Digitizer Software

USERS GUIDE
PC Edition

CalComp

Digitizer Software

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Table of Contents

1 Introduction

This guide describes how to install and use the CalComp Digitizer Software. The CalComp Digitizer Software ranges from basic drivers that provide mouse functions for your tablet to sophisticated utility programs that provide extended tablet capabilities such as macros, tablet mapping, and tablet configuration. Advanced CalComp tablet features such as Intelligent Configuration and Dynamic Windowing are also included.

Intelligent Configuration is available through the DOS utilities. It keeps track of what programs you are running then automatically sets your tablet to the optimum configuration for that program. Allowing Intelligent Configuration to automatically switch your tablet to the setup your program needs saves you time and increases your productivity.

Dynamic Windowing is available through the Windows Tablet Manager. This powerful feature allows you to set up a group of regions on your tablet that are configured to activate your Windows programs. When you move the pointing device into one of these regions, the program window for that region is automatically made the active window. There is no need to click on any area of the window or any button on the tablet or pointing device, just move the pointing device into the correct region of the tablet. The window is automatically made active.

Software overview

Although the CalComp Digitizer Software is not required to use your tablet as a digitizer, it is required if you intend to use your digitizing tablet in one or more of the following situations:

- You are using AutoCAD
- You are using Windows
- You want to use your tablet as a mouse in DOS applications

The Digitizer Software includes ADI, Windows, and Microsoft mouse compatible drivers. The utilities provided include:

- DOS tablet manager (DBM)
- DOS configuration program (CALDBCFG)
- Windows tablet manager

System requirements

In order to use the Digitizer Software, you will need the following as a minimum:

- IBM PC or 100% compatible computer
- 640Kb RAM
- 1 serial port
- Hard drive or network server drive
- DOS 3.0 or higher
- Microsoft Windows 3.1 or higher (optional)

How to use this manual

This manual provides you with the information you need to successfully install and operate CalComp Digitizer Software. It is designed so that important elements are easily seen. The left margin is used to highlight categories of information with headings and special notes. Any words printed in `computer type` are commands that you need to type at your keyboard. Words within angle brackets, < >, are names of keys you need to press. For example, <Enter> means to press the Enter key.

2 Getting Started

This chapter describes how to install the CalComp Digitizer Software. Before you install the software, make sure you have installed your CalComp digitizing tablet as directed in your hardware manual.

Installing the drivers and software

The Digitizer Software can be run under DOS 3.0 or higher and Microsoft Windows 3.1 or higher. You must install the CalComp Digitizer software if you intend to use your digitizing tablet in one or more of the following situations:

- You are using AutoCAD

- You are using Windows

- You want to use your tablet as a mouse in DOS applications

Step 1. Insert the disk into the floppy drive

Insert the Digitizer & Mouse drivers disk into the appropriate floppy drive (e.g., A or B).

Step 2. Begin the installation program

Begin the installation program by entering:

```
A: <Enter>
INSTALL <Enter>
```

Type B: if you are using the B drive. You can cancel installation at any time during the program. To cancel, press <Esc>.

The preliminary screens ask you if you want to begin installation, the letter of the drive you will be installing to, and the directory name you will be installing to. Default responses appear at the bottom of the screen. If you wish to use the default, press <Enter>. For a different response, type the new information then press <Enter>.

