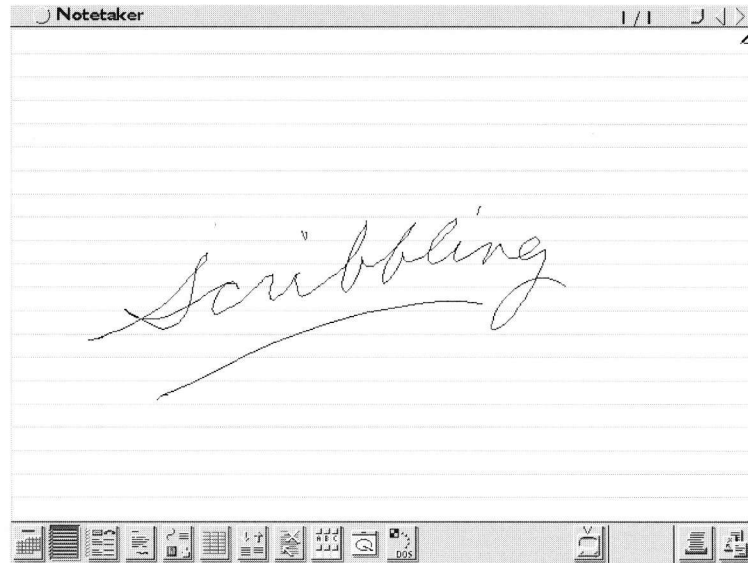
Handprinting, Typing, and Scribbling

Some applications can recognize your writing—provided you write clearly and consistently—and can convert handwritten letters and numbers into printed text, and handdrawn circles and rectangles into geometrically precise figures. For example, in the following illustration the word "Rectangle" has been handprinted and converted into printed text:



Called *handprinting recognition*, this process of converting your writing to printed text is described in Chapter 6: Handprinting Recognition. You can type in any application that allows handprinting recognition. Whether you type or handprint, the results are the same: printed text.

Other applications (or areas within some applications) can't recognize your handprinting but simply display your writing or drawing exactly as you enter it. Such unrecognized writing or drawing is called *scribbling*. You'll learn more about scribbling in the next chapter.



Basic Stylus Actions

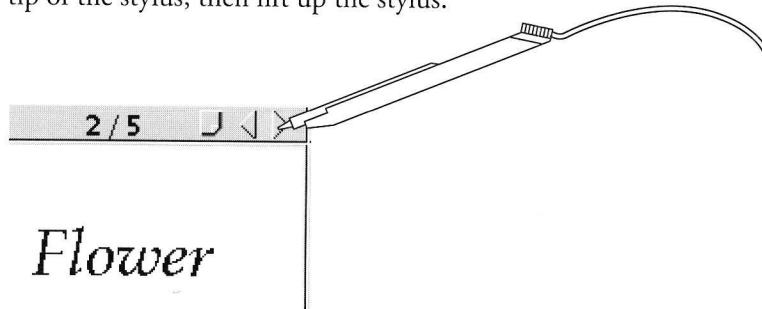
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In addition to handprinting and scribbling, the stylus is also used to tell the computer what to do—to carry out certain operations, such as removing an object or changing its dimensions. There are several basic stylus actions, which you'll find yourself using again and again.

Tapping

Tapping is the most common stylus action. In general, it starts an operation and causes a change in the appearance of the tapped object, *highlighting* it in some way to make it stand out.

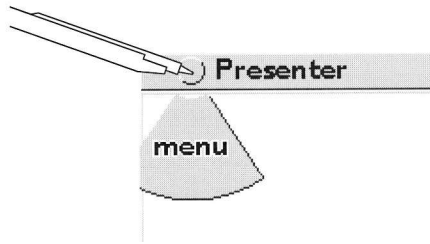
To tap an item, position the stylus over it and touch it once (firmly and fairly quickly) with the tip of the stylus; then lift up the stylus.



In the above illustration, the stylus taps the next page button, which causes the application to turn the page.

Dwelling

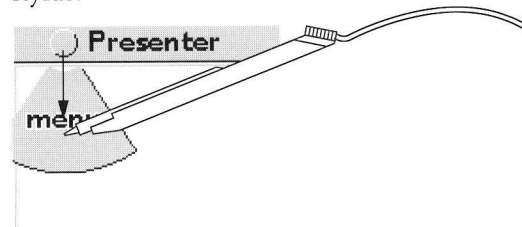
Dwelling is another common stylus action, typically used to continue displaying an object. To dwell on something, position the stylus over it, touch it with the tip of the stylus, and keep the stylus down on it until the desired action has been achieved; then lift up the stylus.



In this illustration, the stylus dwells on an object known as the command compass, displaying its contents. The command compass and commands are discussed later in this chapter.

Stroking

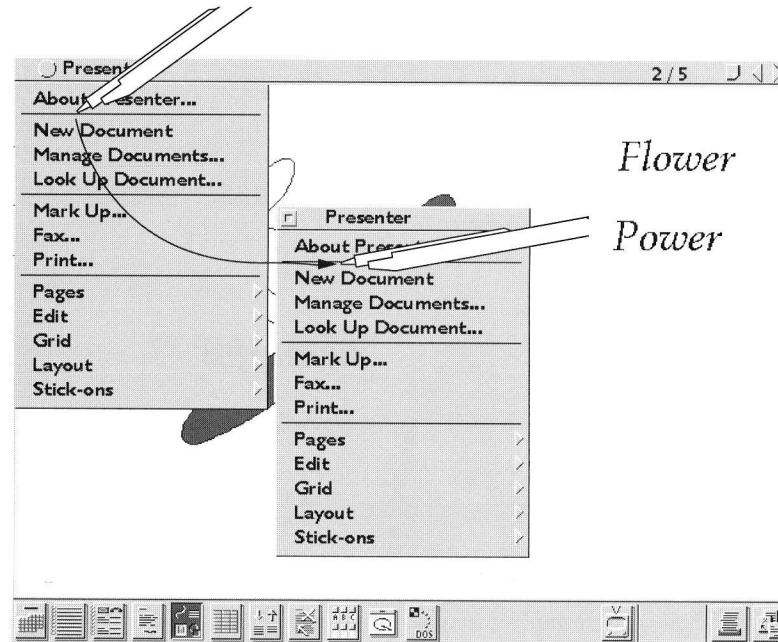
Stroking is yet another common stylus action, one that's typically used to choose a command from the command compass. To make a stroke, position the stylus over an item, press down on it with the tip of the stylus, and move the stylus in the desired direction; then lift up the stylus.



In the above illustration, the stylus strokes downward on the command compass, choosing the Menu command.

Dragging

Dragging is typically used to move an object. To drag an item, position the stylus over it, press down on it with the tip of the stylus, and slide the stylus in the desired direction; lift up the stylus when you've reached the desired spot.

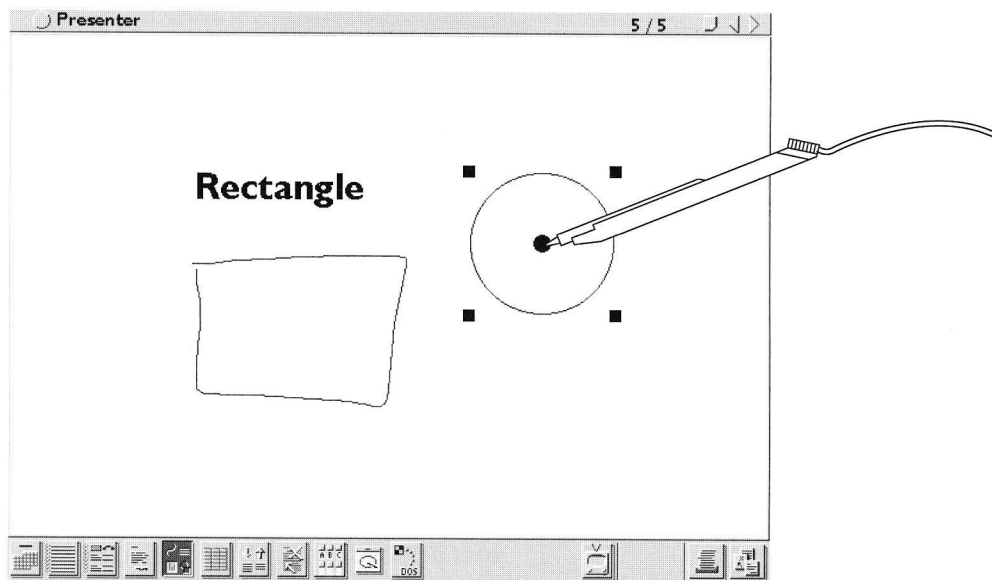


In this illustration, the stylus drags an object known as a menu to another spot on the screen. Menus are discussed at the end of this chapter.

Selecting an Object

Selecting designates an object you've created, such as a drawing or a block of text, for action. As explained later, once you've selected an object, you can move it, resize it, delete it, and otherwise manipulate it.

Selecting is carried out with the most basic stylus action—tapping. You select an object by tapping it, which causes a *resizer* to appear at each corner.

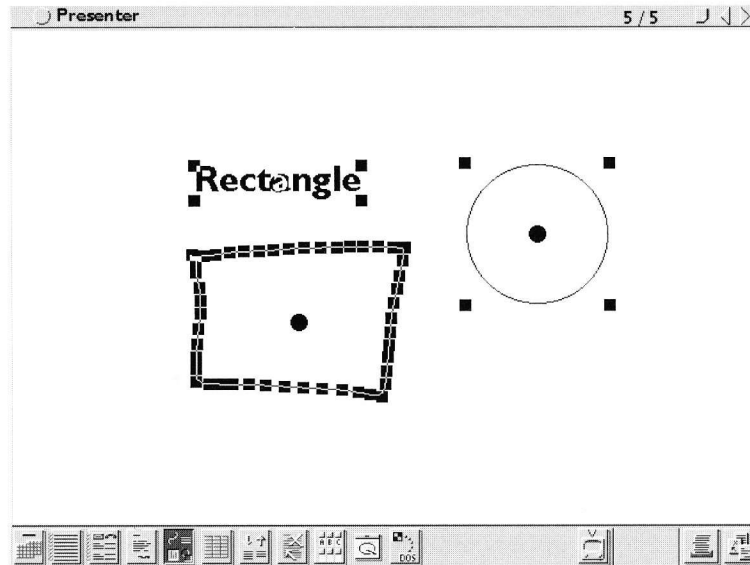


You'll learn more about resizers, which are used to change the dimensions of an object, later in this chapter.

To cancel a selection, tap outside the selected object or tap on it again with the stylus button pressed in.

Selecting More than One Object

You can select more than one object by holding down the stylus button *before* tapping the second (third, fourth, and so on) object. Release the stylus button after you've made the last selection.



Cancel a multiple selection the same way you cancel a single selection: by tapping outside the selection.

Working with Paper

You write or draw on the Momenta Computer in much the same way as you write or draw on ordinary paper. Since the computer is electronic, however, you can do all sorts of things with its paper that are difficult or impossible to do with ordinary paper, such as (to pick but one example) changing the size of a drawing.

The computer contains many different kinds of *paper*, with special properties that make your work easier by automating certain tasks. For example, there's calendar paper, which can sound an alarm to alert you to an appointment, and spreadsheet paper, which can add up numbers for you. Whatever you do on the computer, a sheet of paper is always on display, ready for you to use (in other words, the screen is never blank).

The Different Kinds of Paper

You can create documents using any of six types of electronic paper, which are listed below. Keep in mind that you don't necessarily have to use a given type of paper for its stated purpose; for instance, you can just as easily use memo paper to write a letter to a friend as a business memo.



Momenta Address Book

The Address Book is your personal address book—a place where you can enter the names,

addresses, and phone and fax numbers of your friends, colleagues, and clients. You can also enter notes (such as directions to a client's office), and look up any entry with ease.



Momenta Calendar

Using the Calendar, you can keep track of appointments and other events. You can view your schedule by the day, the week, and the month, and can set alarms to alert yourself to scheduled events.



Momenta Memo

Memo is a basic word processor, one that's ideal for the creation of memos, letters, and other relatively simple documents. You can easily format documents to meet almost any need, setting the margins, tab stops, line spacing, and other features.



Momenta Notetaker

Notetaker contains only scribble paper, which means that it's ideal for taking notes, keeping a journal, or making lists of things to do. It displays whatever you write or draw, exactly as you entered it.



PenWare's PenCell™

A basic spreadsheet, PenCell gives you the ability to create charts based on the data you've entered. It contains a wide range of functions (for making interest rate and other kinds of calculations), and an Undo button that you can use to undo any action you've taken in the spreadsheet—all the way back to the first one.



Momenta Presenter

As its name implies, Presenter is used for creating graphics and presentations. You can create surprisingly sophisticated graphics (and thus presentations) in Presenter, which, among other things, gives you the ability to rotate text and graphics and to sort pages.

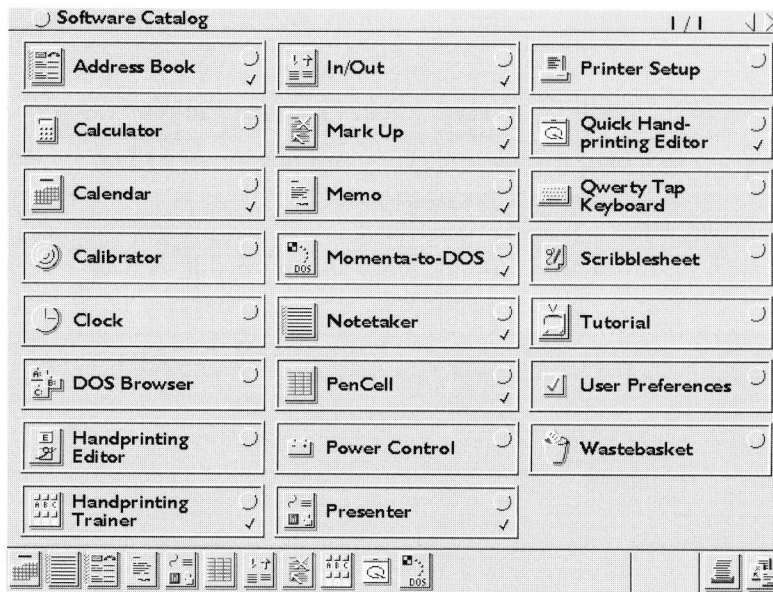
As described in the next chapter, what you create in a document isn't limited to the properties of the paper the document is composed of. That's because you can insert another kind of paper—a *stick-on*—into the document and use the stick-on's properties to create what you want, such as a chart or graphic.

In addition to various types of paper, the computer contains numerous accessories, such as the Calculator, the Clock, and the Qwerty Tap Keyboard. All paper and accessories are located in the Software Catalog, which is discussed below; for a description of the accessories, see Chapter 9: Managing Your Time and Work.

Obtaining Paper

You obtain paper from two places: the Software Catalog and the dock. The Software Catalog is a permanent repository for all the paper and accessories in the computer; you can always find what you want there. By contrast, the dock is a temporary holding place; its purpose is to give you immediate access to the paper and accessories you use most frequently. The dock is set up for you so you can get to work right away, but you can change most of its contents to suit your needs, as explained in “Modifying the Dock” at the end of this chapter.

To open the Software Catalog, tap its button, which is located on the far right side of the dock. When you tap a button in the dock, the button's name is displayed, so you can see exactly what you tapped.



← Software Catalog

The contents of the Software Catalog are listed in alphabetical order, beginning with the Address Book. You can distinguish an application from an accessory by the size of their buttons: An application's button is larger than an accessory's. For example, the Calendar application's button is much larger than the Calculator's.

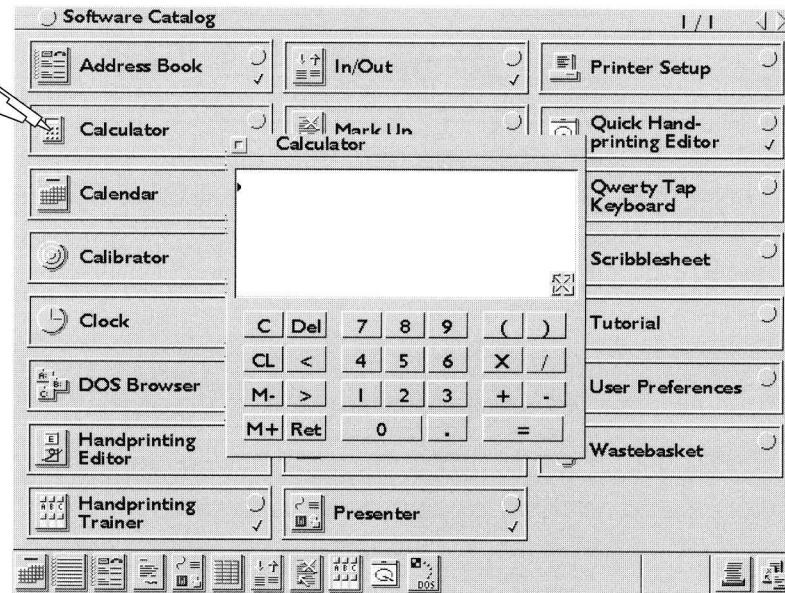


Applications



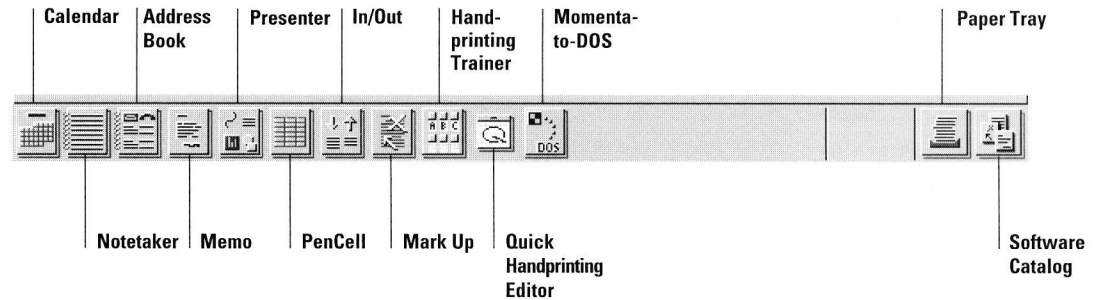
Accessories

To open something in the Software Catalog, tap its button. For example, to open the Calculator, tap the Calculator button.



If you open an application, its paper appears above the dock, replacing the paper that's already there, and its button is temporarily placed in the dock (if it isn't there already). If you open an accessory, it simply appears above the dock. A checkmark is displayed near an item's command compass in the Software Catalog when that item is in the dock.

As set up for you, the dock contains the following buttons:



In/Out is used in printing and faxing, Mark Up lets you scribble on any document, the Handprinting Trainer and Quick Handprinting Editor are involved in handprinting recognition, Momenta-to-DOS enables you to switch to MS-DOS, and the Paper Tray contains, among other things, stick-on paper.

Paper Controls

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You manipulate paper using various paper controls. Among other things, these controls enable you to create a new page, to move from one page to another, and to scroll to any spot. Some types of paper have all of the controls described below, while others have only some of them.

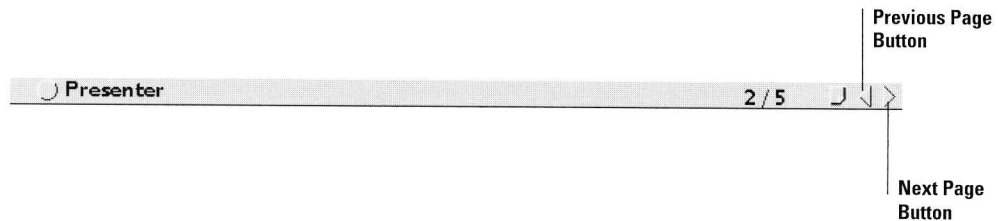
Creating a New Page

You create a new page in a document—or, to put it another way, obtain a fresh sheet of paper—by tapping the *new page button* on the right side of the title bar.



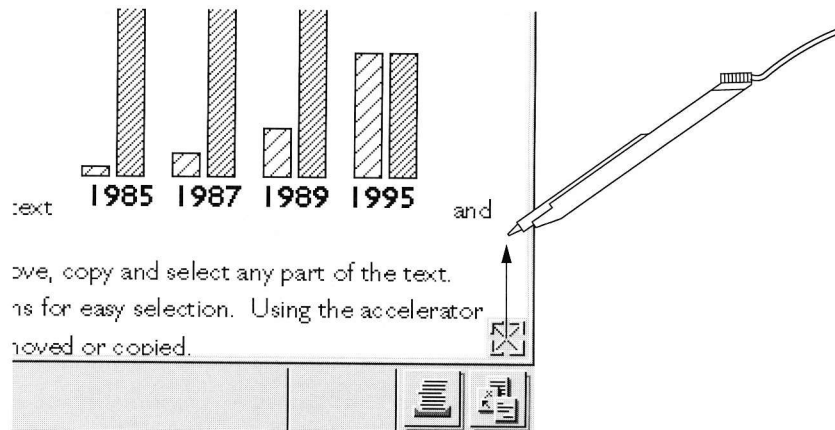
Turning the Page

You turn the pages of a document by tapping the *next page* or *previous page buttons*. For every tap of the button, the document moves forward or backward by one page.