Step 3. Select your installation options

```
┌─────────────────────────────────────────────────────────────────────┐
│ DIGITIZER SOFTWARE DRIVER SET III                      VERSION 1.8   │
└─────────────────────────────────────────────────────────────────────┘
┌─────────────────────────────────────────────────────────────────────┐
│                     Software Selection                                │
│                     ──────────────────                                │
│               Press <Esc> to terminate this install.                  │
│                                                                       │
│           1) DOS MOUSE DRIVERS                                        │
│                                                                       │
│           2) ADI PROTECTED MODE DRIVERS                              │
│                                                                       │
│           3) MICROSOFT WINDOWS TABLET DRIVERS                        │
│                                                                       │
│           4) DOS, ADI & MICROSOFT WINDOWS (All The Above)            │
│                                                                       │
└─────────────────────────────────────────────────────────────────────┘

┌─────────────────────────────────────────────────────────────────────┐
│      Which operating environment do you wish to install (1-4)? -->1  │
└─────────────────────────────────────────────────────────────────────┘
```
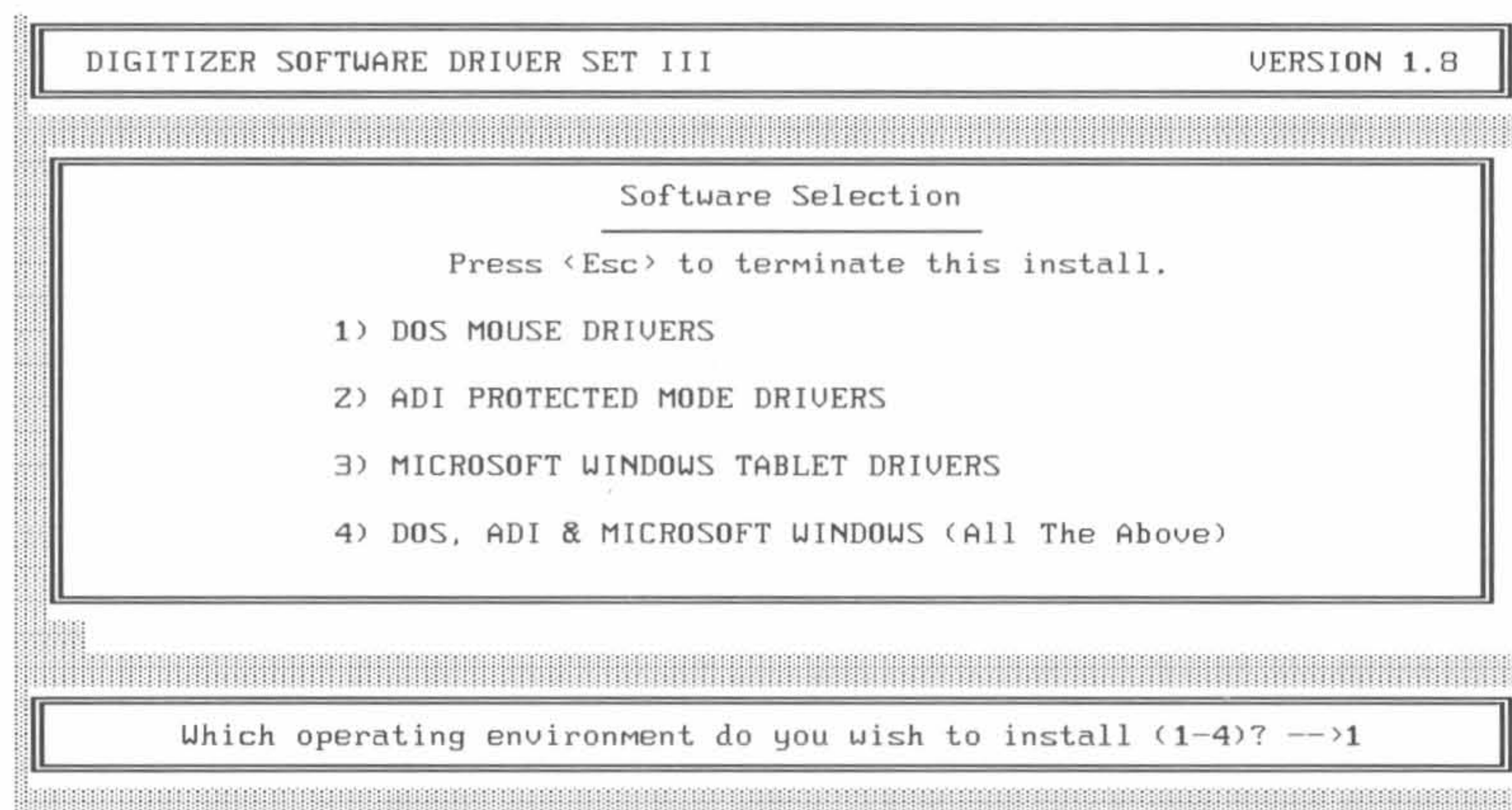
The installation options appear on the screen. You can choose to install any combination of the following drivers: DOS mouse drivers, ADI protected mode drivers, and Microsoft Windows tablet drivers. To select an option, type the number of the option then press <Enter>. The program will allow you to return to this screen to select additional drivers.

Step 4. Follow the instructions on the screen

A series of instruction screens appear. They vary according to the installation options selected. Some will ask you to enter more information. Follow the instructions on the screen.

Step 5. Completing the installation

Pay close attention to the final installation screens. They list changes the installation program made to your system files and give detailed instructions on how to complete your installation.

Configuring AutoCAD

Follow the steps below to configure AutoCAD for use with a CalComp tablet. You must have previously installed the CalComp ADI drivers onto your computer (see the "Installing the drivers and software" section on page 2-2).

1. Begin AutoCAD and select Configure AutoCAD. The current configuration appears on the screen. Press <Enter>.

2. Select Configure Digitizer. The program displays the current digitizer selection and asks if you want a different one. Type Y.

3. A list of available digitizer drivers appears. Select the "4.2 Autodesk Device Interface (ADI) by CalComp" selection.

4. When the list of digitizers supported appears on the screen, select the correct digitizer, number of pointing device buttons, and the COM port.

5. The configuration screen appears again. Type 0 to exit then Y to save the changes.

Configuring AutoCAD for Windows

If you are using AutoCAD for Windows, follow the steps below to configure AutoCAD for use with a CalComp tablet. You must have previously installed the CalComp ADI drivers onto your computer (see the "Installing the drivers and software" section on page 2-2).

1. From Windows, start AutoCAD.

2. Select Configuration then select Digitizer.

3. Select "CalComp Digitizer Series ADI" then Windows Tablet.

4. Specify the switch you will use for toggling between mouse and tablet modes.

   To use a button on the pointing device, select YES then press the button you wish to use.

   To use the bottom right corner of the tablet (1 square inch), select NO.

Using the tablet and a mouse with AutoCAD for Windows

To use the tablet with a mouse, configure AutoCAD for use with a CalComp tablet using one of the methods described above. Answer NO to the mole mode selection.

Verifying installation

Follow the steps below to verify your software is installed correctly.

DOS

1. Load the tablet mouse driver, CCMOUSE, by typing:

   `CCMOUSE <Enter>`

2. If the tablet is installed correctly, the following message appears on your screen:

   `Driver installed, tablet found on COMn`

   where n is the number of the serial port you are using.

3. If the software cannot locate the tablet, the following message appears on your screen:

   `Driver not installed — CalComp Tablet not found`

   If the above message does appear, make sure the tablet power switch is on (if one exists) then check all cable connections to ensure the connections are tight. For more help, refer to Appendix A, Troubleshooting.

Windows

1. Place the pointing device within the active area of the tablet then press any button.

2. Move the device around the active area. The screen cursor should respond to the movement of the pointing device.

3. If the screen cursor does not respond, call Technical Support at (800) 458-5888.

3 DOS Drivers and Utilities

The CalComp Digitizer software for DOS provides a:

- Mouse driver (CCMOUSE)
- Tablet manager program (DBM)
- Configuration program (CALDBCFG)

The mouse driver is required to use the tablet as a mouse replacement. Although the utilities are not required to use the tablet, they provide the tablet with extended capabilities that can improve productivity. DBM provides tablet management functions such as mode selection, tablet mapping, and macro recording. CALDBCFG allows you to set up your tablet to work with your software programs in lieu of using the menu strip. It is also the set up program for Intelligent Configuration and provides simple diagnostics for the tablet.

Using CCMOUSE

The DOS mouse driver, CCMOUSE, provides both a Microsoft compatible mouse driver and an ADI 4.1 real mode driver. CCMOUSE can be used to perform mouse functions for DOS programs and as a direct digitizer interface for Autodesk products. It is a terminate and stay resident program (TSR), it is loaded into your computer's memory and is available even when another program is active.

If you allowed the installation program to alter your AUTO-EXEC.BAT file, CCMOUSE will automatically be loaded into your computer's memory when you turn it on. If you did not allow the installation program to alter your AUTOEXEC.BAT file, you must manually load CCMOUSE into memory when you wish to use it. To load CCMOUSE, type:

CCMOUSE <Enter>

To remove CCMOUSE from memory, type:

CCMOUSE /U <Enter>

Advanced functions are available for CCMOUSE and are listed in Chapter 5.