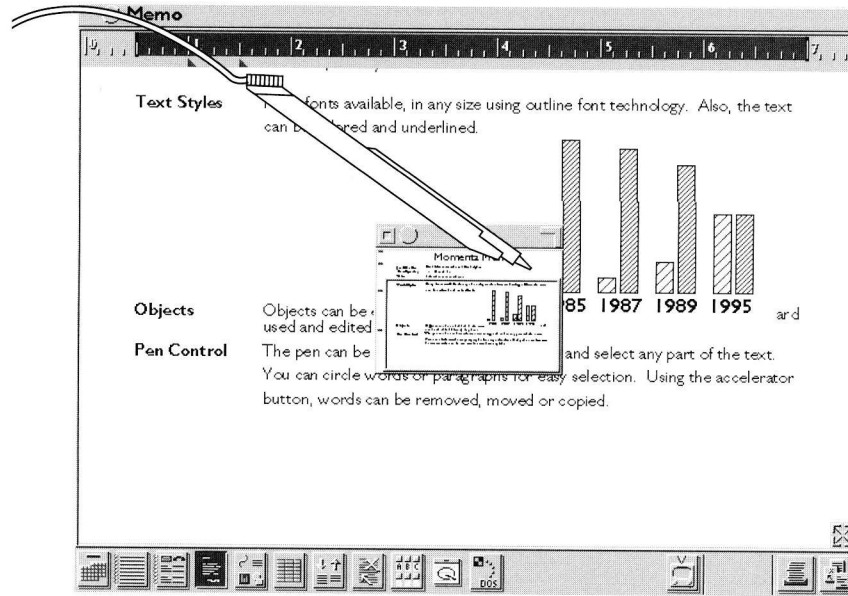


Scrolling to Any Location

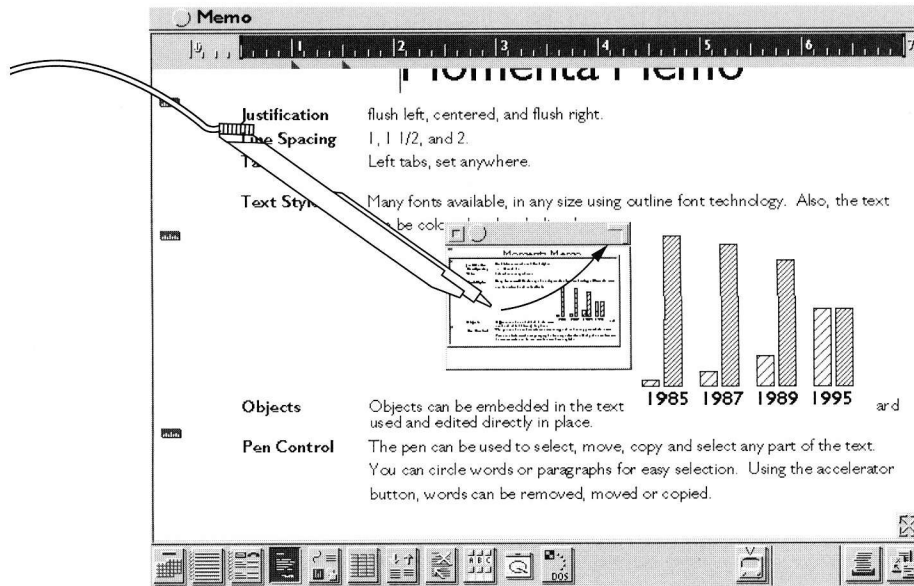
You scroll to any point on a page by using the *scroll compass*, which is displayed in the lower right on some pieces of paper. You can use the scroll compass in two ways: You can make a stroke in the direction you want to scroll to, which causes the document to move in that direction.



You can also tap the scroll compass, which displays a map of the page on display on the screen. The map contains a box that shows the area of the page. By tapping anywhere outside the box, you scroll to that part of the page.



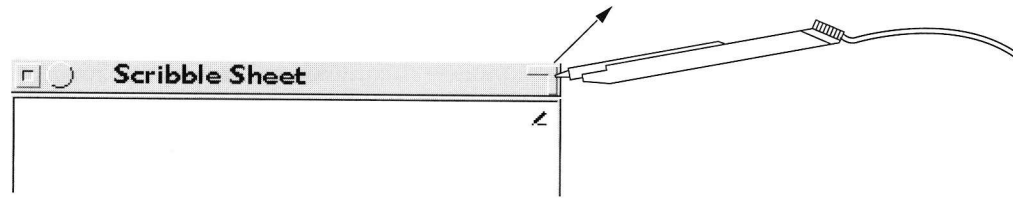
You can also achieve the same effect by dragging the box to another spot in the map.



You can't use the scroll compass to turn the pages of a document; you can use it only to scroll to another area on a page. To turn the the pages, use the next page and previous page buttons, as described under "Turning the Page" above.

Resizing a Piece of Paper

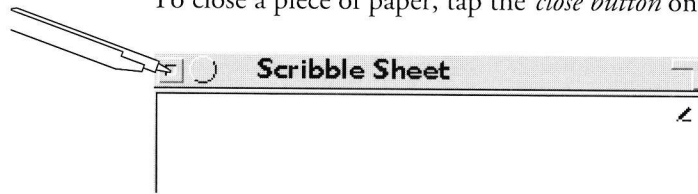
By dragging the *resizer* on the right side of the title bar of certain types of paper (anything that doesn't take up the entire screen, such as an accessory), you can change the paper's dimensions. Drag vertically to change the height, horizontally to change the width, and diagonally to change both dimensions.



You can't change the dimensions of the paper that makes up a document; such paper takes up the entire screen and can't be resized.

Closing a Piece of Paper

To close a piece of paper, tap the *close button* on the left side of the title bar.



You can't close a document; when you switch applications, the document you're working on goes away and another document takes its place. If you return to the first application, the document you were working on reappears.

The Command Compass™

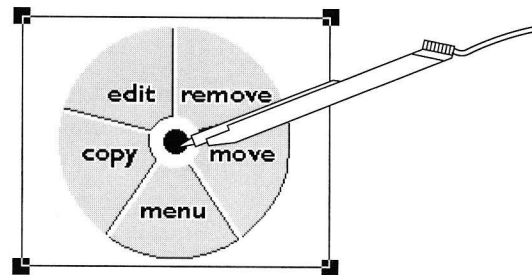
.....

You control the computer's operation by choosing commands, such as Remove or Copy, to perform specific actions, such as removing a line of text or copying an object. On the Momenta Computer, all commands are located in a circular button called the *command compass*.

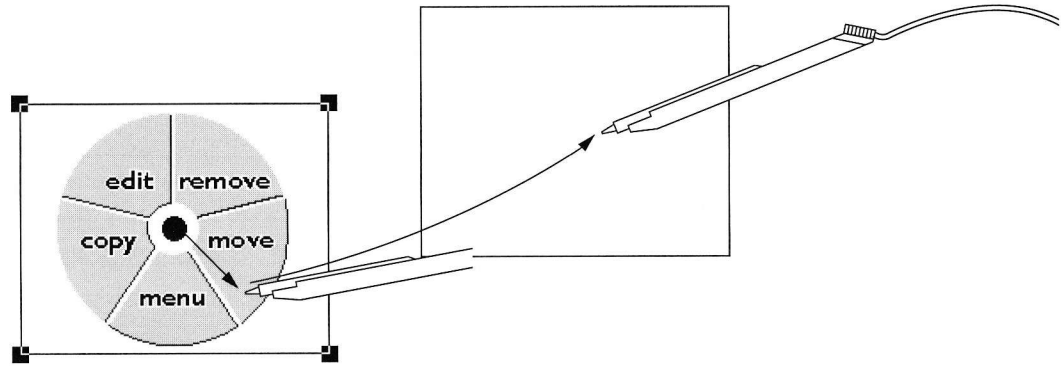
The command compass is displayed in the title bar of documents and in several other places, such as on selected objects. It always works in the same way.

Using the Command Compass

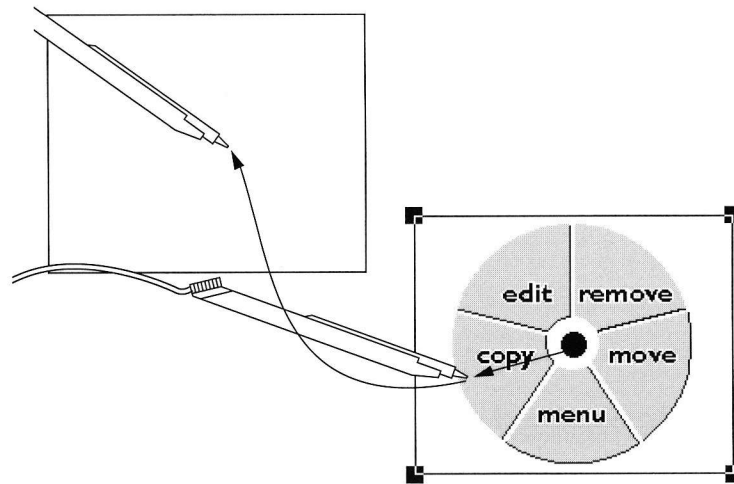
To display the commands in the command compass, dwell on the compass, as shown below in the case of a selected rectangle (remember, you select an object by tapping it):



Once the commands are displayed, it's easy to choose a command by making a stroke in the command's direction. For example, to choose the Move command, make a stroke to the right and, without lifting up the stylus, drag the object to another part of the screen. Lift up the stylus when you're done.

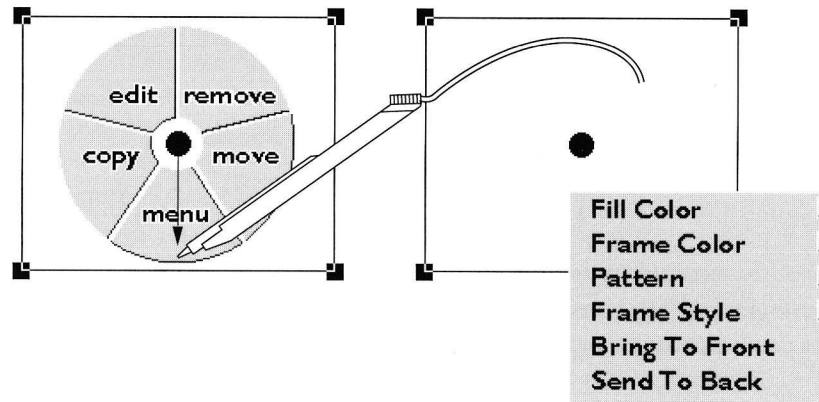


The Copy command works the same way as Move: Make a stroke to the left, which chooses the Copy command and creates a copy of the selected object; then, without lifting up the stylus, drag the copy to another spot. Lift up the stylus when you're finished.

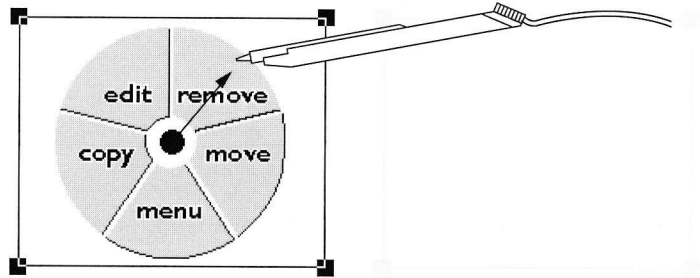


To edit the object, make a stroke to the upper left, which chooses the Edit command, whose effect depends on the object; in the case of text, for example, the Edit command displays a *cell editor* that you can use to edit the text. For details about this command, see the next chapter.

Making a downward stroke chooses the Menu command, which causes a menu of other commands to appear, as shown below; see “Menus” below for details about menus and the commands in them.

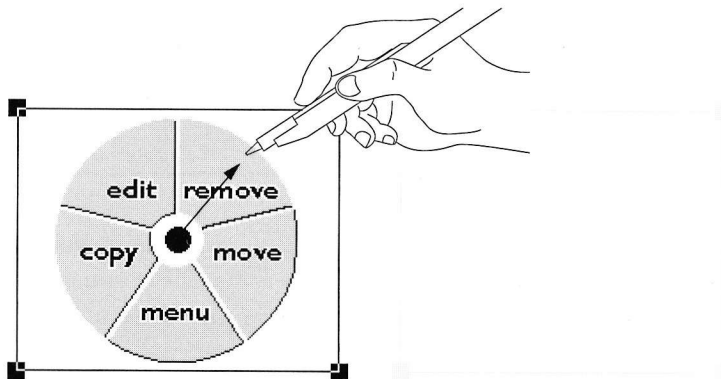


To remove the object, make a stroke to the upper right, which chooses the Remove command and removes the object from the document. All removed objects are stored in the Clipboard, from which you can retrieve them. The Clipboard is described in the next chapter.



The Quickest Way to Choose a Compass Command

There's a quick way to choose a command from the command compass—a shortcut you may want to adopt once you're familiar with the compass. The shortcut enables you to choose a command from the compass without first having to display the contents of the compass, which takes a little time.



The trick is to know the location of the commands in the compass. While holding down the stylus button, make a stroke toward the desired command as though you were choosing a command that's already visible, even though it's not. You don't have to make the stroke over the command compass; anywhere in the selection will do.

Standard Compass Commands

The compass contains five standard commands, which are described in the table below. A compass may not contain all of these commands; for example, the compass in the title bar of a document contains only the Menu command. Nevertheless, a given command is always in the same position.

Command	Description
Remove	Removes the selected text or object and puts it in the Clipboard, which holds the last five items you removed; see the next chapter for a description of the Clipboard.
Move	Enables you to move the selected text or object by dragging it with the stylus. To choose this command, make a stroke toward Move and, without lifting up the stylus, drag the item to a new spot.
Menu	Displays the menu associated with the selected text, object or document. The menu contains additional commands that you can choose; see “Menus” below for details.

Copy

Copies the selected text or object. You can choose the Copy command and move the selection with a continuous stroke of the stylus. To choose this command, make a stroke toward Copy, which creates a copy of the item and, without lifting up the stylus, drag the copy to a new place.

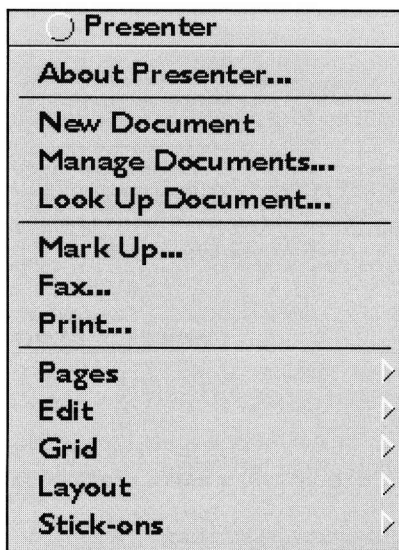
Edit

Enables you to edit the selected object. If the object is text, for example, it brings up a cell editor which displays the selected text and which enables you to edit it; for information about editing text, see the following chapter.

Menus

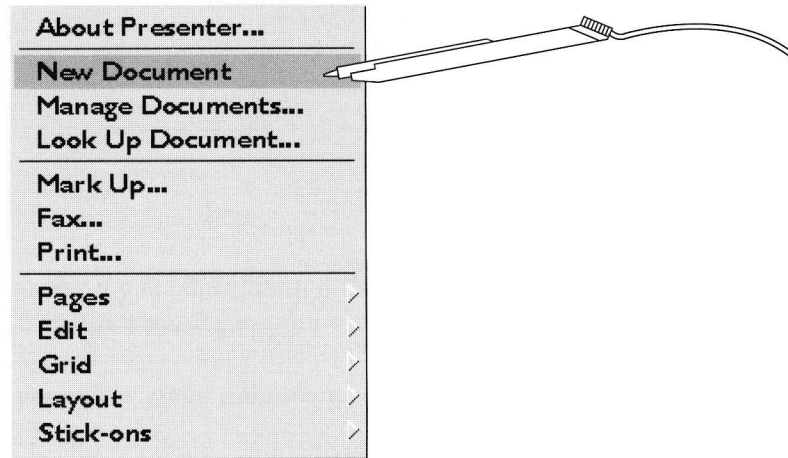
When you choose the Menu command in the command compass of an application's title bar, you bring up a menu, called the *application menu*, that contains more commands—including commands that open still other menus, known as *submenus*.

All menus work the same way. All application menus have some commands in common.



Choosing a Menu Command

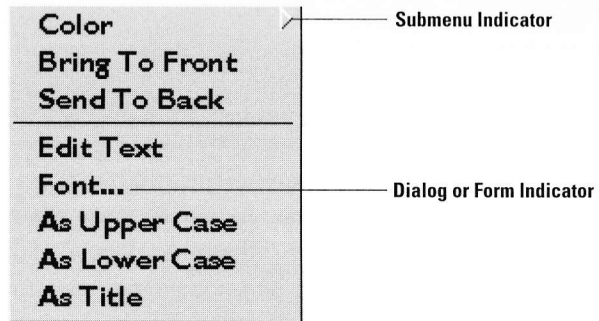
To choose a command from a menu, tap on the command. The chosen command is carried out and is highlighted until it's done; then the menu goes away.



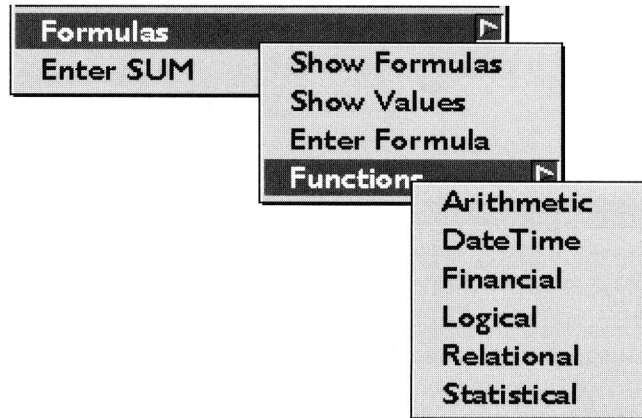
If you plan to use a menu often, it's a good idea to keep it on the page; see "Moving a Menu" below for details about how to do that.

Using a Submenu

A submenu typically contains commands that apply to various functional categories, such as editing text or graphics. A command that opens a submenu is marked with an arrow, while a command that opens a *dialog* or a *form* is marked with three dots.

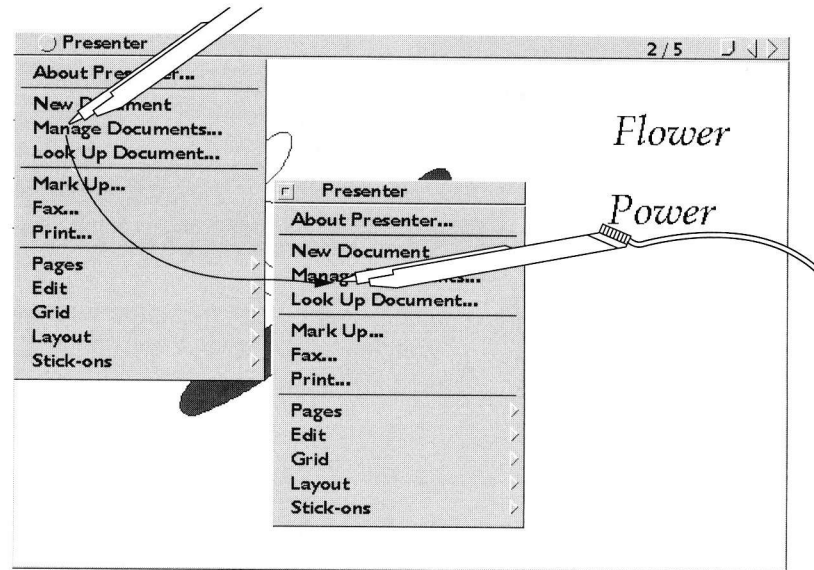


When a submenu appears, it comes up overlapping the menu that gave rise to it, and the command that opens it is highlighted. If you tap a command in the submenu that opens yet another submenu, the second submenu comes up, overlapping the first one.

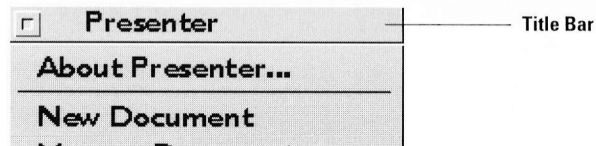


Moving a Menu

As explained earlier, a menu goes away once the command you've chosen is performed. If you'd rather keep the menu on display—for example, you intend to use it often—you can do so by dragging it from its original position (the spot where it first appeared) to a new spot. To drag a menu, grab it quickly with the stylus and move it to another location; start dragging it as soon as you touch it, or you might end up choosing a command.



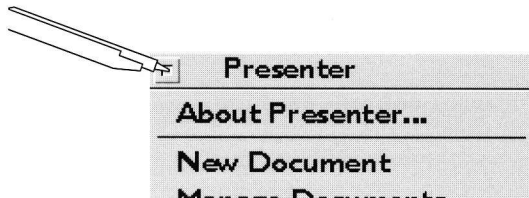
When you move a menu, it gains a title bar, which displays the menu's name and contains a close button. If the menu belongs to an object, any commands you choose from it apply to that object. Once the menu has a title bar, you can drag it only by grabbing its title bar.



If you want additional copies of a menu that has been moved, just repeat the steps that gave you the menu in the first place. For example, to get another copy of a menu, choose the compass's menu command a second time (or third or fourth).

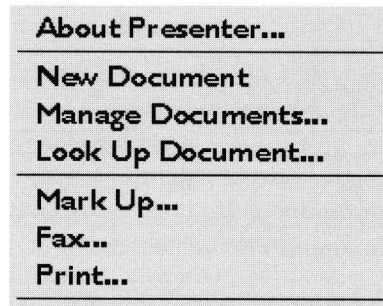
Closing a Menu

To close a menu that has been moved, tap the menu's close button.



Application Menu Commands

The application menu contains several standard commands, which are described in the table below. In most applications, the application menu contains additional commands, specific to the application; you'll find information about those commands in the application's documentation.



Command

Description

About [application name]...	Gives the name of the company or individuals who created the application, as well as the application's copyright notice.
New Document	Opens a new document.
Manage Documents...	Opens a form that enables you to rename, remove, copy, and open documents. It also enables you to create an index for your documents.
Look Up Document...	Opens a form that enables you to look up the documents you indexed by using the Manage Documents form.

Mark Up...

Launches the Mark Up application, which enables you to capture a document in its current state and scribble on the copy.

Fax...

Opens a form that lets you fax a document.

Print...

Opens a form that lets you print a document using a printer other than the one specified in Print to [Printer Name]. Also allows you to specify the page ranges and number of copies to print.

Print to [Printer Name]

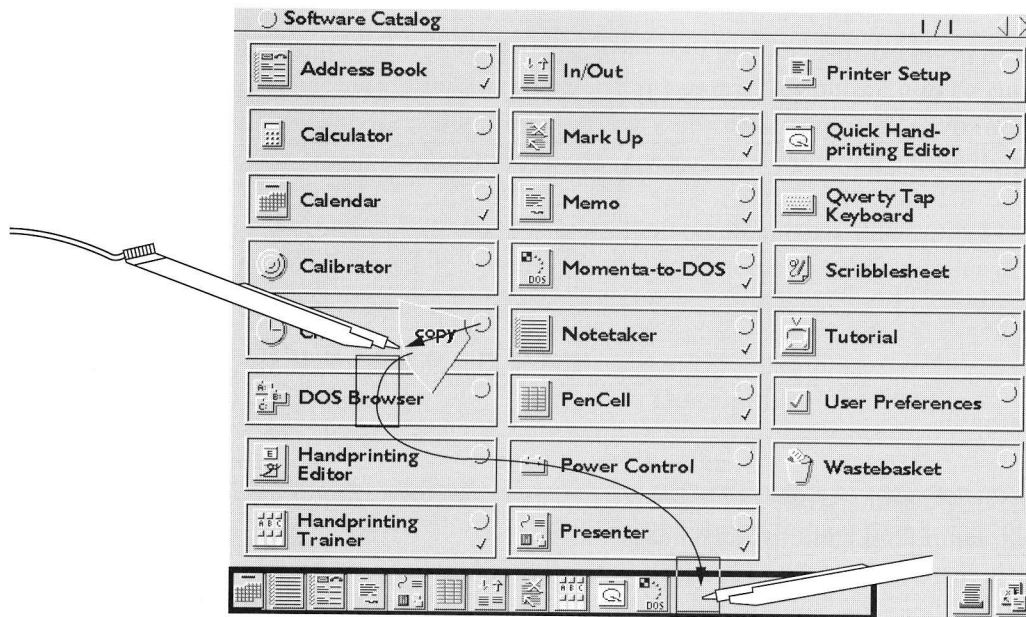
Prints the current document, using the default printer you chose through the Printer Setup accessory. This command doesn't appear if you haven't chosen a default printer.