DBM overview

The DOS tablet manager program, DBM, provides the ability to:

- Select the mode for the tablet
- Record macros
- Assign macros to the pointing device or menu strip
- Reconfigure pointing device buttons
- Define a tablet map

The manager can also keep track of what programs you are running and automatically configure the tablet for that program. This is an advanced feature and is discussed in detail under "Using Intelligent Configuration" in Chapter 5. Other advanced functions for DBM are listed in Chapter 5 as well.

How to begin

DBM is a terminate and stay resident program (TSR), meaning it is loaded into your computer's memory and is available even when another program is active. This allows you to access DBM within any program whenever you need it. When DBM is loaded into memory, you can access it by using the "pop-up" keys—key 18 on the tablet menu strip or the <'> key on the keyboard. You can reconfigure the pop-up key to be any menu strip key or any pointing device button you wish to use (see "Using DBM" below).

To load DBM into memory, type:

DBM <Enter>

To remove DBM from memory, type:

DBM /U <Enter>

When DBM is loaded into memory, the pointing device buttons default to the following functions:

Button 0   left mouse button
Button 1   unused
Button 2   unused
Button 3   right mouse click
Button 4   double left click
Button 7   double right click
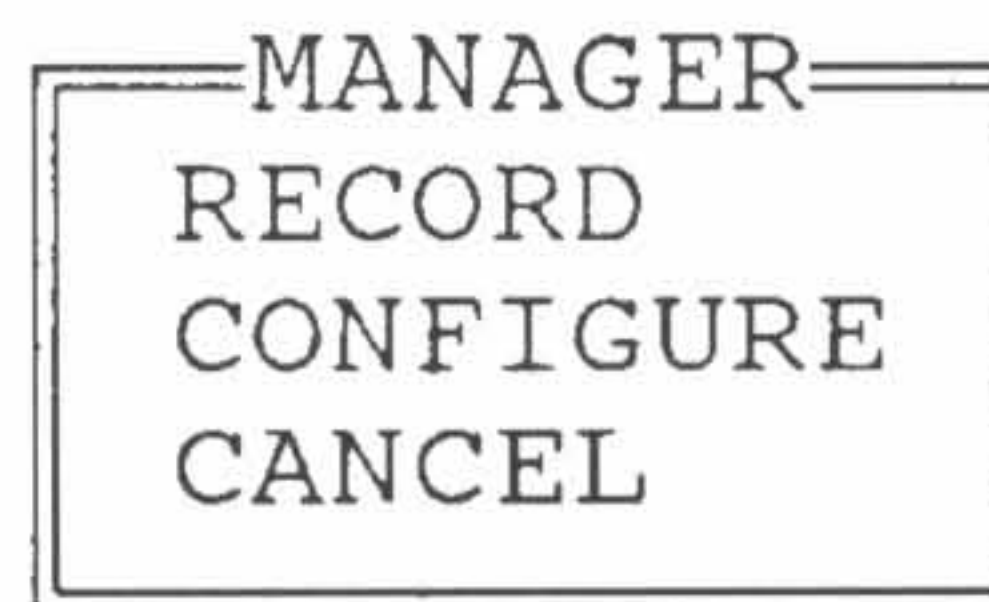
Novell Network

To use DBM with a Novell network, you must load DBM into memory by typing:

DBM /N /F <Enter>

If you do not use this command, the network and DBM will both try to use DOS interrupt 21 at the same time causing the network to hang.
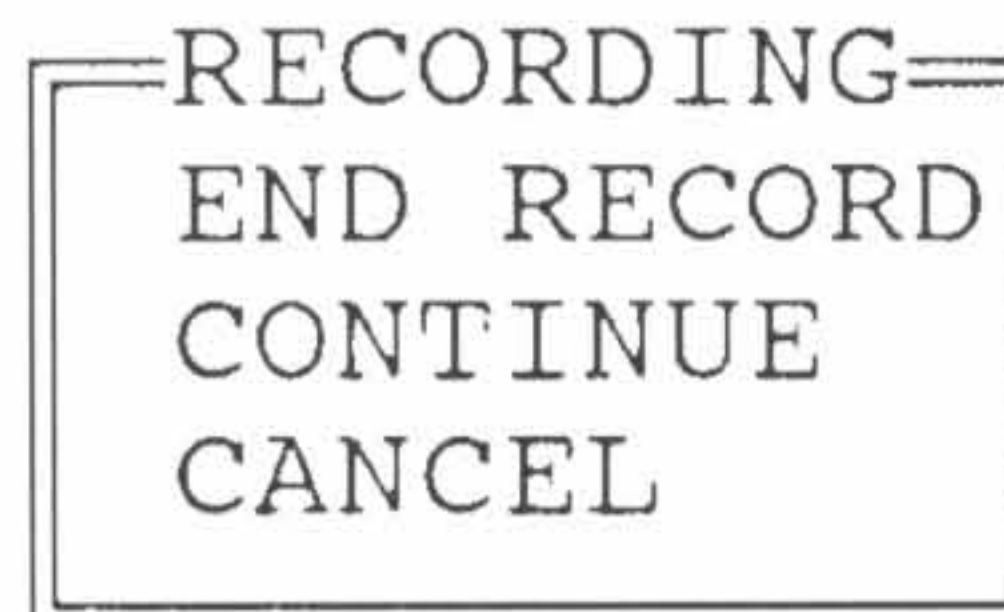
Manager window

```
╔═══MANAGER═══╗
║ RECORD      ║
║ CONFIGURE   ║
║ CANCEL      ║
╚═════════════╝
```