Modifying the Dock

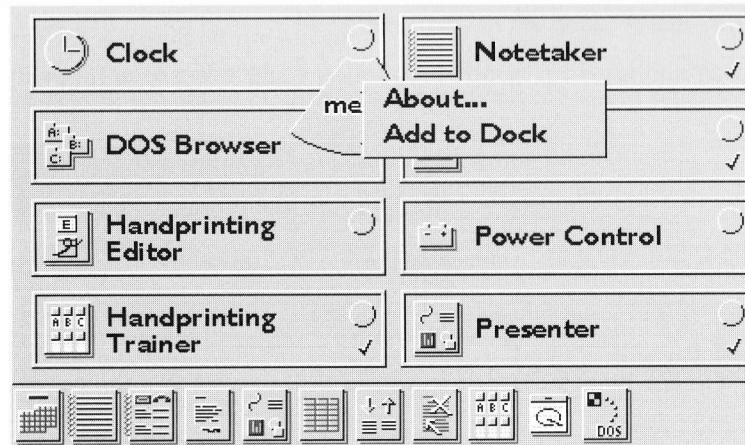
.....

You can place up to sixteen buttons in the dock, which gives you a quick and easy way to access the applications and accessories you use most frequently.

Once you've opened the Software Catalog, you can put a button in the dock by using either of two methods. You can choose the Copy command from the button's command compass, and drag the button into the dock. If you drag the button into an empty spot, the button is positioned there; if you drag it into a spot that's already occupied by a button, it replaces that button.



You can also place a button in the dock by choosing the Add to Dock command in the button's compass. The Add to Dock command appears only if the button isn't in the dock.

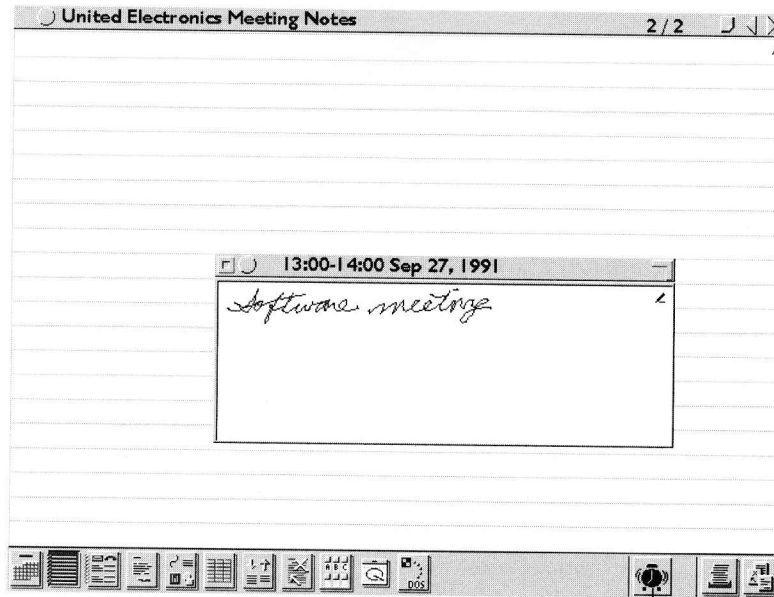


To remove a button from the dock, choose the Remove from Dock command in the button's compass; this command is displayed only if the button is in the dock. To eliminate the spaces between docked buttons, choose the Compress Dock command from the compass in the Software Catalog's title bar.

Responding to Notices

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The computer informs you about certain events, such as calendar alarms, low battery power, and so on. You're informed by the appearance of a notice on the right side of the dock, next to the Paper Tray.



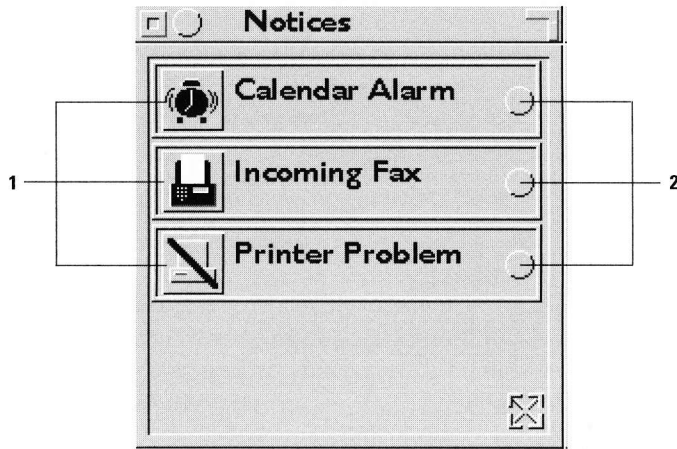
Calendar Alarm

If more than one notice is displayed, they're stacked on top of each other, with the newest event on top and the older ones below.



In addition to displaying a notice in the dock, the computer beeps and, in some cases, displays a larger warning on the screen.

A docked notice behaves like other items in the dock. When you tap it, the notice opens above the dock, displaying a form that gives you more information about the event that prompted the notice. This is what appears on the screen when you tap a notice:



1. Alarm buttons

Tap a button to get details about the corresponding notice. For example, tapping the calendar alarm displays the calendar entry that triggered the alarm.

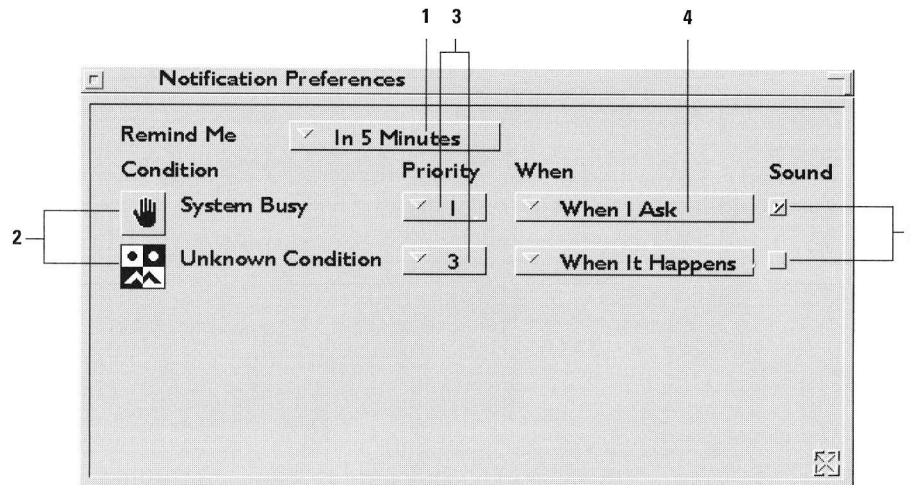
2. Command compasses

Choose the Remove command to remove the notice; choose the Menu command to bring up a menu that contains a single command that enables you to make the notice reappear (as a reminder to you). You set the time to the notice's reappearance in the Notification Preferences part of User Preferences. Notification Preferences is described below.

There are only two commands in the compass at the top of the Notices: Downplay Notices and Notification Preferences. When you choose Downplay Notices, the computer won't beep when a notice is displayed, and it won't display larger warnings on the screen (with certain exceptions, such as when the battery is low). You might want to use this command when you're in a meeting, or giving a presentation, and don't want to be disturbed by notices. When chosen, this command becomes Normal Notices.

Notification Preferences

You can also set your preferences for notices through Notification Preferences, which you can access either in User Preferences in the Software Catalog or from the Notices sheet. Opening Notification Preferences brings up the following form:



1. Remind Me button

Notices reappear, as a reminder to you, after the amount of time you specify here. For example, if you choose In 5 Minutes, the notice reappears in five minutes.

2. Notice conditions

The conditions that prompt notices are listed here.

3. Notice priority buttons

You can prioritize each notice condition here, on a scale of 1 to 10, where 1 is the lowest priority. Appropriate priorities have been preset for you.

4. Notice timing buttons

If you choose When It Happens, the contents of the notice are displayed above the dock when the notice is given; if you choose When I Ask, the contents are displayed only when you tap the notice. The exception is critical low power alerts, which are always displayed when they happen.

5. Audio alarm buttons

Check the Sound box if you want the computer to beep when a notice is given.

Chapter 5: Working with Documents

In the last chapter, you learned the basics of working on the Momenta Computer. This chapter explains how to edit documents, file them away, and transfer information between them. It also explains how to create complex documents that include text, graphics, charts, and scribbles.

Managing and Looking Up Documents

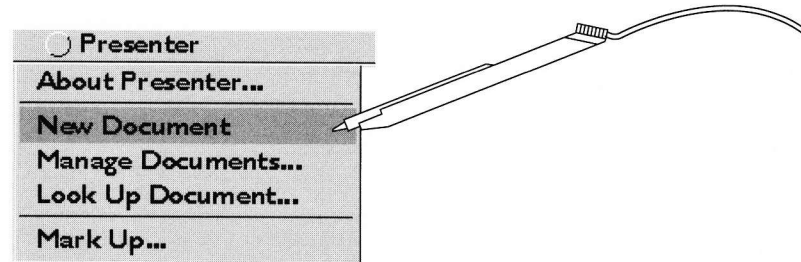
.....

Documents on the Momenta Computer behave like inked paper in one more respect: the changes you make to them are permanent. The computer saves all your changes to a document as soon as you make them.

Warning: *Make a copy of a document before you start changing it. This is especially important if you might need the unchanged, original document for any reason.*

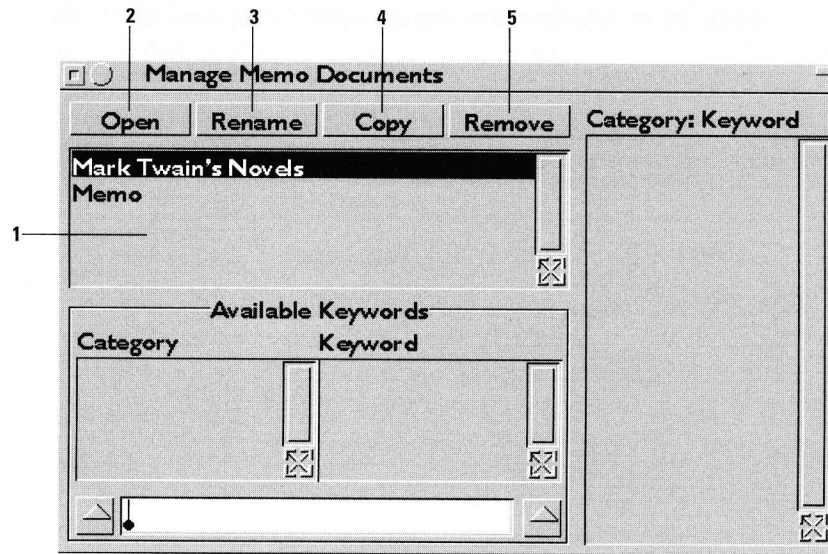
Most of the time you're working on the Momenta Computer you'll have a document open on the screen. If you open an application for the first time, the document that appears is new, and is named after the application; for example, it might be named Presenter. If you switch applications and then return to the application you were using previously, the document you were working in last reappears.

It's easy to create a new document: Choose the New Document command from the application menu (in the command compass in the title bar).



The document you were working on is filed away and a new document takes its place. The new document is also named automatically. It's named after the application and stamped with the date. For instance, it might be named Presenter: Sept. 18, 1991.

You can, of course, change the document's name, or open, copy, and remove any other existing document. You do these things by choosing the Manage Documents command from the application menu. This command opens the following form, which lists all documents in the application you're working in and enables you to index, or categorize, them by keywords:



In general, you can manage an application's documents only by using the Manage Documents form that the application displays. For example, you can't rename a Presenter document while you're working in Memo; you can do that only in Presenter.

1. Names area

The names of all the documents you create in the application are displayed here. Select a name to open, rename, copy, or remove a document using the buttons described below.

2. Open button

The Open button opens the selected document, which comes up in place of the document currently being displayed. Once the document is open, you can work in it.

3. Rename button

The Rename button enables you to change a document's name; it displays a text field where you handprint or type the new name.

4. Copy button

The Copy button makes a copy of the selected document, and identifies it by adding the word "(copy)" to the document's name.

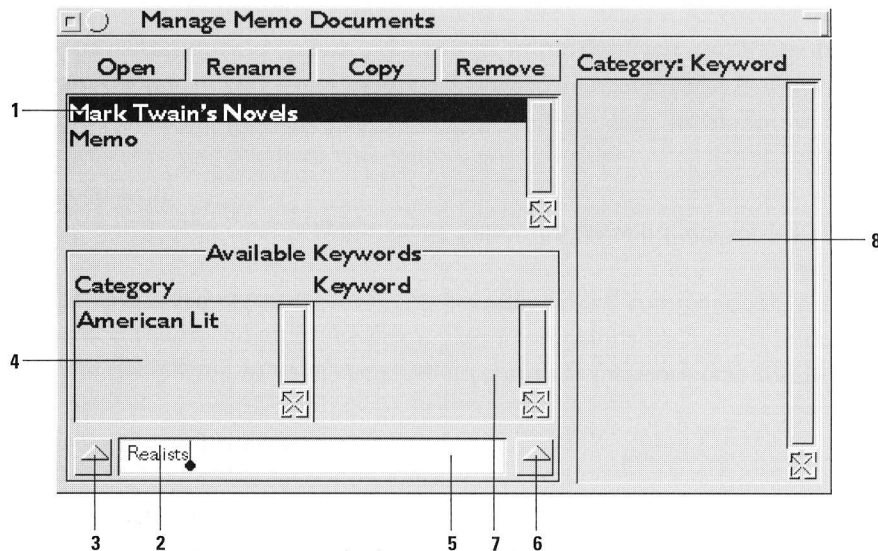


5. Remove button

The Remove button removes the selected document and puts it in the Wastebasket, where you can retrieve it if you wish. The Wastebasket is in the Software Catalog, which is described in the previous chapter.

Categorizing Documents

You can also use the Manage Documents command in the application menu to categorize documents by keywords. Categorizing your documents enables you to organize them by subject (much as articles are arranged in an encyclopedia, for instance) and thus to look them up with ease. For example, you can create a Personal Letters category and, within that category, file your letters under various subcategories, or keywords.



1. Selected document name

Select the name of the document you want to categorize; for example, tap the document named Mark Twain's Novels.

2. Category text area

Handprint or type the name of the category you want to file the document under; for example, enter the category American Lit. You can enter more than one category, and can file the document under all of them. If you want to use an existing category, select it from the list in the Category column.

3. Category button

Tap this button to enter the category name from the Category text area into the Category column. The document isn't categorized, however, until you've selected a keyword for it.

4. Category column

All available category names appear here. Select the category you want for the selected document.

5. Keyword text area

Handprint or type the name of the keyword you want to file the document under; for example, enter the keyword Realists. You can also enter more than one keyword, and can file the document under every one. To use an existing keyword, select it from the list in the Keyword column.

6. Keyword button

Tap this button to enter the keyword from the Keyword text area into the Keyword column.

7. Keyword column

All available keywords appear here. Select the keyword you want to associate with your document.

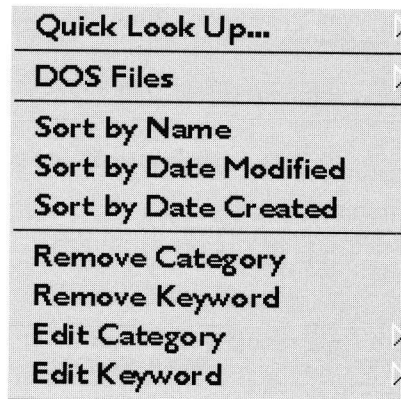
8. Category: Keyword column

The categories and keywords you select in the Available Keywords area appear here. When

you select a document as explained above, the Category: Keywords that it's associated with are listed here. To uncategorize a document, select the Category: Keyword you wish to dissociate from the document. The Category: Keyword goes away, and the document is now uncategorized.

Manage Documents Commands

The Manage Documents form also contains several commands that enable you to manipulate the documents shown in the form. These commands are located in the Manage Documents menu, which you access through the command compass in the Manage Documents title bar.



Quick Look Up...

This command opens a submenu that contains two commands: AND Keywords and OR Keywords, which give you a quick way to look up documents which share the same categories as the ones you've selected. Choose OR Keywords to track down documents that are in *any* of

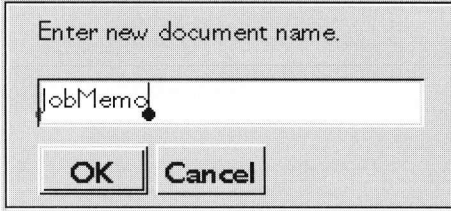
the listed Category: Keywords. Choose AND Keywords to track them down only if they're in *all* the listed Category: Keywords.

DOS Files

This command opens a submenu that contains two commands:

DOS Browser Opens the DOS Browser, which enables you to navigate the DOS file system. The browser is described in Chapter 11.

Create Transfer File Enables you to convert a Momenta document into a file that you can transfer to another Momenta Computer. Choosing this command brings up the form shown below.



The image shows a dialog box with a light gray background and a thin black border. At the top, it says "Enter new document name." Below this is a text input field with a white background and a black border, containing the text "JobMemo" and a small black cursor dot at the end. At the bottom of the dialog box are two buttons: "OK" on the left and "Cancel" on the right, both with a light gray background and a thin black border.

You may enter either a file name up to eight characters long, using only letters and numbers (not symbols, such as an asterisk or a slash), or a pathname (which includes a name). Don't use file extensions, such as .me. Unless you specify a pathname, the file is placed in the current directory in the DOS Browser. For details on how to transfer files to another Momenta computer, as well as on the workings of the browser, see Chapter 11: Working in DOS.

Sort by Name, Date Modified, and Date Created

These commands let you sort the documents shown in the upper part of the Manage Documents form according to three criteria: their names; the date they were last modified, starting with the most recent date; and the date they were created, also beginning with the most recent date.

Remove Category and Remove Keyword

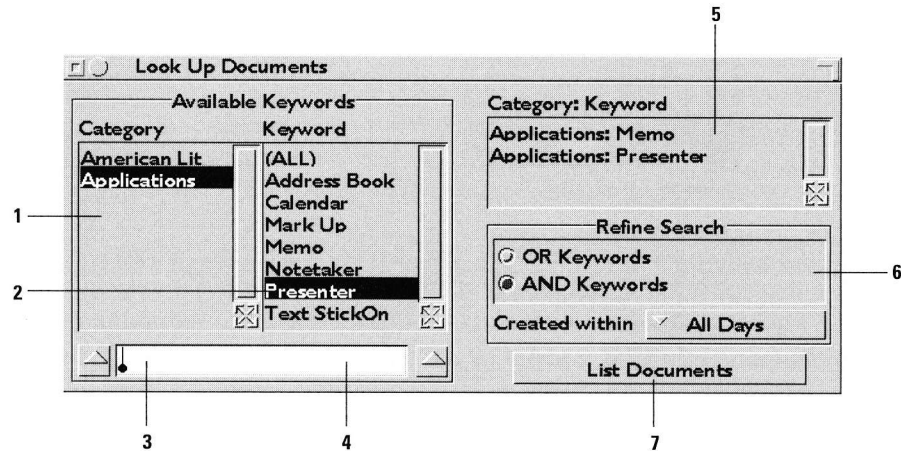
These commands enable you to delete a selected category or keyword from the Category or Keyword columns.

Edit Category and Edit Keyword

To edit a selected category or keyword name, choose these commands. An editor appears, containing the category or keyword name. Make any desired changes, then tap OK and the edited name replaces the original name throughout the Manage Documents form.

Looking Up Documents

Use the Look Up Documents command in the application menu to locate and open a categorized document, much as you'd use an index to look up something in an encyclopedia. Keep in mind that you can't categorize a document by using the Look Up form; you can do that only through the Manage Documents form, which is described above.



1. Category column

Tap here to look up a document under a given category; for example, to look up a document by application, tap Applications (this category was created for you).

2. Keyword column

Tap here to look up a document under a keyword; for example, to look up a document in an application, first tap Applications in the Category column and then tap the application's name in the Keyword column.

3. Category text area

You can create new categories by handprinting (or typing) category names in this area. Tap the button at the left of the text area to enter the category name in the Category column.

As a convenience, you're allowed to create new categories in Look Up Documents, but you can't categorize documents here; you can do that only by using the Manage Documents form.

4. Keyword text area

You can also create new keywords by entering keyword names in this text area. Tap the button at the right of the area to enter the keyword in the Keyword column. (Again, you can categorize documents only by using the Manage Documents form.)

5. Category: Keyword column

The category and keyword you selected in the Available Keywords areas appear here. You can select more than one category and keyword.

6. Refine Search area

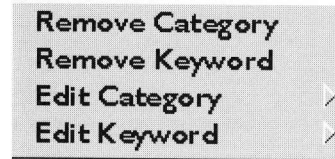
You can specify the nature of the search by choosing OR, AND, and the days. Choose OR to track down documents that are in *any* of the listed items in Category: Keyword; choose AND to track them down only if they're in *all* the listed items in Category: Keyword. You can also search by time period, restricting the search to documents you created within a given time period. To choose a time period, tap the button next to Created within and select a time period.

7. List Documents button

Tap this button to get a list of the documents that correspond to the categories, keywords, and search criteria you've chosen. You can open any document from that list.

Look Up Documents Commands

The command compass in the Look Up Documents form contains four commands, which are described below.



Remove Category and Remove Keyword

Use these commands to delete a category or keyword from the Category or Keyword columns.


Edit Category and Edit Keyword

Choose these commands to edit a category or keyword. When you choose one of these commands, an editor appears, containing the category or keyword. Edit the category or keyword using the procedures described in "Editing Text" below, and tap OK when you're done. The new version is displayed in the Category or Keyword column.

Editing Text

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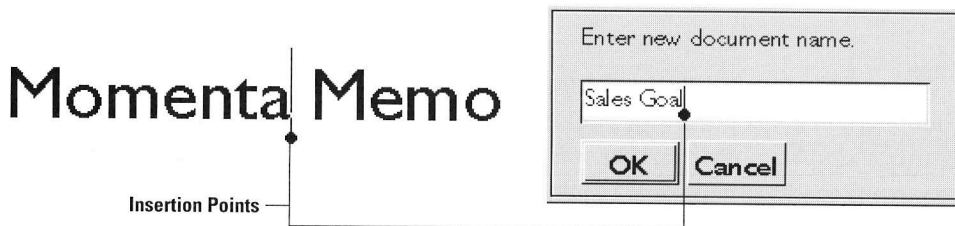
You edit text on the Momenta Computer using a command compass that appears on the text itself. You can edit only printed text—text that looks like the text on this page, regardless of whether it was entered by handprinting or typing. You can't edit scribbles, such as your signature, because such writing is really a graphic object and can be modified only through

graphic operations. If a piece of paper or an area within it contains a picture of a stylus , you can't handprint or type in it. Such an area accepts only scribbles.

In editing text, you can take advantage of the stylus and use certain symbols which the computer interprets as editing commands. These symbols can be traditional proofreading marks or new ones you teach the computer. To learn about the predefined symbols available to you, see Chapter 6: Handprinting Recognition.

Inserting Text

In most applications you insert text at an insertion point, which is shown as a vertical bar with a command compass at the bottom of it. The bar indicates where your handprinting (or typing) will go. One exception is Presenter, where text is inserted at the location on the page where you begin handprinting.

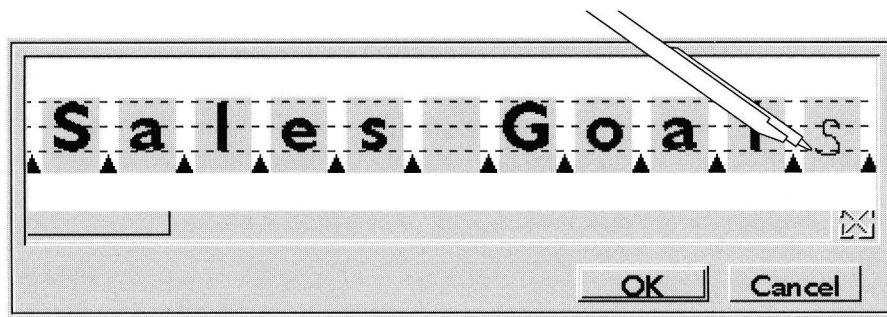


You can handprint anywhere in the text field, and the text is entered to the left of the vertical bar.

Using a Cell Editor

If you'd rather not handprint directly in a text area, you can use a cell editor, which gives you a row of cells, or boxes, to write in. It's an alternative to printing directly in a document or form. To open a cell editor, choose the Edit command from the command compass at the bottom of the insertion point's vertical bar.

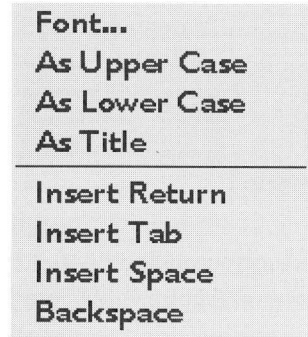
When you open a cell editor, it comes up showing the word that contains the insertion point, or the selected text. If there is no text or if no text is selected, the cell editor is blank. In either case, handprint the text in the cell editor and tap the OK button when you're done. The new or edited text is inserted to the left of the insertion point.



To create a blank space, tap a triangle in the cell editor, and a blank space is inserted to the right of the triangle. To change a character in the cell editor, simply write over the character. To delete one or two characters, draw a line through them, which selects the characters. By dwelling on the selected characters, you get a command compass, which you can then use to remove the characters and the cell they're in. You can also use the compass to move or copy characters.

Text Commands

The command compass at the text insertion point has its own menu with the following commands:



Font...

Brings up the font form, which is described later in this chapter.

As Upper Case

Makes all the letters in the selected text upper case, as in "MOMENTA COMPUTER."

As Lower Case

Makes all the letters in the selected text lower case, as in "momenta computer."

As Title

Capitalizes the first letter of each word in the selected text and makes all the others lower case, as in "Momenta Computer."

Insert Return

Inserts a new line at the insertion point.

Insert Tab

Inserts a tab at the insertion point.

Insert Space

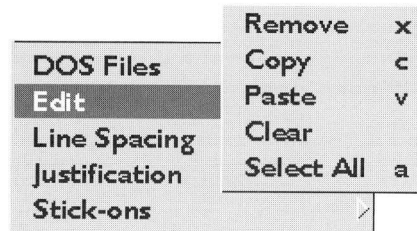
Inserts a space at the insertion point.

Backspace

Deletes the character to the left of the insertion point.

The Edit Menu

Some applications, such as Memo and Presenter, contain an Edit command in the application menu that opens a submenu with five commands you can use to edit text and graphic objects.



Remove

The Remove command removes the selected text or graphic from the document and places it in the Clipboard, where you can recover it if you wish. If you choose the Paste command immediately after choosing Remove, the selected item is inserted to the left of the insertion point. This command works just like the Remove command in the compass.

Copy

The Copy command copies the selected text or graphic into the Clipboard. When you choose the Paste command immediately after you've chosen Copy, the copied item is inserted to the left of the insertion point. This command operates like the compass' Copy command.

Paste

The Paste command pastes text or graphic that was removed or copied immediately before Paste was chosen. The pasted item is inserted to the left of the insertion point. You can also Paste text using the caret mark, whose use is described below.

Clear

The Clear command deletes the selected text or graphic. Items removed with this command aren't placed in the Clipboard and can't be pasted with the Paste command. In other words, you can't restore them.

Select All

The Select All command selects the contents of the document, including graphic objects. To deselect the contents, chose Select All again, or tap anywhere in the document.

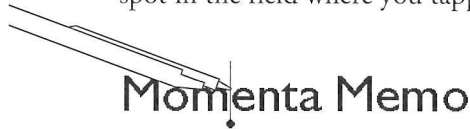
Using Editing Symbols

The computer comes with several predefined symbols you can use to edit text. To define your own versions of these symbols, see the next chapter for details.

You must select text before you can edit it. There are three symbols, all specified in the Handprinting Editor application, that you can use to select text: tapping the text, drawing a horizontal line through it, and drawing a circle around it. Once you've selected text, you can remove it or otherwise act on it by using the command compass at the bottom of the vertical bar.

Selecting the Insertion Point

Tapping in a text field selects the insertion point; that is, it places the insertion point at the spot in the field where you tapped. The text you enter goes to the left of the insertion point.



You can position the insertion point only in text; if there's no existing text, you can't move the insertion point.

Selecting Text by Drawing a Line through It

One way to select text is to draw a line through it. This method of selecting text is best used for small amounts of text, such as a letter, a word, or a line or two.

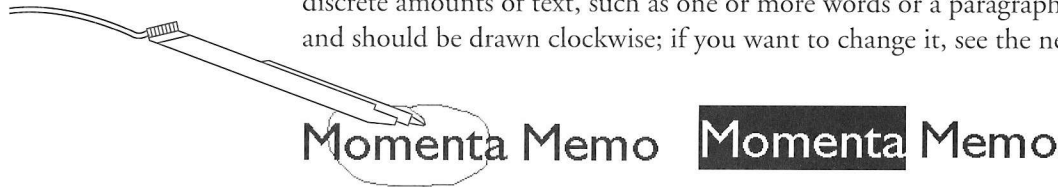


Momenta Memo Momenta Memo

Draw the line as precisely as possible, or you may end up selecting text you don't want to select.

Selecting Text by Circling It

Another way to select text is to draw a circle around it. This method is best used to select discrete amounts of text, such as one or more words or a paragraph. This symbol is predefined and should be drawn clockwise; if you want to change it, see the next chapter for details.



You don't have to draw the circle very accurately; as shown above, the circle need not encompass every character for a word or paragraph to be selected.

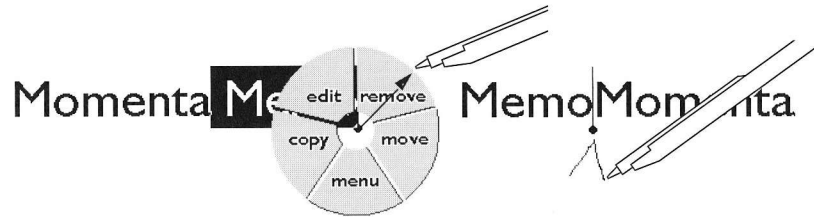
Extending a Text Selection

By holding down the stylus button and tapping in text, you select all text between the insertion point and the place where you tap.



Pasting Text

You can insert text by using the caret (an upside down “v”), which inserts whatever you had last removed using the command compass. First remove text using the compass’ Remove command; then write a caret at the spot where you want to insert the text you just removed.



Backspacing

You can backspace over text to the left of the insertion point by drawing a line from right to left. The backspace symbol deletes that character.



You can also backspace using the Backspace menu command.

Inserting Space

You can insert a blank space in text by using the space symbol—a curved line, drawn from left to right.



Momenta Memo Momenta Memo

You can also insert a space using the Insert Space menu command.

Inserting or Breaking a Line

You can insert a line by using the return symbol.



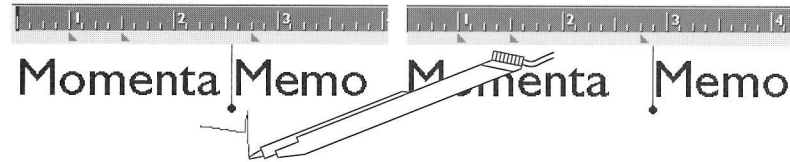
You can also break an existing line with the return symbol.



The Insert Return menu command also lets you insert or break a line.

Inserting a Tab

To insert a tab, use the tab symbol.



You can also insert a tab using the Insert Tab menu command.

Fonts

You can control the appearance of the text in documents by setting its font family, typeface, and size.

- A font family is a set of characters with a consistent design. The Momenta Computer comes with the ten font families illustrated below.

Bitstream Amerigo	This is a particularly elegant font family.
Broadway	This is typically used for headings or headlines.
Century Schoolbook	This is a handsome general-purpose font family.
Courier 10 Pitch	This is a standard typewriter font family.
Dutch 801	This is a popular general-purpose font family.
Futura Black	This family is typically used for headings or headlines.
Handel Gothic	This family is also used for headings or headlines.
Humanist 521	This family appears on the screen.
Swiss 721	This is a popular general-purpose font family.
Zapf Calligraphic 801	This is a general-purpose font family.

Note: *Three of these font families are versions of popular font families, although they bear different names: Dutch 801 is a version of Times Roman, Swiss 721 is a version of Helvetica, and Zapf Calligraphic 801 is a version of Palatino.*

- A typeface is a variation of a font family, such as Bold, Italic, or Bold Italic. For example, the typeface of **Great Expectations** is Dutch 801 Bold Italic.
- Size is a relative measurement of text within a font family, and often varies between font families. For instance, 12-point Dutch 801 is bigger than 10-point Dutch 801 but is smaller than 12-point Swiss 721.

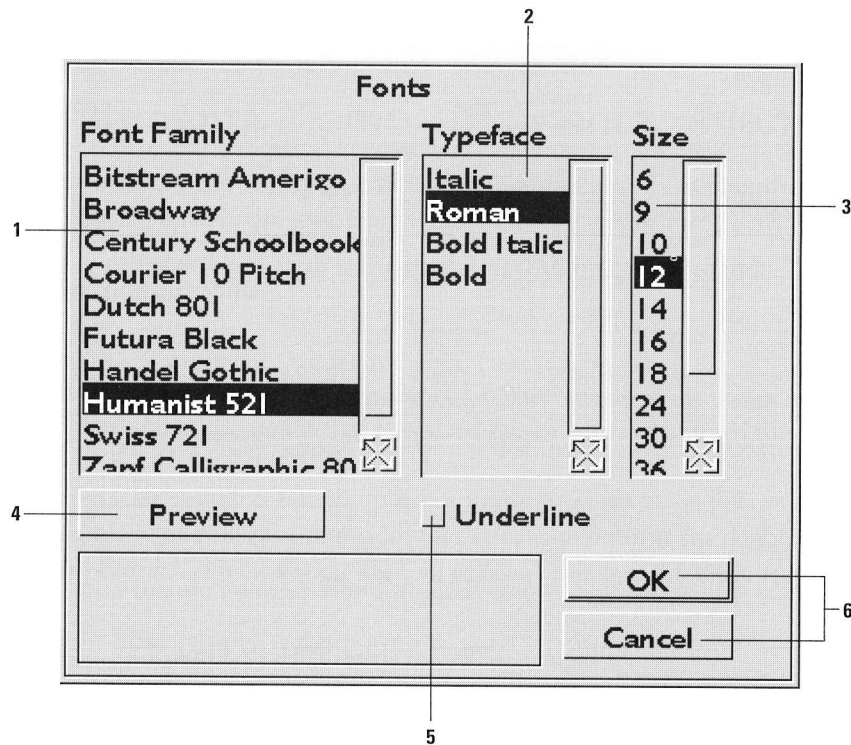
Taken together, these properties—font family, typeface, and size—comprise a font. Thus the font of **A Tale of Two Cities** is Swiss 721 Bold 12-point.

All characters have a font, even an invisible one like the space character. If you place the compass in a space after a word and start to handprint (or type), you get the font of the space character, which is usually (but not necessarily) the same font as that of the adjacent text.

Note: *You can also control the font of the text the computer uses in the title bars, menus, and other places. For information on changing this font, known as the system font, see the “User Preferences” section of Chapter 9: Managing Your Time and Work.*

Setting the Font

You can change the font family, typeface, and size of text by using the Font form, which is displayed when you choose the Font... command in the application menu.



You can also use the Font form to preview the fonts you want to choose, and to see the current font (the last character in a text selection or what you're about to print or type).

When the Font form opens, it displays the current font, highlighting it in the Font Family, Typeface, and Size columns. For example, if you select a word in Humanist 521 Roman 12-point, those properties—Humanist 521, Roman, 12—are displayed in the columns. If the current text selection contains more than one font, only the font of the last character or space is shown.

When you move the insertion point to another spot in the text, or if you make another text selection, the settings in the Font form change to reflect the new selection's font properties.

1. Font Family column

Tap in the Font Family column to choose a font family.

2. Typeface column

Tap in the Typeface column to choose a typeface.

3. Size column

Tap in the Size column to choose a point size.

4. Preview button

Tap the Preview button if you wish to view the font (or font properties) before you apply it. A sample of the font appears in the preview box at the bottom of the form.

5. Underline button

To underline the text, tap the Underline checkbox.

6. OK and Cancel buttons

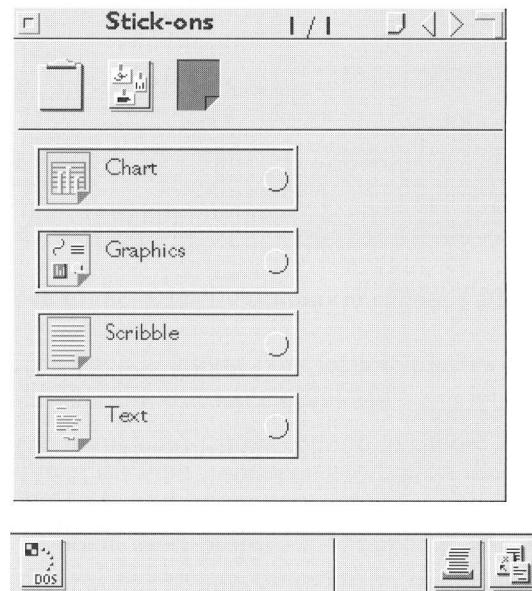
Tap the OK button to apply the font properties you've chosen to the text selection. Tap Cancel if you change your mind.



Using Stick-Ons to Create Complex Documents

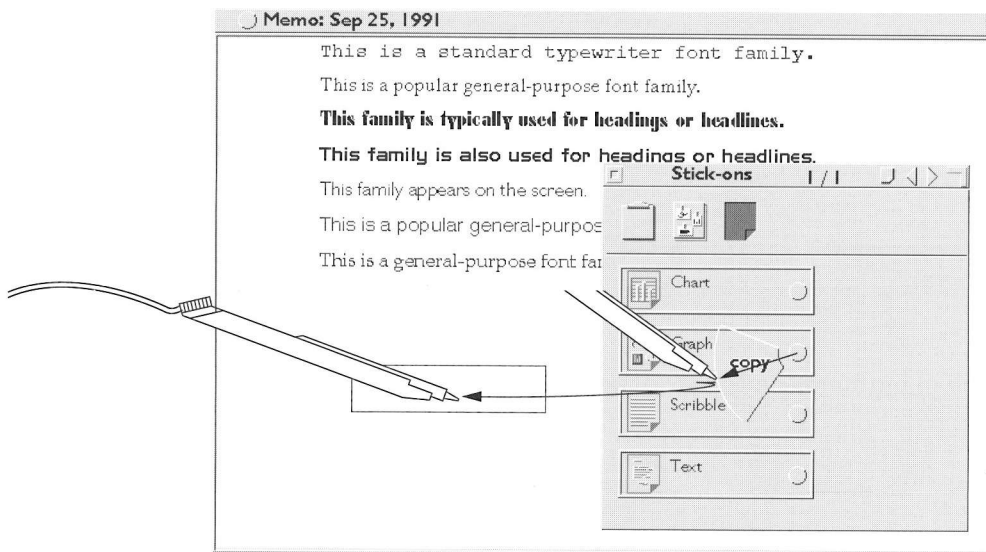
Through the use of stick-on paper, the Momenta Computer gives you an intriguing new way to create complex documents, combining printed text, graphics, charts, and scribbles. You can do this by placing one or more stick-ons in a document and creating what you want in the stick-on, which you can resize to suit your needs.

Stick-ons are located in the Paper Tray on the right side of the dock. There are four kinds: Chart, Graphics, Scribble, and Text.

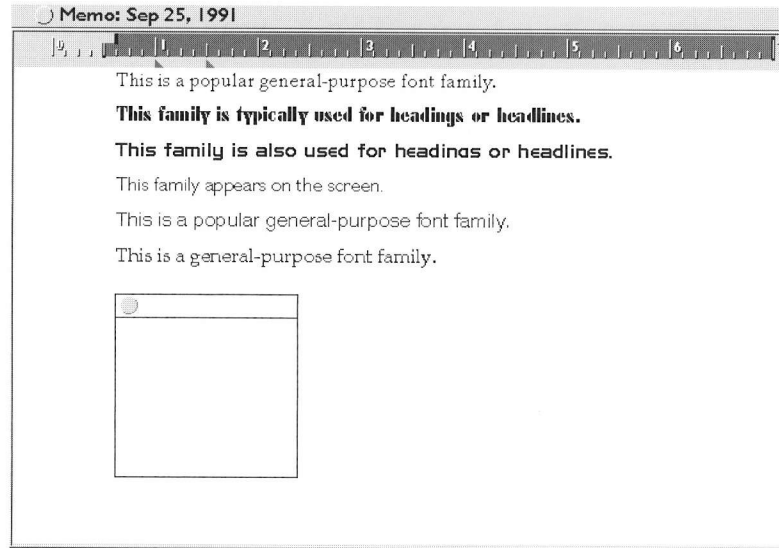


Placing Stick-Ons

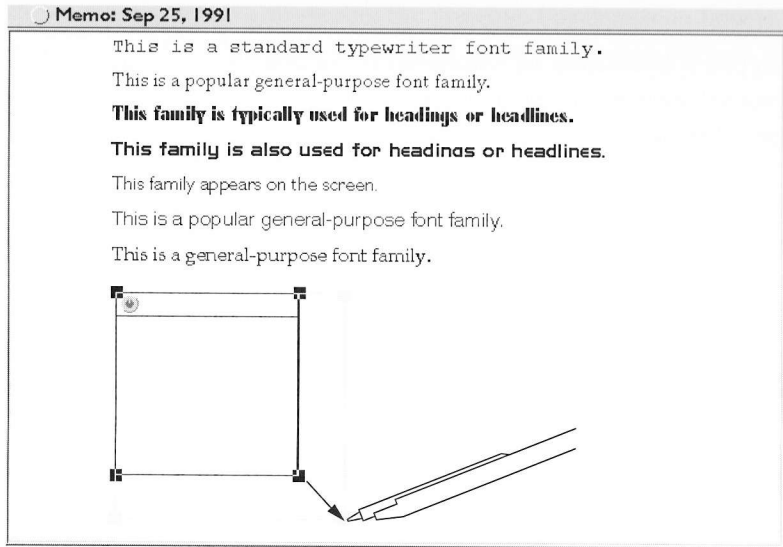
You can place a stick-on in any document, or in any text field that accepts scribbling, such as the Notes field in Calendar. To place a stick-on—which consists of a single sheet of paper—drag a copy of the stick-on into your document, as shown in the following illustration of a graphics stick-on being placed in a Memo document:



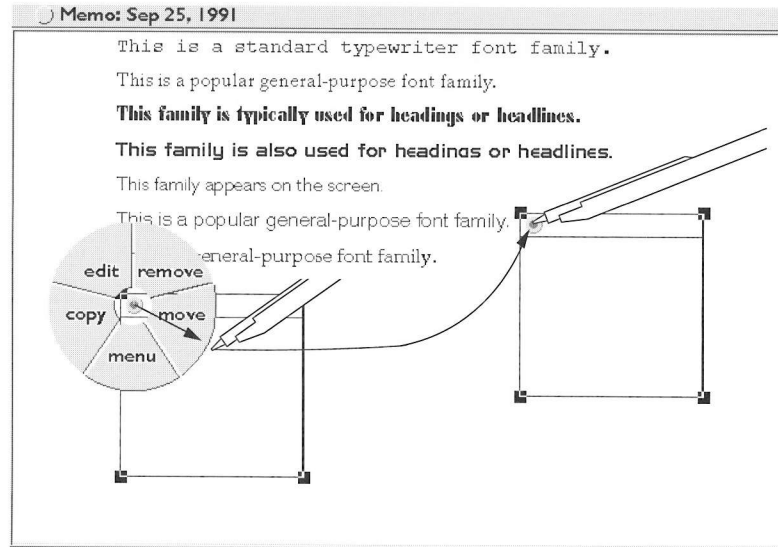
Once you stop dragging the stick-on, it gains a light gray border and a title bar with a command compass. (There's one exception: the Chart stick-on has neither a border nor a title bar.)



To resize the stick-on, tap the title bar, which selects the stick-on, and drag the resizers that appear at the stick-on's corners.



To move the stick-on to a new spot, use the Move command in the stick-on's command compass.



Working in Stick-Ons

The Graphics, Scribble, and Text stick-ons are stick-on versions of three Momenta applications and, aside from the stick-on properties discussed above, work more or less like those applications. Thus, the Graphics stick-on works like the Presenter application; the Text stick-on like the Memo application; and the Scribble stick-on like the Notetaker application.

You work inside these stick-ons much as you work with the applications the stick-ons resemble. For example, you create a graphic object in the graphics stick-on much as you create a graphic object in the Presenter application—by drawing in it and by using the commands in

the stick-on's compass to modify the drawing. For details on how to work within the Text, Scribble, and Graphics stick-ons, see Chapter 7: Creating Memos, Notes, and Graphics.

Standard Stick-On Menu Commands

Each stick-on's menu, which you open by choosing the Menu command in the stick-on's command compass, contains three standard commands:

Hide Title Bar

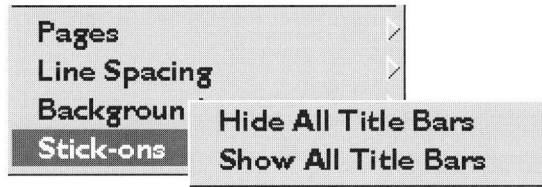
Choosing this command hides the stick-on's title bar. To get the title bar back, choose the Show All Title Bars command in the application menu.