The Manager window is the main window for DBM. From this window, you can access the Record function or the Configure window.

Record

```
╔══RECORDING══╗
║ END RECORD  ║
║ CONTINUE    ║
║ CANCEL      ║
╚═════════════╝
```

Record controls all macro recording and assigns the macro to a menu strip key or a pointing device button. When you select Record, recording begins immediately. All subsequent keystrokes or mouse clicks are recorded into a default macro file (TEM-PLATE.MAC).

With Intelligent Configuration, you can create multiple macro files and set them up to be activated when specific software programs are run.

To stop recording, pop-up DBM then select End Record, Continue, or Cancel. End Record stops the recording and saves the macro. Continue resumes recording with no interruptions recorded to the macro. Cancel stops the recording process and discards any previously recorded information.

Configure window

```
┌═CONFIGURE═┐
│ RELATIVE  │
│ REGION    │
│ BUTTONS   │
│ WINDOW    │
│ CANCEL    │
└───────────┘
```
```
┌═CONFIGURE═┐
│ ABSOLUTE  │
│ BUTTONS   │
│ WINDOW    │
│ CANCEL    │
└───────────┘
```
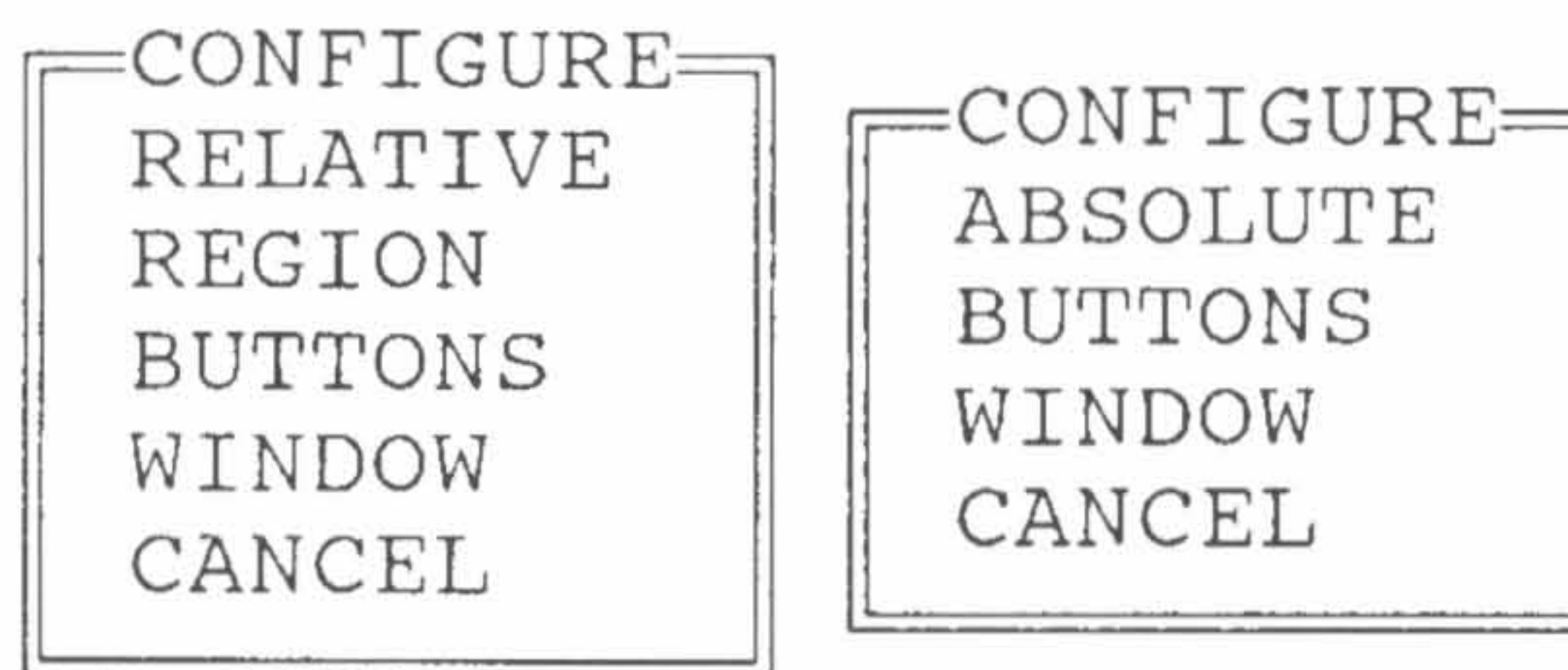
The Configure window provides the functions described below.