Hide Border and Show Border

Choosing these commands hides or shows the stick-on's border. If you choose Hide Border and Show Title Bars, the title bar is shown in black but the border is displayed in gray. If you choose Hide Border and Hide Title Bar (or Hide All Title Bars), both the title bar and the borders disappear. When you print the document, the stick-on is printed as it's displayed on the screen.

In addition to these commands, each kind of stick-on contains additional commands that are the same as the commands for the corresponding application (that is, Presenter, Memo, or Notetaker).

If the application, such as Memo, allows the use of stick-ons, its application menu has a Stick-ons command with the following subcommands:



Hide All Title Bars

Hides the title bars of all stick-ons in the document.

Show All Title Bars

Reveals the title bars of all stick-ons in the document.

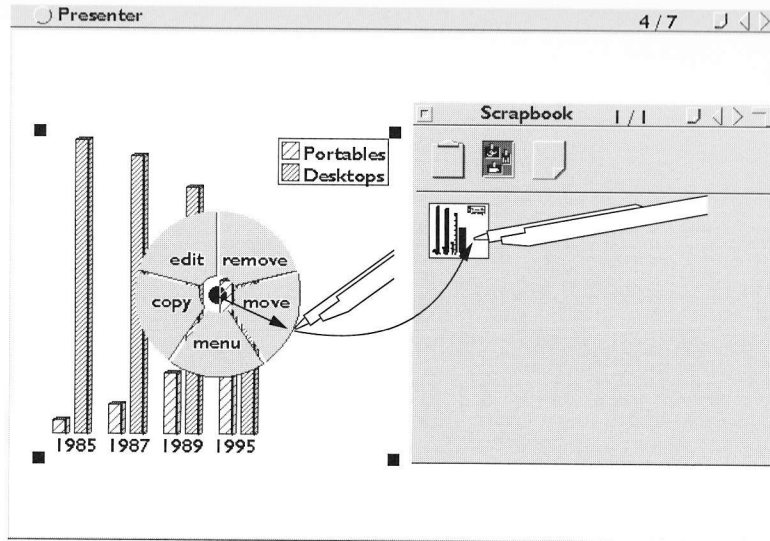
Transferring Information between Documents

You can transfer text, graphics, and other information between documents by using the Scrapbook and the Clipboard, located in the Paper Tray on the right side of the dock.



Using the Scrapbook

You can put any stick-on, text, or graphic selection into the Scrapbook, where it stays until you're ready to put it into a document. To place something in the scrapbook, all you have to do is select it and drag it there, using the Move or Copy command in the object's command compass.

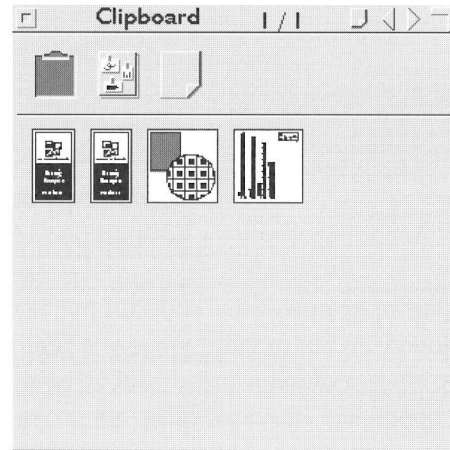


Objects are displayed in the Scrapbook like pictures in a photo album. To move, copy, or otherwise manipulate an object in the Scrapbook, select it and use the selection's command compass. To add pages to the scrapbook, and to move between pages, use the new page and next and previous pages controls in the title bar.



Using the Clipboard

The Clipboard contains the last five objects you removed from documents using the command compass' Remove command and/or copied using the compass' Copy command.



You can retrieve an item from the Clipboard by selecting it and dragging it out using the Move command in the item's command compass.

Chapter 6: Handprinting Recognition

No computer can accurately decipher a scribbled note and turn it into printed text. But the Momenta Computer can identify your writing and correctly convert it into printed text—provided you write in a neat and consistent way. Called handprinting recognition, this process lets you create documents without typing a single word.

As explained earlier in this manual, all paper on the computer performs handprinting recognition, with one exception: Paper labeled with a small pen in the upper right, such as Notetaker paper or Scribble stick-ons. Such paper simply displays your writing or drawing as you entered it.

Printing Legibly

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If someone else can't read your handprinting, the computer won't be able too, either. So you should always handprint according to the following guidelines, which will greatly improve the computer's recognition rate:

- Hold the stylus firmly against the screen, or ink may not be laid down properly.

Right Way Pumping Iron

Wrong Way Pumping Iron

- Print clearly and consistently, but in a way that feels natural and normal.

Right Way 76 Llamas for Rent

Wrong Way 76 Llamas for Rent

- Don't make stray marks.

Right Way Sloppy Joe

Wrong Way Sloppy Joe

- Leave a consistent amount of space between characters, and leave even more space between words.

Right Way Unconnected Thoughts

Wrong Way Connected Thoughts

- Don't make the characters so small that someone would need a magnifying glass to read them.

Right Way Close Encounters

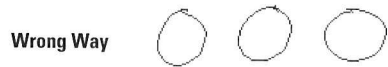
Wrong Way close Encounters

- Make the difference between upper and lower case letters clear.

Right Way K k V v U u

Wrong Way K k Vv Uu

- Make the difference between similarly shaped characters clear.



Setting Up a Dictionary

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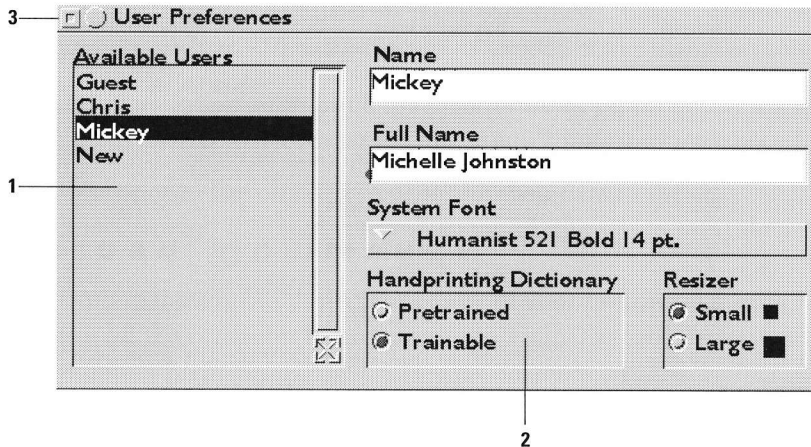
The Momenta Computer doesn't need a sample of your writing to perform handprinting recognition, although it'll do a much better job if it knows what your handprinting looks like—so it's strongly recommended that you provide such a sample.

It'll take you about 30 minutes to provide the sample—the procedure is called training the handprinting dictionary—but it'll be time well spent, since it'll enable the computer to recognize your handprinting with greater accuracy.

But you don't have to train the dictionary if you don't want to (for example, if you don't plan to do much handprinting). The computer has a pretrained dictionary, based on a generic handprinting style, that it can use instead. You'll be much better off, however, if you train your own dictionary.

Using the User Preferences accessory, you tell the computer whether you want to use the computer's pretrained dictionary, or whether you want to train your own. If several people are going to use the computer, they can each train their own dictionary.

You must be a registered user to train your own dictionary. If you're not a registered user, you can become one by choosing the Enter New User command from the User Preferences menu and typing your name and full name in User Preferences. For more information, see Chapter 9: Managing Your Time and Work.



1. Available Users list

If you're not a registered user, select Guest in the Available Users list, which lets you use the pretrained dictionary.

2. Handprinting Dictionary area

If you're a registered user, select either the Pretrained or Trainable dictionary. If you select Trainable, you should immediately go to the Handprinting Trainer application and train a handprinting dictionary; the Trainer is described later in this chapter.

3. Close button

Close User Preferences when you're done.

Pretrained Commands

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The characters that you can use for certain commands have been pretrained for you. You can edit these, if you wish, using the Handprinting Editor. These are the pretrained commands:

Commands	Text Spacing	Graphics
Select	•	Back Space
Paste	↶	Return
Line Thru	→	Space
Group	↻	Tab
Check	✓	



Using the Handprinting Trainer

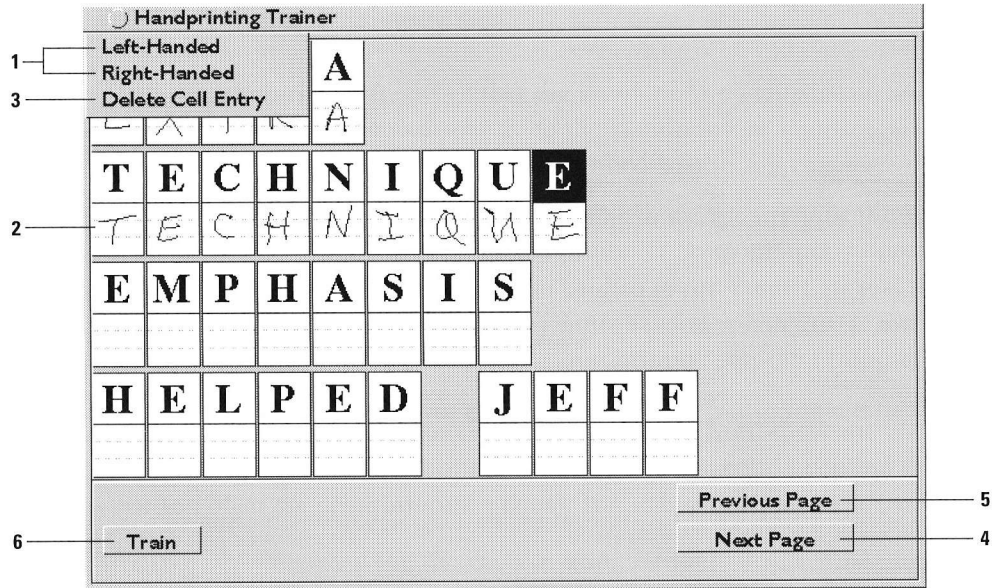
.....

You give the computer a sample of your handprinting—that is, you train the computer's handprinting dictionary—through the Handprinting Trainer application, which contains all upper and lower case characters, numbers, and the most common punctuation marks and mathematical symbols, such as percent (%) and the dollar sign (\$).

If you want to train the dictionary in other, less commonly used characters, punctuation marks, and mathematical symbols, you can do so through the Handprinting Editor, which is discussed below. The Editor includes parentheses, braces, square brackets, and mathematical symbols, such as +, /, and =, as well as various marks that you can use to give commands, such as backspace.

When you open the Handprinting Trainer, you're presented with the first of about a dozen pages of text. The object is to print the characters in the cells. There are about 600 characters altogether, and it should take you about 15 minutes to print them all.

If you're interrupted during the course of your printing and can't finish the Trainer, don't turn off the computer but return to the Trainer as soon as you can. If you turn off the computer prematurely, the characters you entered in the Trainer are lost and you have to start all over again. After you're done, the computer needs another 15 minutes to create the dictionary, during which time you won't be able to use the machine for other purposes.



1. Left-Handed and Right-Handed commands

The Trainer is preset for right-handed users. If you're left-handed, go to the Trainer's application menu and choose the Left-Handed command, which reorients the position of the cells on the pages and thus makes it easier for you to fill them out.

2. Training cells

Printing at your normal pace and normal handwriting, and keeping in mind the legibility guidelines listed earlier in the chapter, handprint the indicated characters in the cells.

3. Delete Cell Entry command

If you don't like an entry—for example, it's sloppy—you should delete it. Select the cell (tap the part displaying the character you're supposed to enter), and then choose the Delete Cell Entry command. You can delete more than one cell entry at a time.

4. Next Page button

When you've filled out the cells on a page, turn to the next page by tapping the Next Page button. You can move from page to page and delete and rewrite your entries until you're pleased with them.

5. Previous Page button

To go back a page, tap the Previous Page button.

6. Train button

When you're done with the last page and satisfied with all your entries, tap the Train button. Remember, the computer needs about 15 minutes to store your entries and create a handprinting dictionary, during which time you won't be able to use the machine. While the computer is training the dictionary, you'll see a gauge that indicates how the training is progressing.

Editing the Dictionary

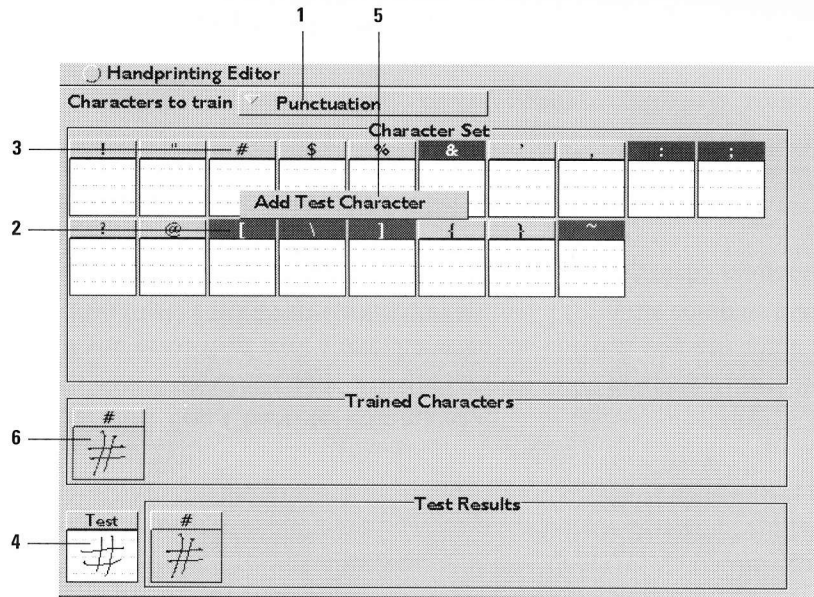
.....

If a character is often misrecognized—for example, the upper case letter “O” is being mistaken for a zero “0”—you may be able to improve the computer's recognition rate by using the Handprinting Editor or the Quick Handprinting Editor. The Handprinting Editor lets you edit the handprinting dictionary that you created in the Trainer, and train the computer in characters that aren't in the Trainer. The Quick Handprinting Editor also lets you edit the dictionary. It's designed to let you fine-tune characters right after you've used them and seen that their recognition rate isn't as high as it should be.



Using the Handprinting Editor

When you open the Handprinting Editor, you get a page like the following one:



1. Characters to train button

Choose a character set from the “Characters to train” pop-up list. There are eight categories: lower case letters, upper case letters, numbers, text spacing, commands, punctuation, graphics, and operators. (The commands, text spacing, and graphics symbols have been pretrained for you, but you can change them if you wish. The pretrained symbols are listed earlier in this chapter.)

2. Untrained character

If the bar containing a character is dimmed, the dictionary lacks that character. To enter a character, print it in the box. Your entry appears in the Trained Characters area.

3. Trained character

If the bar above the character isn't dimmed, the dictionary has that character, and you can view the various versions of it by tapping the bar above the character. The characters appear in the Trained Characters area.

4. Test box

When you've entered a character in the dictionary, you should test it by handprinting it in the Test box. The computer matches it to similar characters in the dictionary, and displays the resulting matches in the Test Results area, with the best matches appearing first.

5. Add Test Character command

If you're satisfied with a test character you entered, you can add it to the dictionary by choosing the Add Test Character command from the compass that appears when you select the character's box at the top of the page. (Entering many samples of a character won't necessarily improve the character's recognition rate, since the computer usually discards duplicate samples. Also, the smaller your dictionary, the faster the recognition process.)

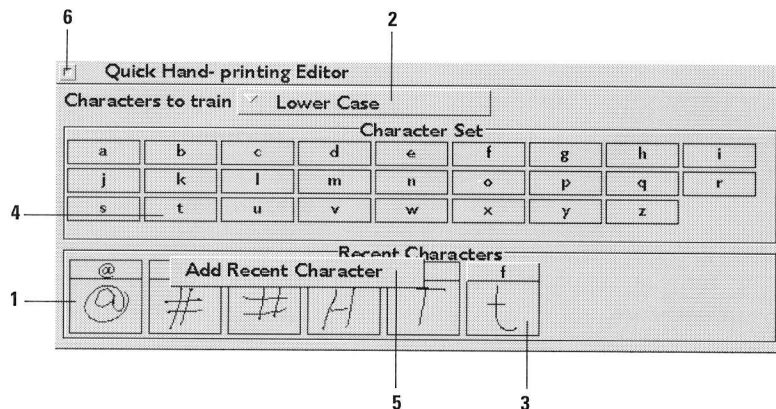
6. Trained Characters area

To delete a particular sample character from the dictionary, select that character in the Trained Characters area and choose the Remove command from its command compass menu. You might want to delete characters that aren't being recognized well, and replace them with characters that are being recognized accurately.



Using the Quick Handprinting Editor

Opening the Quick Handprinting Editor displays the following page:



1. Recent Characters

Your most recently printed characters are automatically relayed to the Quick Handprinting Editor, where they appear in the Recent Characters cells at the bottom of the page.

2. Characters to train button

To add a character to the dictionary, first select the character group you want by tapping on the button next to “Characters to train” and selecting one of the character sets from the list.

3. Handprinted character to add to the dictionary

Next select the sample character in the Recent Characters field that you want to add to the dictionary; for example, in the above illustration you’d tap the cell containing the letter “t,” which the computer has incorrectly recognized as the letter “f.”

4. Character to train

Using the command compass for the letter “t” in the character set at the top of the editor, choose the Menu command. This displays the Add Recent Character command, the only command on this menu.

5. Add Recent Character command

Tap on Add Recent Character command to add the sample character to the dictionary as a sample of “t.”

6. Close button

Close the Quick Handprinting Trainer by tapping on its close button.

Enjoying Handprinting Recognition

Handprinting recognition is one of the Momenta Computer's most powerful features. After you've learned how to train and edit your dictionary, you'll have fun refining your entries and training the computer to recognize your handprinting. If the computer misses an entry here or there, you can open a cell editor (described in the previous chapter), reenter the misrecognized character and move on. If you're going to enter large amounts of text, you should probably use the hardware keyboard.

Chapter 7: Creating Memos, Notes, and Graphics

Using Momenta Memo, you can create memos and other small documents. Memo is a basic word processor, easy to learn and use, with many of the features that people have come to expect from word processors, such as a ruler that you can use to set margins, tabs, and indentation. Unlike other word processors, however, you can handprint in it—and your handprinting is recognized and turned into printed text. You can also type in it.

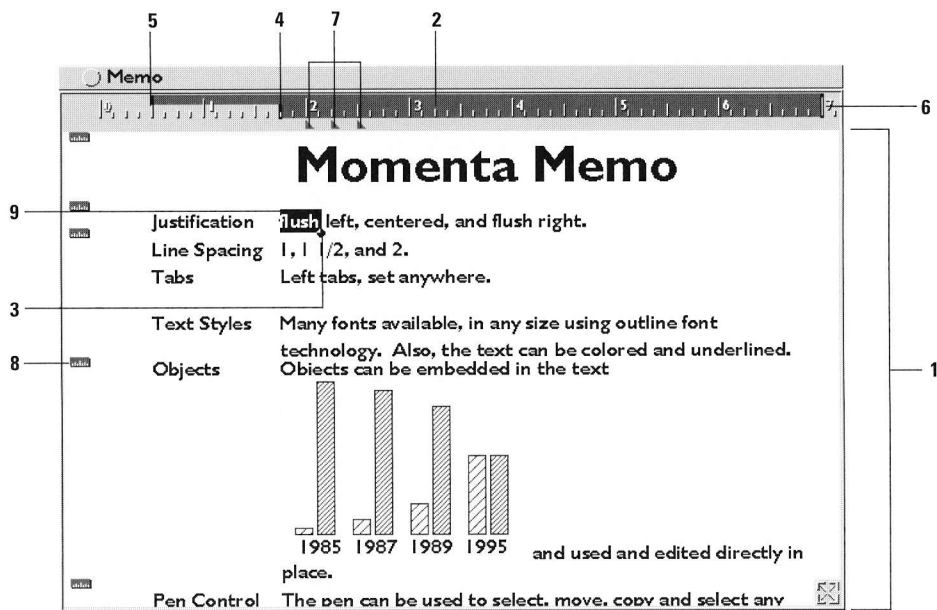
Using Momenta Notetaker, you can take notes, write lists, and draw simple graphs. It's not a word processor, though—it doesn't recognize your handprinting and doesn't accept typing. It simply records your writing or drawing exactly as you enter it.

Using the graphics tool called Momenta Presenter, you can create accurate and sophisticated drawings. For example, you can put a grid on the page, draw a layout of a house, and vary the thickness of the drawing's lines to represent walls, windows, and other features. Since Presenter recognizes handprinting, you can also label the drawing with printed text.



Using Memo

A page in Memo consists of a ruler, which you use to format paragraphs in your document, and a text region, where you enter text. It also has the standard command compass in the title bar and a standard scroll compass. When you want to insert, select, or edit text, you place the insertion point in the text region, and when you change ruler settings, ruler markers are placed to indicate the change.



1. Text region

Enter text here, either by handprinting or typing. When you handprint in Memo paper, Momenta recognizes your handprinting and turns it into printed text. For a general description of working with text on the Momenta Computer, see Chapter 5. You can also place stick-on paper in the text.

2. Ruler

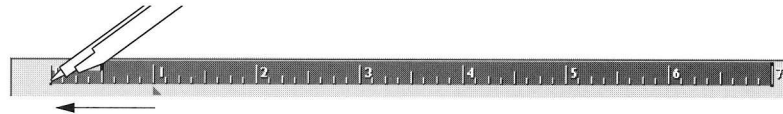
Ruler settings apply to paragraphs. Tap or drag in the ruler to set the left and right margins, indentation, and tab stops. The ruler is divided in half lengthwise, as described below. Ruler changes apply only to the paragraphs that contain the insertion point or selected text, so to change the format of more than one paragraph, first select all paragraphs to be changed.

3. Insertion point

Use the insertion point to insert and edit text. To place the insertion point, tap where you want to insert or edit text. To insert text, handprint anywhere on the page, or type on either keyboard (hardware or Qwerty Tap Keyboard), and the text is entered at the insertion point. You can use all the standard text editing procedures on Memo text, as described in Chapter 5.

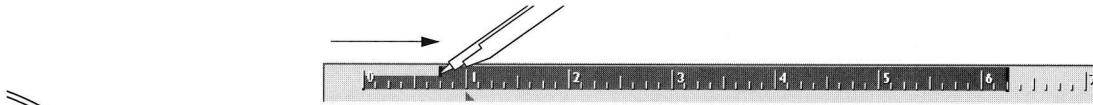
4. Left margin

To set the left margin, drag or tap the left end of the lower level of the ruler.

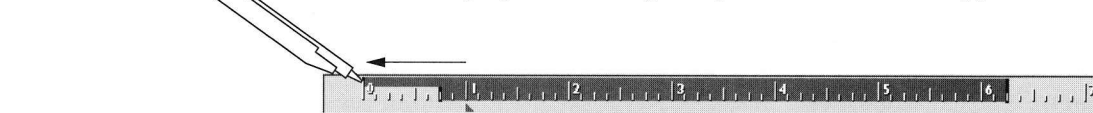


5. Indentation

To set a standard indent, drag or tap the left end of the upper level of the ruler to the right.



To set a hanging indent, drag or tap the left end of the upper level of the ruler to the left.



6. Right margin

To set the right margin, drag or tap the right end of the ruler.



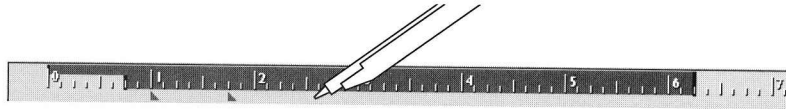
The right end of the ruler isn't divided into upper and lower levels and moves as one unit.

7. Tabs

To set a tab stop, tap the ruler at the desired spot, and a tab marker appears.



To delete a tab stop, just tap the tab marker, and it goes away.



A new Memo document automatically has tab stops every half inch. There are no visible markers for these default tabs on the ruler. When you insert your own tab marker in the ruler, the default tab stops to the left of it disappear. However, the default tab stops to the right of those that you set remain.

8. Ruler marker

When you change the margins, tabs, or indentation for a paragraph to differ from the settings of the preceding paragraph, a ruler marker appears to the left of the changed paragraph. If you change settings for more than one paragraph at a time, the ruler marker is placed to the left of the first paragraph in the group. The new setting applies to all new paragraphs added after it, until there's a new ruler setting (and therefore a new ruler marker).

9. Selected text

To select a block of text, draw a line through it or a clockwise circle around it. The selected text is highlighted. The insertion point appears immediately to the right of the selected text.

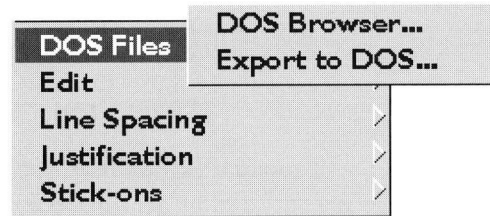
To extend a text selection from where the insertion point is positioned, hold down the button on the stylus and tap on the location in the text where the selection should end.

Memo Commands

In addition to the menu commands common to all Momenta applications, Memo has the following menu commands:

DOS Files

This option lets you work with DOS files in Memo. It has two options:



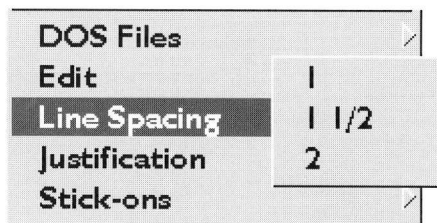
- | | |
|----------------------|--|
| DOS Browser | Bring up the DOS Browser accessory, which is described in Chapter 11. |
| Export to DOS | Prompt the user for the name of a DOS text file in which to write the current Memo document. |

Edit

The Edit menu is described in Chapter 5.

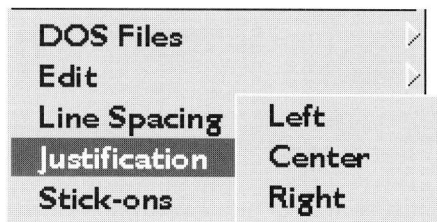
Line Spacing

Set the line spacing for the paragraph or selected text to one, one and one-half, or two spaces.



Justification

Set the justification for the selected text to left-, center-, or right-justified.



In Addition

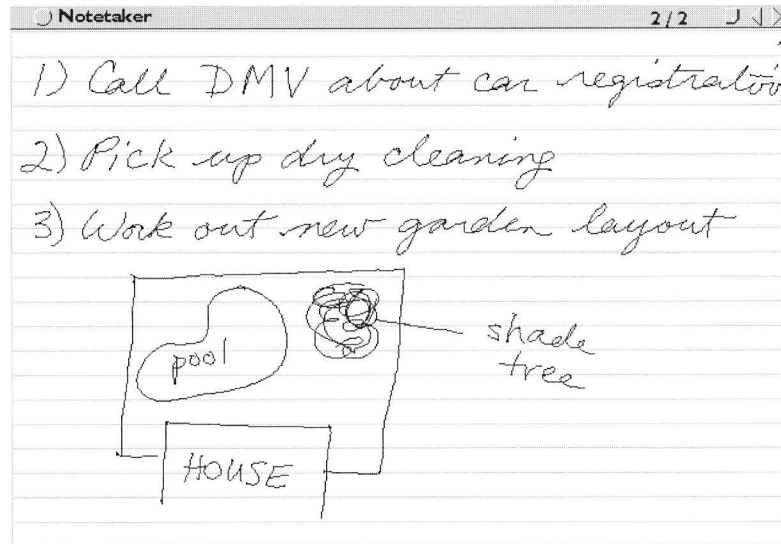
- Memo doesn't show where one page ends and another one begins. You can see where the page breaks fall by printing the document or by looking at it in Mark Up.

- Some symbols to use in Memo are described in Chapter 6. They are: tap, linethru and circle, for selecting a piece of text; backspace, for deleting a character or selection; and return, tab and space.



Using Notetaker

A page in Momenta Notetaker consists of a note region, a sheet of paper that records any marks you make on it, exactly as you make them.



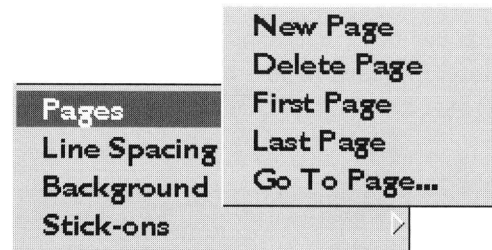
Write notes and draw simple graphics in this region. Notetaker does not try to recognize handprinting, and it does not accept typing. You can place all four kinds of stick-on paper here.

Notetaker Commands

In addition to the menu commands common to all Momenta applications, Notetaker has the following menu commands:

Pages

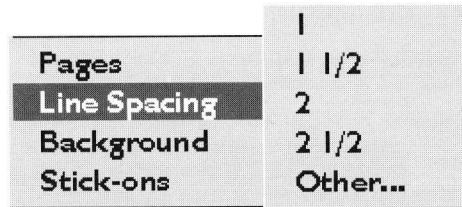
Lets you manage the pages of your Notetaker document.



- | | |
|----------------------|--|
| New Page | Adds a new page after the current page. |
| Delete Page | Deletes the page that is currently visible. |
| First Page | Goes to the first page of the document. |
| Last Page | Goes to the last page of the document. |
| Go To Page... | Prompts for a page number and then displays that page. |

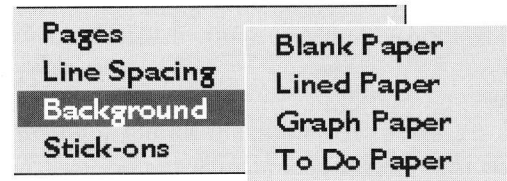
Line Spacing

Lets you set the spacing between lines on your Notetaker paper. The same line spacing applies to all pages of the document. You can choose from the following preset spacings: 1, 1 1/2, 2, 2 1/2. You can also specify any other spacing, in pixels, by choosing Other...



Background

Lets you choose the type of paper for your Notetaker document. The same paper type is used for the entire document. You can choose from the following types of paper:



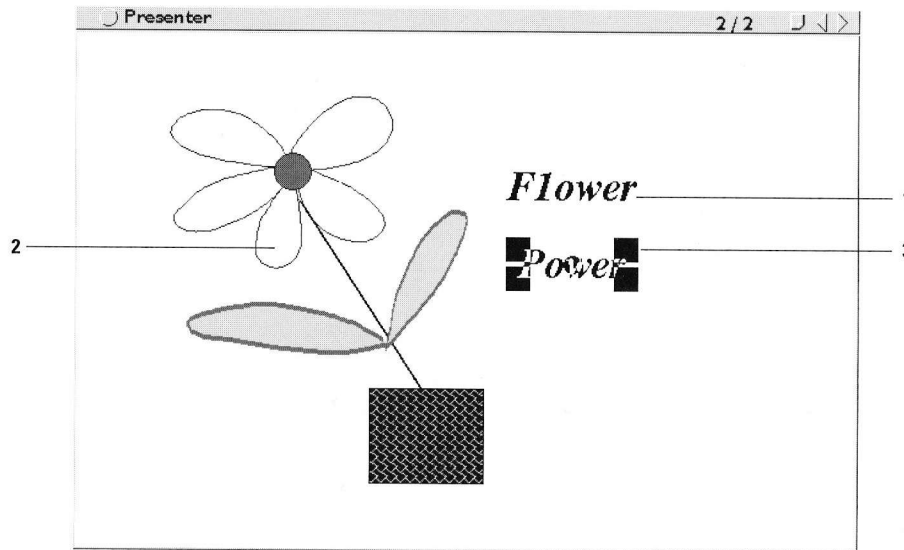
- Blank Paper** Paper with no lines.
- Lined Paper** Horizontally lined paper.
- Graph Paper** Paper lined both horizontally and vertically.

To Do Paper Horizontally lined paper with three columns labeled “√,” “No.,” and “Description.”



Using Presenter

A page in Momenta Presenter is simply a sheet of paper on which you can draw or handprint. Presenter recognizes handprinting. It also accepts typing from either the hardware or the Qwerty Tap Keyboard.

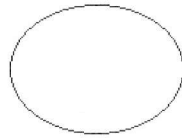


1. Text object

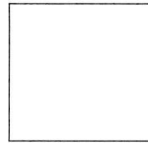
Text objects are made up of letters and numbers that you place on a Presenter page by handprinting or using your favorite keyboard. A text object can contain one or more words.

2. Graphic object

You create graphic objects by drawing on the screen. Any stylus actions you make on Presenter paper that are not recognized as letters or digits become graphic objects. You can train the symbols for the graphic objects rectangle and ellipse. Other graphic objects—lines and splines—cannot be trained.



ellipse



rectangle



line



spline

3. Selected object

Tap on a graphic or text object to select it, as described in Chapter 4. A selected object has a resizer at each corner and a standard command compass at its center. Each type of object in Presenter has a command compass menu with editing commands appropriate to it.

There are two ways to select multiple objects. You can hold the stylus button down and draw a circle around the objects you want to select, or you can select one object and then hold the stylus button down as you tap on other objects to add them to the selection. When multiple objects are selected, each one displays its own resizers and command compass.

Presenter Commands

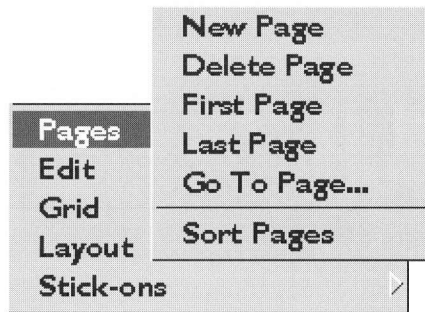
You can edit a selected graphic or text object using commands from the Presenter application menu (in the command compass in the title bar), or from the editing menu in the command compass of the selected graphic or text object. Each of the objects in Presenter has its own set of menu commands. In addition, you can edit the text in a selected text object using the standard Edit command on the compass.

For the Presenter Command Compass

The Presenter application menu contains the standard commands, described in Chapter 5, plus four additional commands:

Pages

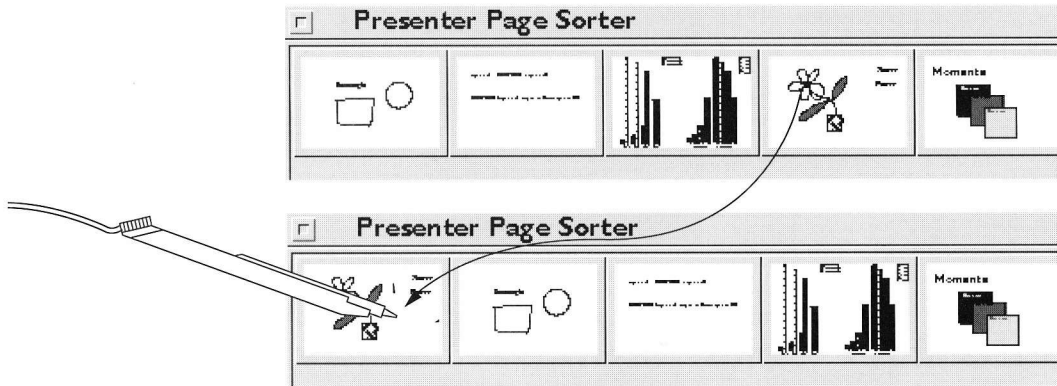
Lets you manage the pages of your Presenter document.



The following menu items are the same as in Momenta Notetaker: New Page, Delete Page, First Page, Last Page, and Go To Page... .

Sort Pages

Change the order of pages in a Presenter document. When you select this command, the Page Sorter appears and displays miniature versions of the pages in your document. To change the order of pages, hold the stylus down on a page and drag it to its new location. All the pages reorder themselves around the page that you move.



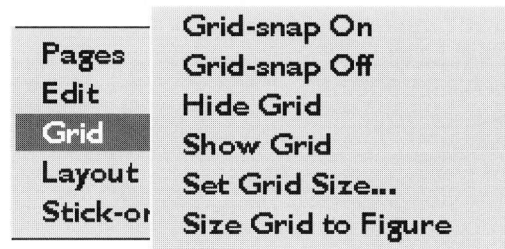
The Page Sorter has its own compass, to let you cut, copy, and move its miniature pages in the normal fashion.

Edit

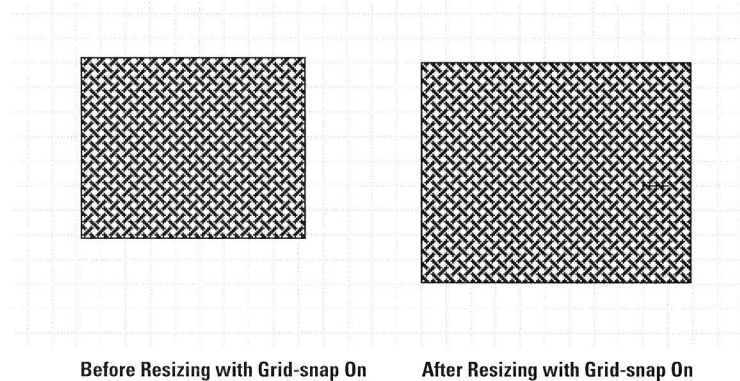
The Edit menu is described in Chapter 5.

Grid

The grid is composed of light gray horizontal and vertical lines that do not print. Use it to accurately place and align the objects on a Presenter page. When you first open a new Presenter document, the grid is turned off and not displayed.



Grid-snap On Turn grid-snapping on. When grid-snapping is on, a graphic object that you move automatically aligns its upper left corner with the nearest intersection on the grid. A text object that you create or move aligns its baseline with the nearest intersection on the grid. All four corners of a resized object line up with grid intersections. Grid-snapping can be on even when the grid is not visible.



Grid-snap Off

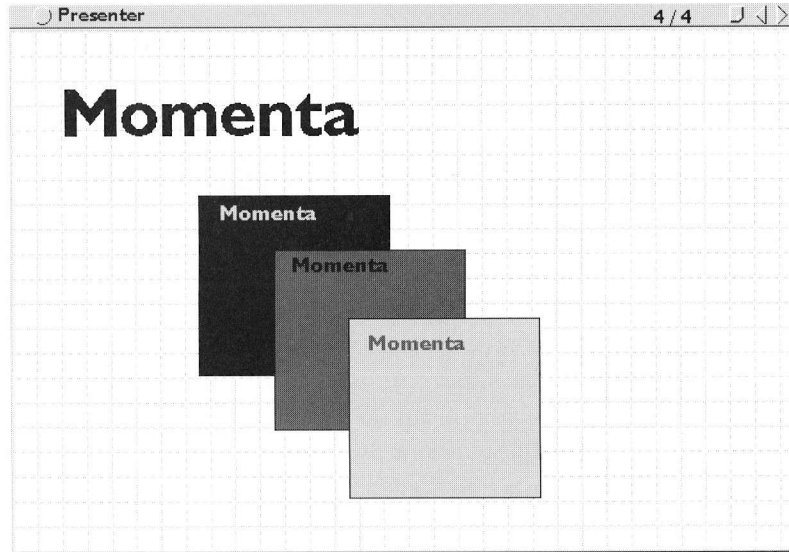
Turn grid-snapping off. When grid-snapping is off, you can freely move, place, and resize objects.

Hide Grid

Make the grid markings invisible.

Show Grid

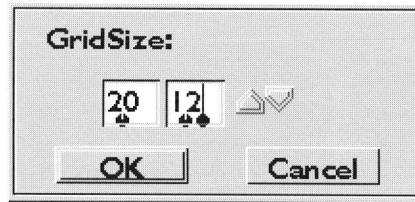
Make the grid markings visible.



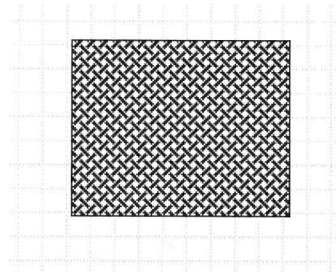
Set Grid Size...

Set the spacing of the grid lines in pixels. Using the grid editor, you can set different spacing for horizontal and vertical lines. The left edit box is for horizontal spacing; the right edit box is for vertical spacing. To change the spacing in either direction, tap in an edit box to select it and enter the spacing you want by handprinting or

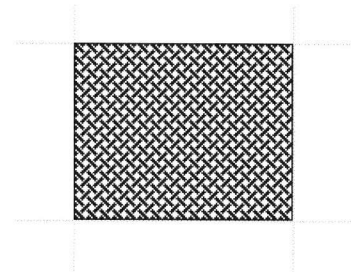
typing. You can also use the up and down arrows to increase and decrease the number in the selected edit box.



Size Grid to Figure Change the grid spacing to correspond to the horizontal and vertical dimensions of the selected object. You must have selected an object first.



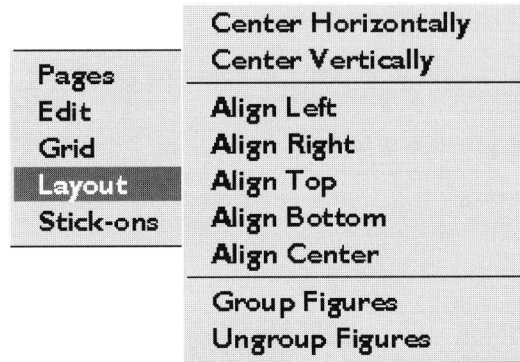
Before sizing the grid to the object



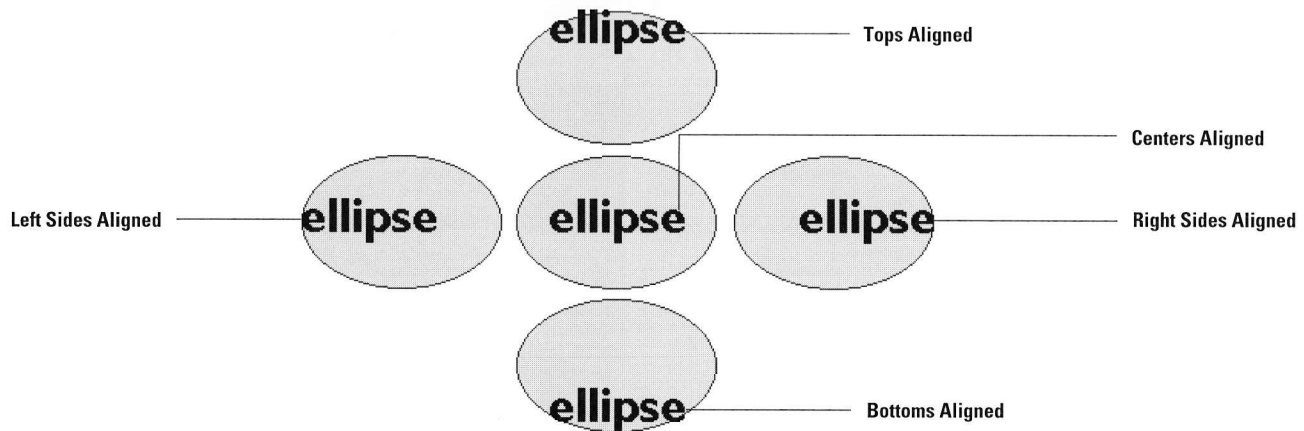
After sizing the grid to the object

Layout

Change the grouping or position of the selected object(s) on the page.



- | | |
|----------------------------|--|
| Center Horizontally | Align the center of the selected object(s) with the horizontal center of the page. |
| Center Vertically | Align the center of the selected object(s) with the vertical center of the page. |
| Align Left | Line up the left edges of the selected objects. |
| Align Right | Line up the right edges of the selected objects. |
| Align Top | Line up the top edges of the selected objects. |
| Align Bottom | Line up the bottom edges of the selected objects. |
| Align Center | Line up the centers of the selected objects. |

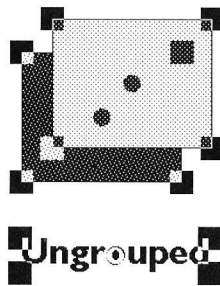


Group Figures

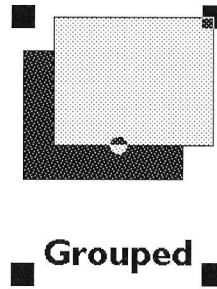
Group the selected objects into a single object. When objects are grouped, the entire group is treated as one object. When selected, it has one set of resizers and one command compass. You can move it, resize it, copy it, and delete it as one unit.

Ungroup Figures

Separate a grouped object back into its component objects.



Ungrouped



Grouped

For the Object Command Compass

Each type of text or graphic object (rectangle, ellipse, line, and spline) has a command compass menu with a set of options appropriate to the object. All object command compass menus have the following two items:

Bring to Front

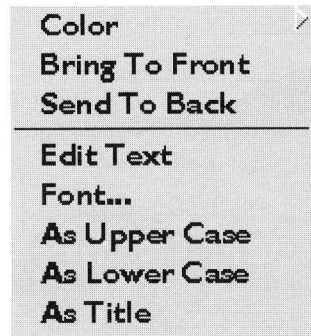
Make this object appear in front of all other objects on the page.

Send to Back

Make this object appear behind all other objects on the page.

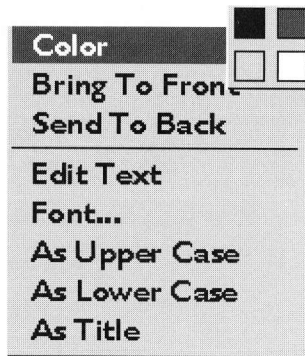
Text Objects

All text objects have the following menu:



Color

Select the color for the type in the text object. The preset color is black.



Edit Text

Bring up a cell editor to handprint changes to the text object.

Font...

Bring up the font form to change the font of the text object.

As Upper Case

Make all letters in the text object upper case, for example, "MOMENTA COMPUTER."