Relative/Absolute functions

Two different Configure windows exist—one for relative mode and one for absolute mode. When you select Configure, the window on the right in Figure 3-3 appears if the tablet is in relative mode. Absolute appears as the available mode to select, meaning relative mode is currently active. If the tablet is in absolute mode, the window on the left in Figure 3-3 appears. Relative appears as the available mode to select, meaning absolute mode is currently active.

Relative mode is the same as mouse mode. It means the movement of the screen cursor reflects the direction and distance that the mouse has moved. However, if the screen cursor is in the upper left corner of the screen and you pick up the pointing device and place it in the upper right corner of the tablet, the screen cursor does not move (assuming the pointing device was moved out of proximity range). Relative mode allows you to move the screen cursor across the full width of the screen while the mouse stays in a small area on the tablet.

Absolute mode is the same as tablet mode. It means the screen cursor moves to the same coordinate position as the pointing device location on the tablet. In other words, if you move the pointing device to the lower left corner of the tablet, the screen cursor moves to the lower left corner of the screen.

Region function

The Region function allows you to "map" a tablet area to the screen. A tablet map adjusts the size and location of the active area on the

tablet to the same height-to-width proportions as your screen. Region is only available if the tablet is in absolute mode.

Buttons function

The Buttons function allows you to assign a function to a menu strip key or a pointing device button. There are two options under Buttons—Manager and Mouse. The Manager functions include pop-up, mouse pick, function block off, and function block on. The Mouse functions include left, right, double left, double right.

The function block monitors the macro buttons on the menu strip. In some programs, having these buttons enabled can cause a slight twitching response on the screen or cause the screen cursor to temporarily disappear. If this occurs, turn the function block off.

Window function

Window allows you to move the DBM pop-up window to a different horizontal location on the computer screen.

The following step-by-step instructions describe how to use the DBM functions described in the overview section.

Reconfiguring a button

To reconfigure a function for a menu strip key or pointing device button:

1. Pop-up the Manager window then click on Configure. The Configure window appears.

2. Click on Buttons. The Buttons window appears.

3. Click on Manager if you want to assign the Manager functions, i.e. pop-up, mouse pick, etc. A new screen appears.

   Click on Mouse if you want to assign the Mouse functions, i.e. left click, right click, etc. A new screen appears.

4. Click on the Manager or Mouse function you wish to assign.

5. Click on the menu strip key or press the pointing device button where the function will be assigned.

Creating a tablet map

To create a tablet map:

1. Pop-up the Manager window then click on Configure. The Configure window appears.

2. If the window is the Absolute mode window (left side of Figure 3-3), click on Region.

   If the window is the Relative mode window (right side of Figure 3-3), click on Absolute. Pop-up the Manager window again then click on Configure. Finally, click on Region.

3. Define the tablet map. To do this, click on the upper left corner of the tablet active area that you want to map to the screen.