As Lower Case

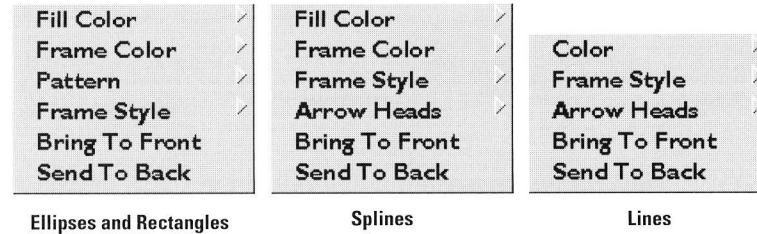
Make all letters in the text object lower case, for example, "momenta computer."

As Title

Capitalize the first letter of each word in the text object and make all the others lower case, for example, "Momenta Computer."

Graphic Objects

Each type of graphic object has its own menu, although these menus have many of the same options:



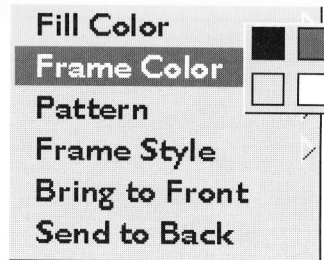
Fill Color

Select the color to fill the interior of the graphic object. The preset fill color is none.



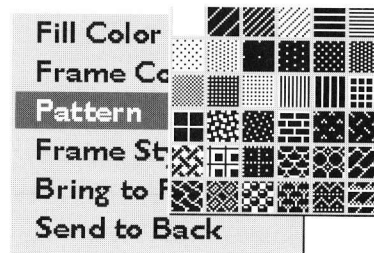
Frame Color

Select the color for the outline of the graphic object. The preset frame color is black.



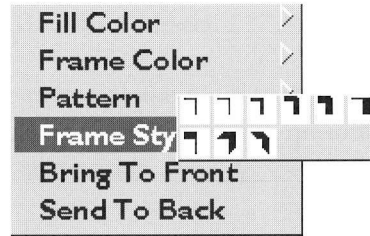
Pattern (ellipse and rectangle only)

Select a pattern to fill the interior of the graphic object. The preset fill pattern is no fill pattern. A pattern applies to both the fill and the frame and takes on the frame and fill colors. This means that if you have, for example, selected dark gray as your frame color and light gray as your fill color, you will see a dark gray frame pattern and a light gray fill pattern.



Frame Style

Select the appearance of the outline for the graphic object. The default frame style is a line one pixel wide.



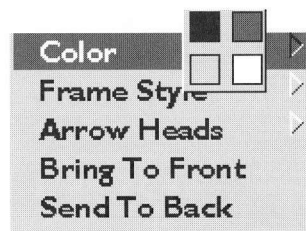
Arrow Heads (lines and splines only)

Put arrow heads on one, both, or neither end of the line or spline. Lines and splines are preset to have no arrow heads.



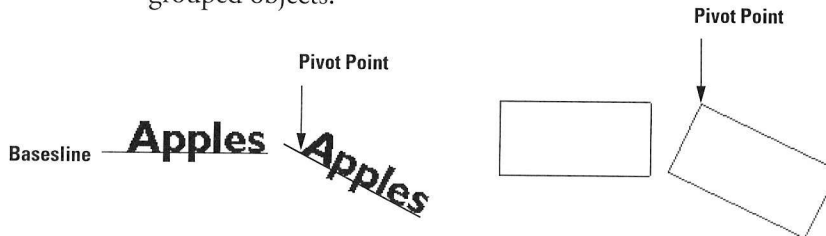
Color (lines only)

Select the color for the line. The preset color is black.



In Addition

- The symbols for ellipse and rectangle are pretrained for use in Presenter. You can change them by using the Handprinting Editor as described in Chapter 6.
- You can change the angle of a selected text or graphic object by pressing the stylus button while dragging one of its resizers. A text object pivots around the baseline of its text at its left edge. A graphic object pivots around its upper left corner. You cannot rotate grouped objects.



- The menu commands for grouped objects are: Bring to Front, Send to Back, Ungroup.
- You can enter text such as titles either by handprinting or by typing with either keyboard. (If you use the Qwerty Tap Keyboard, you need to tap somewhere on the Presenter page before you start typing.) When you handprint, the text origin is where you entered the first character. When you type, the text is placed at the center of the screen. Additional typed characters are added into the text string. Unselecting the text and typing again creates a new text string.
- Recognition tip: Space your characters uniformly when handprinting. Presenter creates spaces between words when the width of the space is wider than the average character width. Larger spaces result in separate words.

Chapter 8: Creating Spreadsheets and Charts

The Momenta Computer includes two applications, PenCell™ and Chart, that let you build sophisticated spreadsheets and charts. PenCell is a powerful spreadsheet tool provided by PenWare, Inc. You can work with spreadsheet data on its own, and you can use it for creating charts. All the usual forms of charts are available—pie charts, bar charts, and so on.



Using PenCell

.....

When you load in an existing spreadsheet or create a new one, a PenCell spreadsheet page appears on the screen. The spreadsheet page consists of a *spreadsheet*, *control buttons*, a *display line*, and a *message line*.

Spreadsheet: Housing Costs Undo Redo Cancel

Cell at E4 [P currency (0)]: PMT(E6 * 1000,\$B\$7 / 1200,12 * 36)

	A	B	C	D	E	F
1		Bay Area Monthly House Payments				
2						
3		Palo Alto	Los Altos	Cupertino	Sunnyvale	Fremont
4	Payment	\$3,888	\$3,628	\$3,189	\$2,858	\$2,607
5	Price (K)	543	506	445	399	364
6	Loan (K)	434.0	405.0	356.0	319.0	291.0
7	Rate	10.50				
8						
9		Quarterly Average House Prices				
10	3Q 90 (K)	550	525	450	400	375
11	4Q 90 (K)	530	490	430	390	350
12	1Q 91 (K)	540	500	440	400	360
13	2Q 91 (K)	550	510	460	405	370
14						
15						

message:

1. Spreadsheet

A PenCell spreadsheet is a grid of columns and rows. Along the left and top are row numbers and column letters, which let you keep track of where you are in the spreadsheet. You can reformat the spreadsheet and its contents in many ways. You can even create a chart from some or all of its data.

2. Cell

The intersection of a row and column is a cell. Cells store data, such as numbers, text (for example, labels), and formulas. You can refer to a cell by its *address*, which is simply its column letter followed by its row number, such as C5 or AB22.

To enter data in an empty cell, use one of the following techniques:

- Handprint a text or numeric value in the cell. When you pause in your handprinting, the recognizer enters the value into the cell.
- Tap in the cell to select it, then type in a value or formula using the hardware keyboard or the Qwerty Tap Keyboard. Press the keyboard's Enter key to signal that you are done entering data for that cell.

To edit data that's already in a cell, use one of the following techniques. In both cases, you need to tap in the cell to select it:

- Select Edit from the cell's command compass. This brings up a cell editor in which you can make changes.
- Write over the data already in the cell.

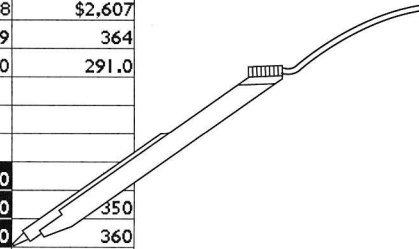
3. Range

A range on the spreadsheet is a rectangular block of adjacent cells. It can be a single cell, one or more rows, one or more columns, or a group of adjacent rows and columns. Use ranges in commands and formulas to perform operations on more than one cell at the same time. To specify a range in a command or formula, you can do one of the following:

- Type or write in the range's address, such as B2:E4. This specifies a range that extends from the cell B2 (upper left) to the cell E4 (lower right).

- Select the range on the spreadsheet by dragging the stylus from one corner of the range to the opposite corner. Drag the stylus down and then across, rather than diagonally.

	A	B	C	D	E	F	
1		Bay Area Monthly House Payments					
2							
3		Palo Alto	Los Altos	Cupertino	Sunnyvale	Fremont	
4	Payment	\$3,888	\$3,628	\$3,189	\$2,858	\$2,607	
5	Price (K)	543	506	445	399	364	
6	Loan (K)	434.0	405.0	356.0	319.0	291.0	
7	Rate	10.50					
8							
9		Quarterly Average House Prices					
10	3Q 90 (K)	550	525	450	400		
11	4Q 90 (K)	530	490	430	390	350	
12	1Q 91 (K)	540	500	440	400	360	
13	2Q 91 (K)	550	510	460	405	370	
14							
15							



PenCell does not support range names.

4. Title bar

At the top of the PenCell page is the title bar, which displays the name of the spreadsheet. If you haven't named a newly-created spreadsheet, PenCell names it for you. You can rename it, if you want, using the Rename option in the Document Manager.

5. Control buttons

In the PenCell page title bar are three control buttons:

- Undo** Undo the last completed spreadsheet operation. When you repeatedly press the Undo button, operations are undone backwards from the most recent to the first operation on the spreadsheet. A description of the operation that you undo appears in the message line (described below).
- Redo** Redo the last operation that was undone using the Undo button. A description of the operation that you redo appears in the message line (described below).
- Cancel** Cancel the command or editing operation in progress before it takes effect.

6. Display line

The display line shows information about the selected cell, including its address, its format, and its content, which is either a value or a formula. This information updates as you make changes to the cell format or content.

Examples: A5 [U label (L)]: Costs
 C4 [P general]: C3 * 4000.0/1000.0
 A5 [U fixed (0)]: SUM(B5:B7)
 A5 [P currency (2)]: B4-B8

7. Formula

A cell can contain a formula that performs calculations using numbers or functions. The calculation can be a simple mathematical operation such as subtracting one number from another, or a more complicated operation such as determining the net present value of a series of future cash flows.

When you enter a formula in a cell, the spreadsheet by default displays the result of the calculation in the cell and the formula itself in the display line. For example, if you enter the formula $15+5$, the spreadsheet displays 20 in the cell and $15+5$ in the display line.

You can use cell addresses and range specifications in formulas to include spreadsheet data in your calculations. For example, suppose you enter the formula $A1+B1$ in cell C3. When A1 and B1 contain the values 15 and 5, the formula evaluates to 20. If you change the entry in either A1 or B1, the result of the formula changes.

For more information on formulas, see the section “Working with Formulas” in Appendix D.

8. Corner cell

Selecting this cell selects the entire spreadsheet. The corner cell has its own command compass menu, which is described below.

9. Message line

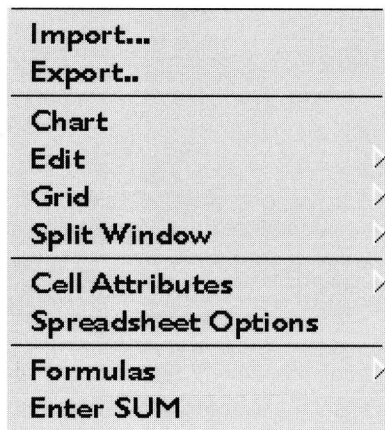
At the bottom of the spreadsheet is the message line, which displays information about what the spreadsheet is doing and about your work. The message line is the place to look for

prompts about how to proceed with an operation, as well as information about just completed operations. These messages are in the PenScript® scripting language.

PenCell Commands

For the Application Command Compass

The PenCell application has the following commands on its application menu:



Import...

Import a spreadsheet that was created in another application, such as Lotus 1-2-3 or Excel. A list of existing, importable spreadsheets appears from which you can select the one you want to view in PenCell.

You can import any spreadsheet file that is in the .WKS or .WK1 format. In other words, you can import any file whose name includes a .WKS or .WK1 file extension, such as Q1Result.WKS or SalesRep.WK1. Most spreadsheet applications, including Lotus 1-2-3, Excel, Quattro Pro, and SuperCalc, use these formats. Place any spreadsheets to be imported in the /pencell subdirectory, which is in the same directory that holds your Momenta image.

If an imported spreadsheet file contains functionality that PenCell does not support (for example, range names), the cells containing these functions come into your PenCell spreadsheet blank. You can then edit these cells to enter data that PenCell can handle.

Export...

Export a PenCell spreadsheet to .WK1 format to use with other spreadsheet applications. An exported file automatically gets the same name as your PenCell spreadsheet plus the .WK1 extension.

Chart

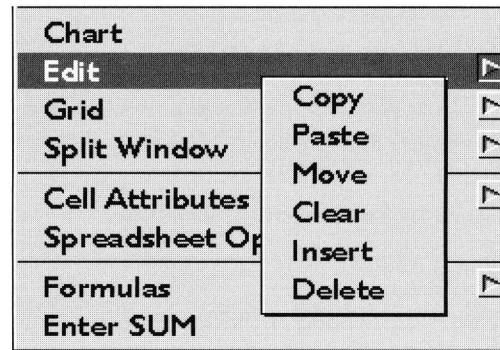
Create a chart for a selected range in your spreadsheet. The procedure for creating a chart is as follows:

- 1. Select the Chart menu command.**
- 2. When you are prompted in the message line for a range, select a range on the spreadsheet as described earlier. This range should not include cells that contain the labels for rows and columns.**
- 3. When you are prompted for a row containing titles, tap on the number of the row that contains the labels for the X axis of your chart.**

4. At the final prompt for a column containing titles, tap on the letter of the column that contains the labels for the Y axis of your chart.
5. A Chart Editor appears displaying your data in a vertical bar graph. The Chart Editor and all its options for changing the appearance of your chart are described in detail in the section “Editing the Chart” later in this chapter.

Edit

Lets you manipulate data in a cell or range in a variety of ways:



Copy Copy the contents of the specified cell or range to the Clipboard.

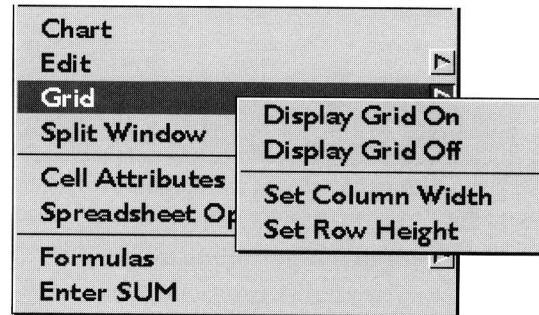
Paste Paste the contents of the Clipboard in the specified cell or range.

Move Move the contents of the selected cell or range.

- Clear** Clear the contents of the selected cell or range without deleting the cell or range.
- Insert** For a selected cell or range, insert a new cell or range of the same size before the selection. You specify whether the insertion is above or to the left of the selection.
- Delete** Delete the selected cell or range. The deletion creates a gap in the spreadsheet. You are prompted to specify how to fill this gap: move data from the right or from the bottom into the gap.

Grid

Lets you change the appearance of the spreadsheet's grid:



Display Grid On Display the grid lines (if they are not visible).

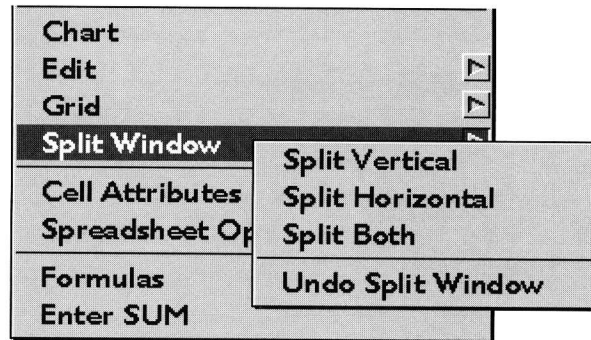
Display Grid Off Hide the grid lines (if they are visible).

Set Column Width Increase or decrease the width of a selected column using the stylus.

Set Row Height Increase or decrease the height of a selected row using the stylus.

Split Window

A split window holds a row or column title area (or both) fixed while you scroll the body of the spreadsheet. You have the following options:



Split Vertical Tap in the column that you want to be the right edge of the fixed (title) area. A split marker appears to the right of the selected column. You can freely scroll the area of the spreadsheet to the right of the split while the columns to the left of the split remain fixed.

Split Horizontal Tap in the row that you want to be the bottom edge of the fixed (title) area. A split marker appears below the selected row. You

can freely scroll the area of the spreadsheet beneath the split while the rows above it remain fixed.

Split Both

Tap in the cell at the column-row intersection that you want to be the boundary for both horizontal and vertical splits. The rows above this point and the columns to the left of it remain fixed while you can freely scroll the remainder of the spreadsheet.

Splits

	A	E	F	G	H	I
1						
2						
3		Sunnyvale	Fremont	San Jose		
6	Loan (K)	319.0	291.0	260.0		
7	Rate					
8						
9						
10	3Q 90 (K)	400	375	350		
11	4Q 90 (K)	390	350	300		
12	1Q 91 (K)	400	360	320		
13	2Q 91 (K)	405	370	330		
14						
15						
16						
17						

Undo Split Window Return the spreadsheet to a single, unsplit window.

Cell Attributes

Lets you manipulate the attributes of a single cell or of a range. If no cell or range is selected at

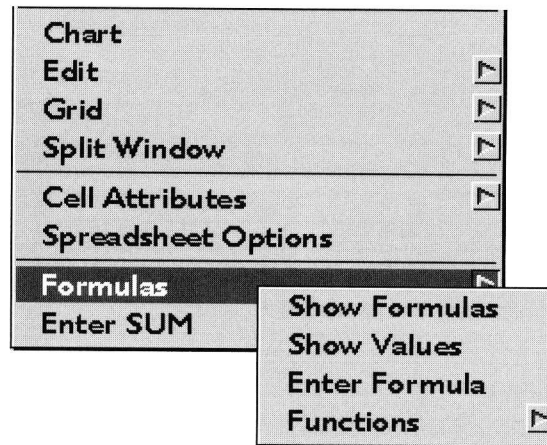
the time you choose this option, you are prompted for a selection in the message line. The suboptions are described below under cell and range menu commands.

Spreadsheet Options

Brings up a dialog in which you can set limits on computation iterations. It also shows you the current values for the default font, format, and label alignment and whether or not cell protection is enabled.

Formulas

This option lets you edit and display cell values that are formulas.



Show Formulas Display the spreadsheet showing the formula for each cell that has one. For cells whose values are not computed by formulas, the value is visible. The spreadsheet shown below is displaying its formulas.

Spreadsheet: Housing Costs Undo Redo Cancel

Cell at

	A	B	C	D	E	F
1		Bay Area Monthly House Payments				
2						
3		Palo Alto	Los Altos	Cupertino	Sunnyvale	Fremont
4	Payment	$PMT(B6 * 10\%$	$PMT(C6 * 10\%$	$PMT(D6 * 10\%$	$PMT(E6 * 10\%$	$PMT(F6 * 10\%$
5	Price (K)	$AVG(B10:B13)$	$AVG(C10:C13)$	$AVG(D10:D13)$	$AVG(E10:E13)$	$AVG(F10:F13)$
6	Loan (K)	$0.8 * B5$	$0.8 * C5$	$0.8 * D5$	$0.8 * E5$	$0.8 * F5$
7	Rate	10.50				
8						
9		Quarterly Average House Prices				
10	3Q 90 (K)	550	525	450	400	375
11	4Q 90 (K)	530	490	430	390	350
12	1Q 91 (K)	540	500	440	400	360
13	2Q 91 (K)	550	510	460	405	370
14						
15						

message: Select B1

Show Values

Display the spreadsheet showing text or a numeric value in each cell. For cells whose values are computed by formulas, the value, rather than the formula, is visible. This is the default spreadsheet display.

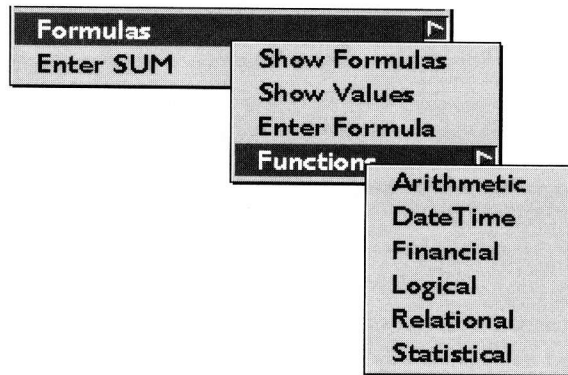
Enter Formula

Tells PenCell that you're going to enter a formula in the selected cell. You can enter the formula by handprinting or by typing with the hardware or Qwerty Tap Keyboard. While the selected cell is waiting for you to enter a formula, selecting any other cell or range causes that cell or range address to become part of the formula.

The selected cell accepts a formula until you either pause in your handwriting or you press the Enter key on the keyboard. If you decide you don't want to keep a formula you've entered, tap the Cancel button at the top of the spreadsheet before you tap Enter.

Functions

Brings up an additional menu of function subcategories. Each subcategory has a scrollable list of the predefined functions in that category. Select the subcategory to see its list of functions.



Arithmetic Perform arithmetic operations, such as addition and division.

Date/Time Compute values based on dates and times. The functions NOW and TODAY use the computer's clock, so the clock must be set properly for date and time values to be accurate.

Financial Calculate annuities, loan payments, cash flows, and so on.

Logical Compute the results of logical formulas.

Relational Perform mathematical comparisons, such as greater than and equal to.

Statistical Perform calculations on lists of values, such as average and standard deviation.

If you select one of these functions while you are entering a formula in a cell, the selected function is placed into the cell and appears in the display line, as shown below. The spreadsheet's message line shows you the structure of the function, including its argument list.

Empty Formula Selected Cell

Spreadsheet: Housing Costs Undo Redo Cancel

Cell at E1: DATE(

	A	B	C	D	E	F
1		Bay Area Monthly House Payments			DATE(
2						
3		Palo Alto	Los Altos	Cupertino	Sunnyvale	Fremont
4	Payment	\$3,888	\$3,628	\$3,189	\$2,858	\$2,607
5	Price (K)	543	506	445	399	364
6	Loan (K)	434.0	405.0	356.0	319.0	291.0
7	Rate	10.50				
8						
9		Quarterly Average House Prices				
10	3Q 90 (K)	550	525	450	400	375
11	4Q 90 (K)	530	490	430	390	350
12	1Q 91 (K)	540	500	440	400	360
13	2Q 91 (K)	550	510	460	405	370
14						
15						

message: DATE(year,month,day)

Function Template

To complete the formula entry for the cell, you can specify cells and/or ranges to use as the values of the arguments by selecting them on the spreadsheet. You can also complete formula entry by handprinting or typing.

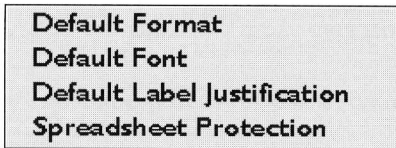
For more on using functions in formulas, see the section “Working with Functions” in Appendix D.

Enter SUM

Lets you directly enter a SUM() formula in a cell. You can specify the set of values to be summed by selecting a range with the stylus.

For the Corner Cell Command Compass

The corner cell has its own command compass with the following menu commands:



Default Format

Set the default format for all cells in the spreadsheet. It is preset to the general format.

Default Font

Set the default font for all cells in the spreadsheet. It is preset to the system font.

Default Label Justification

Set the default justification for labels. It is preset to left-justified.

Spreadsheet Protection

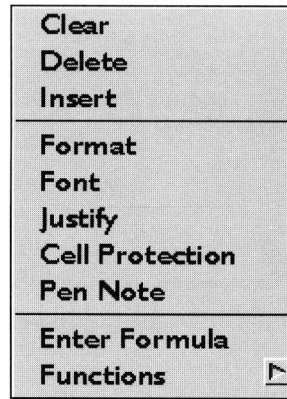
Enable or disable cell protection for the entire spreadsheet. You can only turn on cell protection for an individual cell or range, as described below, when cell protection is enabled for the whole spreadsheet. Cell protection is disabled by default.

To see what the current settings are for all of these options, look at the Spreadsheet Options dialog. You bring up this dialog with the Spreadsheet Options command on the PenCell application command compass menu.

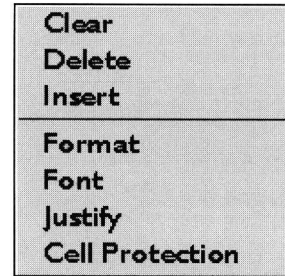
For the Cell or Range Command Compass

A selected cell or range has its own command compass with the standard five commands.

- You can copy and move data from one cell or range to another using the Copy and Move commands. These are equivalent to the Copy plus Paste and the Move commands on the Edit submenu of the PenCell application's command compass.
- The Remove command deletes the contents of the selection. This is equivalent to the Copy plus Clear commands described below.
- The Edit command on a selected cell brings up a cell editor. It does nothing on a selected range.
- The Menu command brings up a menu with the options described below. Note that you can also accomplish many of these operations using commands on the PenCell application menu and/or with command compass strokes, as described above. The menus for cell and range are almost the same—the cell menu has all the options on the range menu plus several more:

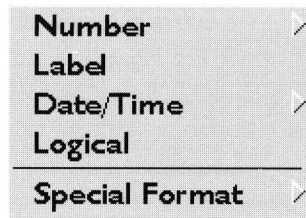


Cell Menu



Range Menu

- Clear** Clear the contents of the selected cell or range without deleting the cell or range.
- Delete** Delete the selected cell or range. The deletion creates a gap in the spreadsheet. You are prompted to specify how to fill this gap: move data from the right or from the bottom into the gap.
- Insert** For a selected cell or range, insert a new cell or range of the same size, before the selection. You specify whether the insertion is above or to the left of the selection.
- Format** Specify the type of data the selected cell or range contains and how the data are entered and displayed.



Number Brings up a selection of possible formats for numeric values.

Label Formats the cell for a string. If the cell contains a formula, the value of the formula should be a string. You can enter strings directly, without quotes.

Date/Time Brings up a selection of possible formats for date and time values.

Logical Causes the cell to contain a logical object (true or false). Logical objects can be computed from logical and relational operations in formulas or can be entered directly in any of the following forms:

true	false
t	f
on	off
yes	no

Special Format Brings up the following formatting options:

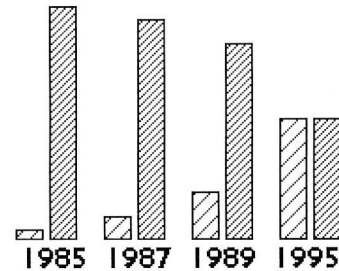
Hidden/Unhidden	Suppresses the display of the contents of the selected cell or range.
Text	Displays the cell's content as text if it is a formula. Otherwise displays the cell's value using the "general" format.
Cell Bar Graph	Displays a bar graph in the cell for a small number. The size of the value that can be graphed depends on the size of the cell.
Font	Brings up the font form.
Justify	Right-, left-, or center-justifies the contents of the cell or range.
Cell Protection	Can be on or off. If cell protection is on, you cannot change the entry in the cell. Cell protection only works for individual cells if it is turned on for the whole spreadsheet, as described above.
Pen Note	(cells only) Brings up a small sheet of stroke paper on which you can record a note about the cell.
Enter Formula	(cells only) Tells PenCell that you're going to enter a formula in the selected cell. See Enter Formula above for more details.
Functions	(cells only) Brings up an additional menu of function subcategories. See the description above for more details.



Using Chart

Momenta Chart paper lets you add a chart to any page in a document that accepts stick-ons, such as Notetaker or Presenter. To create a new chart, first display the page that you want to place the chart on. Then open the Paper Tray and copy a piece of Chart paper. Drag the shadow box onto the page, lift the stylus, and a new chart appears.

The newly created chart is a simple bar chart based on a small set of default data:



This chart is a helpful starting point for the chart you want to create. You can easily modify it by changing the data it's based on, and you can just as easily change its appearance, turning it into a pie chart, a horizontal bar chart, or another kind of chart. You can also enhance it with labels, shadows, and other features.

Chart Commands

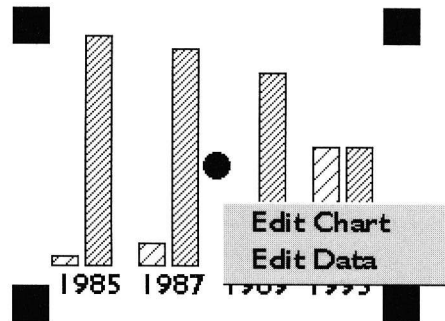
Two commands are available on the menu of a selected chart:

Edit Chart

Modify the appearance of the chart.

Edit Data

Change the numeric data on which the chart is based.



Editing the Data

The Edit Data command opens the Data Editor shown below. In the Data Editor you can specify the values for each dimension or *axis* of your chart, and the value of each data point.

	1985	1987	1989	1995
Portables	5	10	20	50
Desktops	95	90	80	50

1. X axis values

The values to display on the chart's X axis. These can be text or numbers.

2. Y axis values

The values to display on the chart's Y axis. These can also be text or numbers.

3. Data values

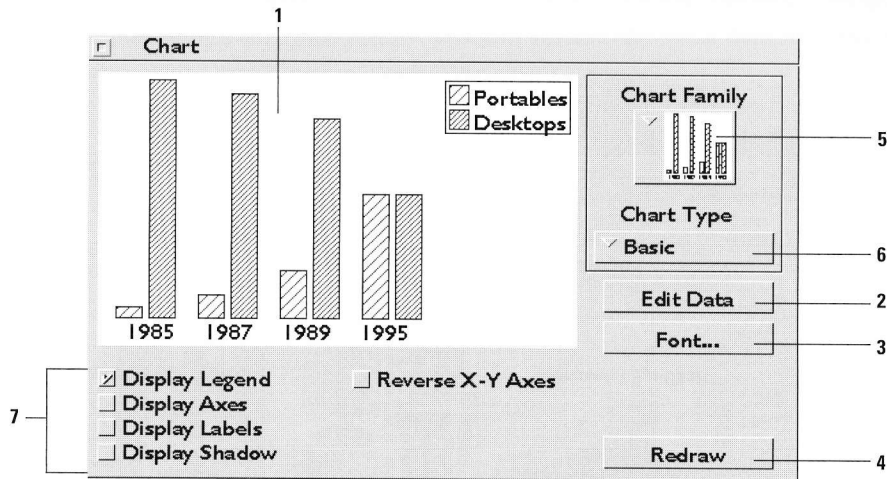
The data values to display. These must be numeric values.

To enter data in the Data Editor, handprint the numbers or text that you want. Your handprinted entries are converted to a string. If there is already a value in a cell, simply write over it to replace it. You can also enter data and labels in cells by typing, if you first tap in a cell to select it.

To update your chart with any data changes, close both the Data Editor and the Chart Editor.

Editing the Chart

The Edit Chart command opens the Chart Editor shown below:



Selecting Edit on the command compass is equivalent to choosing the Edit Chart menu command.

1. Chart display

The chart you're working on is displayed in the upper part of the sheet.

2. Edit Data button

Tap this button to make the Data Editor appear. The Data Editor, which lets you enter the numerical data your chart is based on, is described above. You can also open the Data Editor by choosing the Edit Data menu command, as described above.

3. Font... button

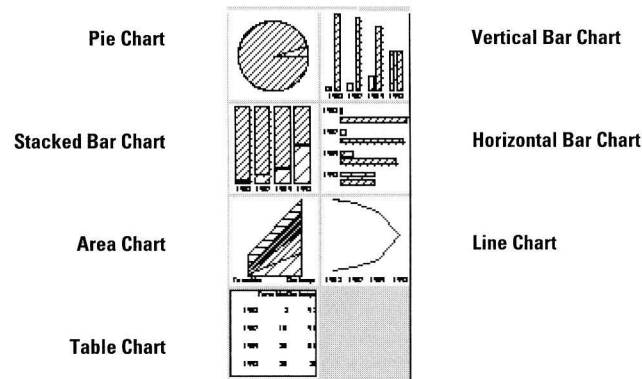
Tap this button to bring up the font form. Any change in the font affects the entire chart. See Chapter 5 for information about the font form. The default font is the system font.

4. Redraw button

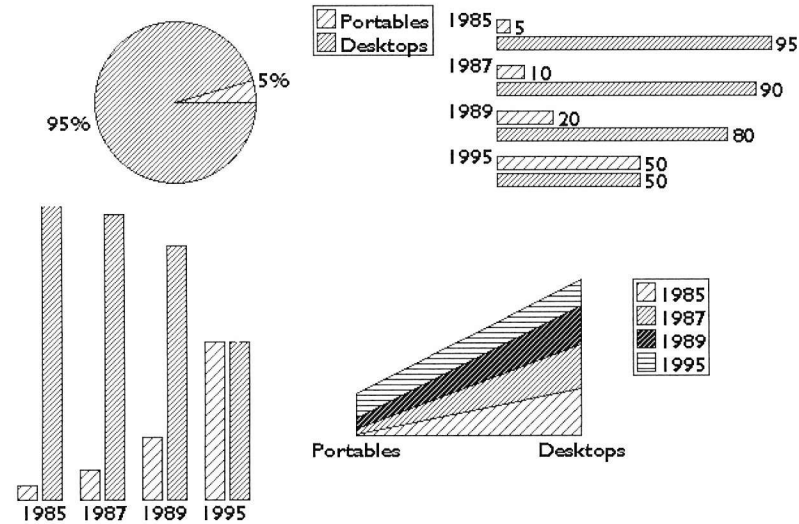
Tap this button to update the chart display with the changes you've made to the chart's appearance.

5. Chart Family button

Tap this button to bring up a menu of choices for the overall chart appearance. The currently selected option appears as the button's label. A vertical bar chart is the default.

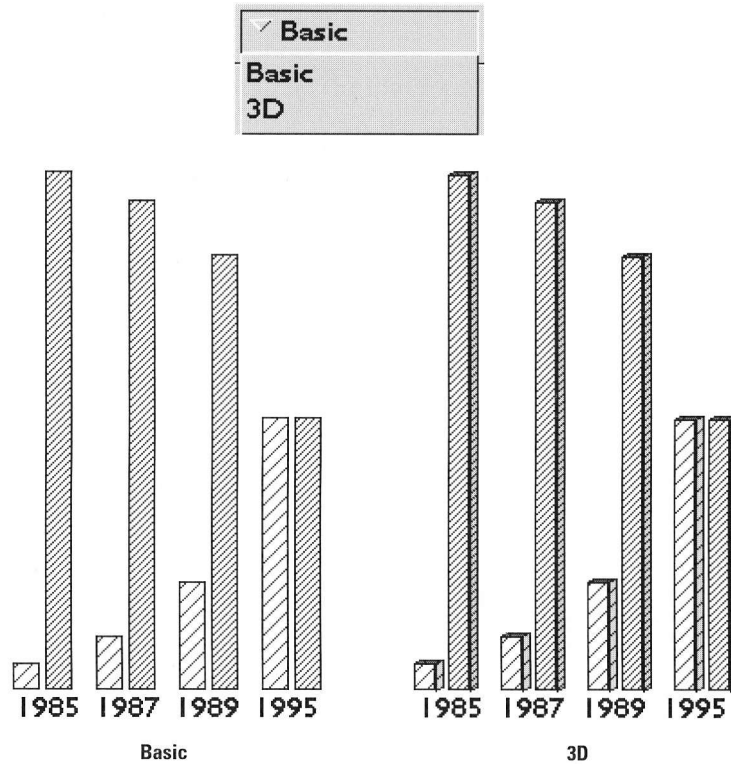


By changing the chart family, you can present the same data in many different ways:



6. Chart Type button

Tap the Chart Type button to bring up a menu of additional options for changing the chart's appearance. The currently selected option appears as the button's label. The options vary from chart to chart, depending on the chart family you select. For example, you can give a vertical bar chart a basic two-dimensional form or a three-dimensional look.



7. Additional display options

Depending on the chart family you use, some or all of the following additional options are available for enhancing your chart's appearance. A check mark in front of an option means that it's selected.

Display Axis

All the relevant chart types (bar charts, area charts, and line charts) by default display one axis labelled with the chart's X or Y values. This option causes a second axis to be displayed, showing the scale of the numerical values graphed in the chart. It also adds lines across the chart perpendicular to the scaled axis. The scale of the axis adjusts automatically to the maximum chart value.

Display Labels

Label the various elements (bars, pie pieces, and so on) in the chart with their values.

Display Legend

Display a legend identifying the elements in the chart (such as the bars of a bar chart) in terms of the values of the axis that is not currently displayed.

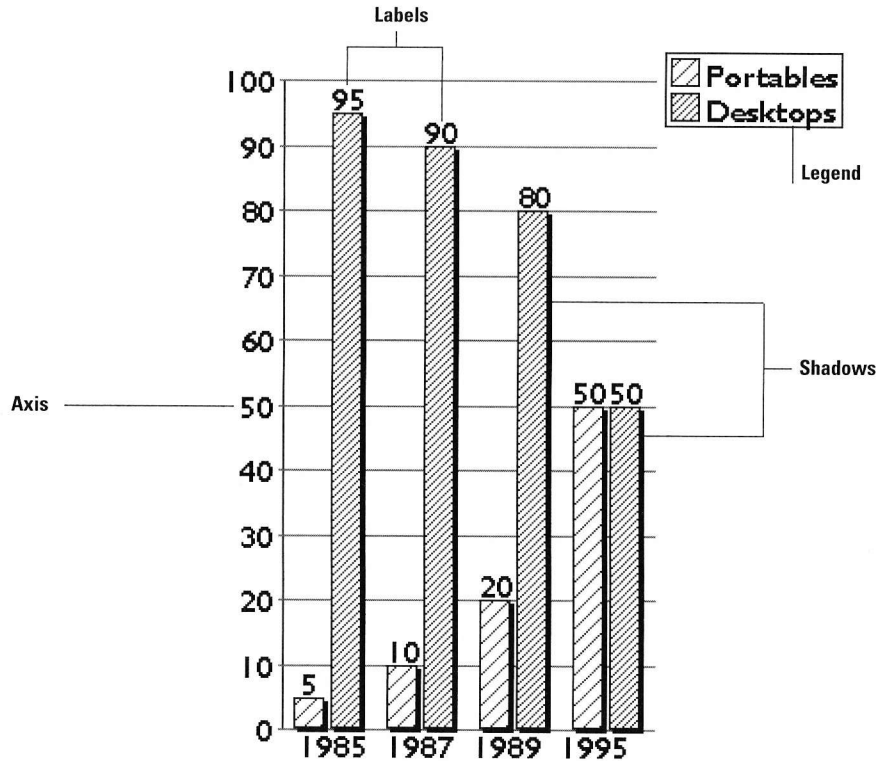
Display Lines

Display lines between the rows and columns of a table chart.

Display Shadow

Display shadows behind the individual elements (bars, pie pieces, and so on) in the chart.

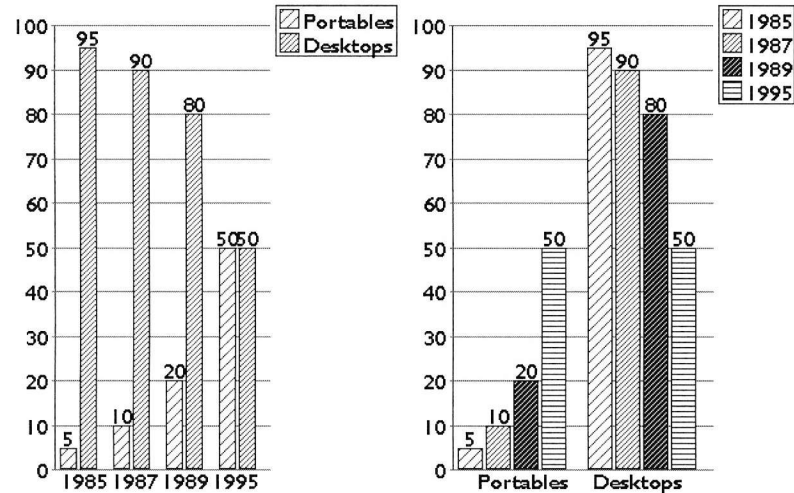
The vertical bar chart shown below has been modified to display a second axis and a legend, as well as labels and shadows.



Reverse X-Y Axes

By default the data in a chart are displayed with reference to the values of the chart's X axis. Choose this option if you want to see the data charted with reference to the Y axis values

instead. (You specify the initial X and Y axes in the Data Editor, as described above.) The example below shows the same data displayed by the X values (years) on the left and the Y values (type of computer) on the right.



In Addition

- If you use the keyboard to enter data in the Data Editor, you can use tabs to move among cells, as well as the keyboard's arrow keys. A carriage return (Enter key) terminates data entry for the cell.

Appendix A: Computer Specifications

Hardware

Processors

- Intel Corp. 80386SX 20 MHz central processor
- Momenta communications controller
- Momenta memory controller
- Momenta liquid-crystal display controller
- Momenta power management and digitizer processor

Internal Memory

- 4 MB RAM
- 0.75 MB ROM, expandable to 5 MB

Mass Storage

- 40 MB internal IDE hard disk drive
- 25 ms hard drive seek time (average)

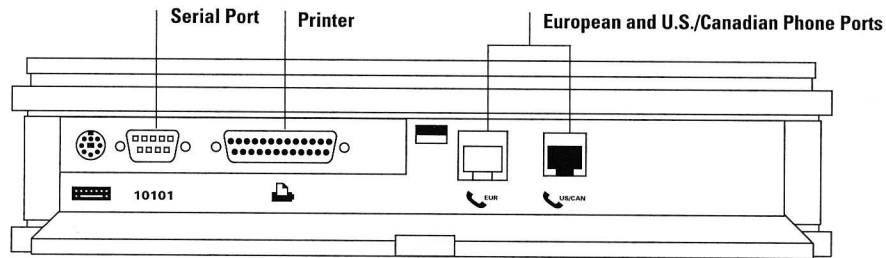
Liquid-Crystal Display

- 8 in. (w) x 6 in. (h) (10 in. diagonal)
- 640 x 480 pixels
- 16 shades of gray (4-bit gray scale)

Fax/Modem

- Hayes-compatible
- Uses industry-standard AT commands
- Operates asynchronously at 300, 1200, or 2400 bps
- Sends and receives faxes at 4800, 7200, or 9600 bps
- Meets CCITT Group 3 fax standards for 4800 and 9600 bps fax transmission
- Uses the following modulation techniques: Bell 103A and 212A; CCITT V.21, V.22, V.22 *bis*, V.27, V.29, and V.42
- Uses MNP[®] Class 4 error correction protocol (with the LAPM protocol) and MNP Class 5 data compression protocol, in accordance with CCITT V.42
- Provides 204 dpi horizontal resolution (approximately 100 lines/inch in standard mode, and approximately 200 lines/inch in fine resolution)
- Offers both tone and rotary dialing
- Works with cellular phones
- Integrated voice support

Interfaces



10101



- IBM PC-compatible RS-232C 9-pin serial port (COM 1)
- IBM PS/2-compatible 25-pin bidirectional parallel port (LPT 1); SCSI devices may be connected using a standard SCSI adapter
- RJ-45 port
- RJ-11 port

Dimensions

- 11.75 in. (w) x 10.5 in. (d) x 1.25-2.5 in. (h)
- 5 lbs 14 oz without batteries but with stylus
- 6 lbs 7 oz with batteries and stylus

Power

- 100 V to 240 V AC, 47 Hz to 63 Hz, using an AC adapter
- Main batteries: 10 AA non-rechargeable alkaline batteries or a rechargeable Momenta NiCad (nickel-cadmium) battery pack
- Backup battery: one 9 V, either a non-rechargeable alkaline or Lithium battery

Operating Environment

- Ambient temperature: 41° F to 95° F (5° C to 35° C)
- Ambient storage or shipping (non-operating) temperature: -4° F to 113° F (-20° C to 45° C)
- Relative humidity: 10% to 80%, non-condensing
- Altitude for operating: -200 ft. to 10,000 ft. (-61 m to 3,048 m)
- Altitude for shipping (non-operating): -200 ft. to 40,000 ft. (-61 m to 12,192 m)

U.S. and Canadian Certifications

- U.S. FCC Rules: Part 15, Class B; fax/modem, Part 68
- Canadian DOC Radio Interference Regulations: Class B; fax/modem, DOC Certified

Bundled Accessories

- Keyboard
- Stylus
- Carrying case
- 10 AA non-rechargeable alkaline batteries
- Rechargeable Momenta NiCad battery pack
- AC adapter/battery charger

- Serial file transfer cable
- RJ-11 telephone cable
- RJ-11 telephone jack adapter

Bundled Software

Applications and Accessories

- Address Book
- Calendar (with audible alarms)
- Handprinting Editor (for handprinting recognition)
- Handprinting Trainer
- In/Out (for faxing and printing)
- Mark Up (for annotating documents)
- Memo (basic word processor)
- Momenta-to-DOS (quick access to MS-DOS)
- Notetaker (for taking notes in longhand)
- On-line Tutorial
- PenCell from PenWare Inc. (spreadsheet)
- Presenter (for graphics and presentations)
- Quick Handprinting Editor
- Various accessories, including a four-function calculator and several tap (software) keyboards

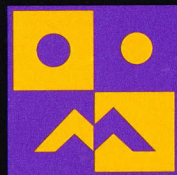
Operating Systems

- Momenta software environment
- MS-DOS (Microsoft Disk Operating System), version 5.0

Other Software

Thirty-three typefaces from the following font families:

- Bitstream Amerigo (serif)
- Broadway (unengraved; headline font)
- Century Schoolbook (serif)
- Courier
- Dutch 801 (Times look-alike)
- Futura Black (headline font)
- Handel Gothic (headline font)
- Humanist (sans serif)
- Swiss 721 (Helvetica look-alike)
- Zapf Calligraphic 801 (Palatino look-alike)



MOMENTA

295 NORTH BERNARDO AVENUE

MOUNTAIN VIEW, CA 94043

PHONE 1-800-MOMENTA

FAX (415) 969-3877