4. Click on the lower right corner of the tablet active area that you want to map to the screen.

Moving the pop-up window

To move the pop-up window to another horizontal location on the computer screen:

1. Pop-up the Manager window then click on Configure. The Configure window appears.

2. Click on Window.

3. Click and hold on the Manager window. Move the window to the new location.

4. Once the window is in place, click to define the new location.

Recording a macro

To record a macro:

1. Start the program you wish to record the macro for.

2. Pop-up the Manager window within the program.

3. Click on Record. Recording begins immediately; all subsequent keystrokes or mouse clicks are recorded.

4. To end recording, pop-up DBM again. The Record window shown in Figure 3-2 appears.

5. Click on End Record to stop the recording and save the macro.

   Click on Continue to start recording again with no interruptions recorded to the macro.

   Click on Cancel to stop the recording process and discard any previously recorded information.

6. If you select End Record, the Button window appears. Select the button that will activate the macro by:

   - Pressing a pointing device button

   - Clicking on a key on the menu strip

   - Pressing a keyboard key

The DBM will not allow you to assign a macro to a pointing device button with a default mouse function (0-3). If you try to assign a macro to one of these buttons, the program will beep. Do not record a macro to the Esc or Enter keys.

CALDBCFG overview

The configuration program, CALDBCFG, is used to manage the tablet setup. CALDBCFG allows you to:

- Alter tablet settings
- Load macro files
- Change the mouse movement speed
- Perform simple tablet diagnostics
- Restore factory defaults

This program is also used to set up Intelligent Configuration (see Chapter 5).

CALDBCFG works with DBM and cannot be run unless DBM is loaded into memory.

How to begin

To begin CALDBCFG:

1. Make sure DBM is loaded into memory.

2. Type:

   CALDBCFG<Enter>

3. After a brief pause, the screen shown below appears.

Figure 3-4: CALDBCFG main screen

File	Configuration	Macros	Diagnostics	Screen	Help	1.3c

F1:Help   ↑↓→←:Move on menu   ↵:Select   Esc:Cancel

File menu

```
┌─────────────┐
│ File        │
├─────────────────────────────────────┐
│ Save Changes and Exit               │
│ Discard Changes and Exit    Esc     │
└─────────────────────────────────────┘
```
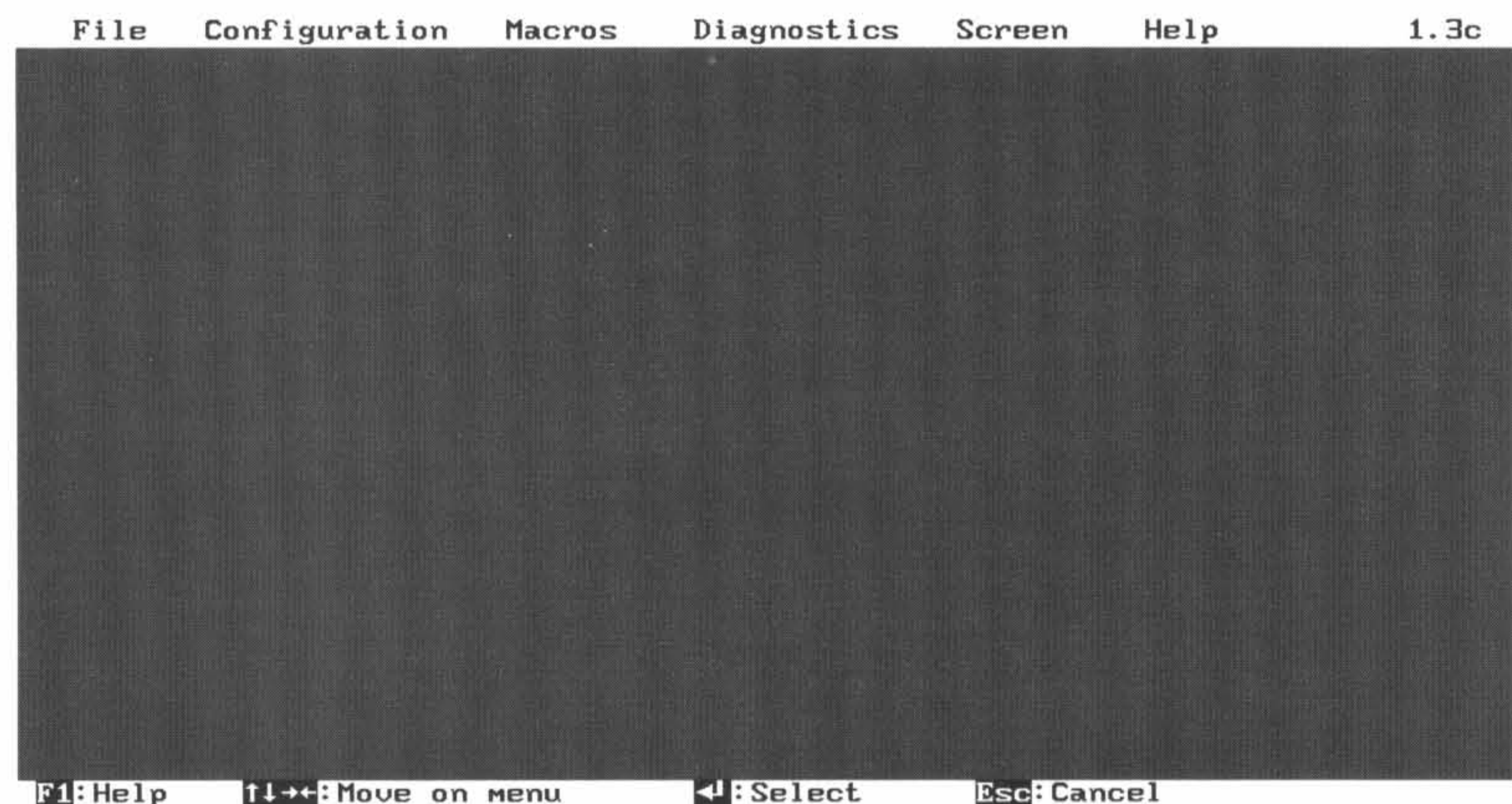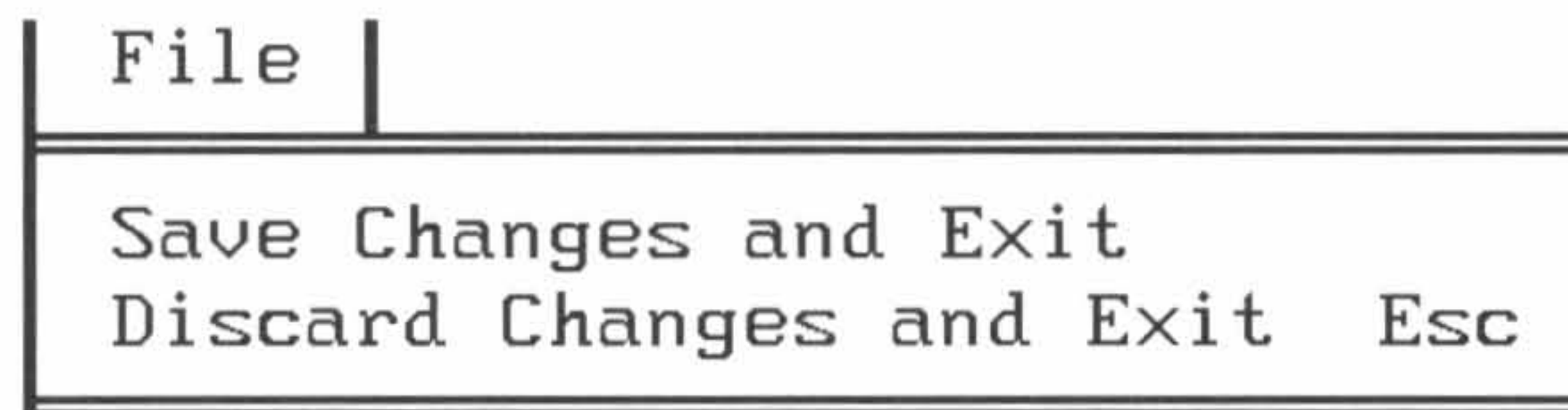
The File menu provides the file management functions. These functions allow you to save or discard changes.

Save changes and exit

Use this function to exit the program and save changes. Any new settings you selected while in CALDBCFG are not saved or sent to the tablet until you exit the program.

Discard changes and exit

Use this function to exit the program and discard all the changes you made while in the program. This function can also be executed by pressing <Esc>. A message appears warning you that changes have been made and asking you to confirm the discard.
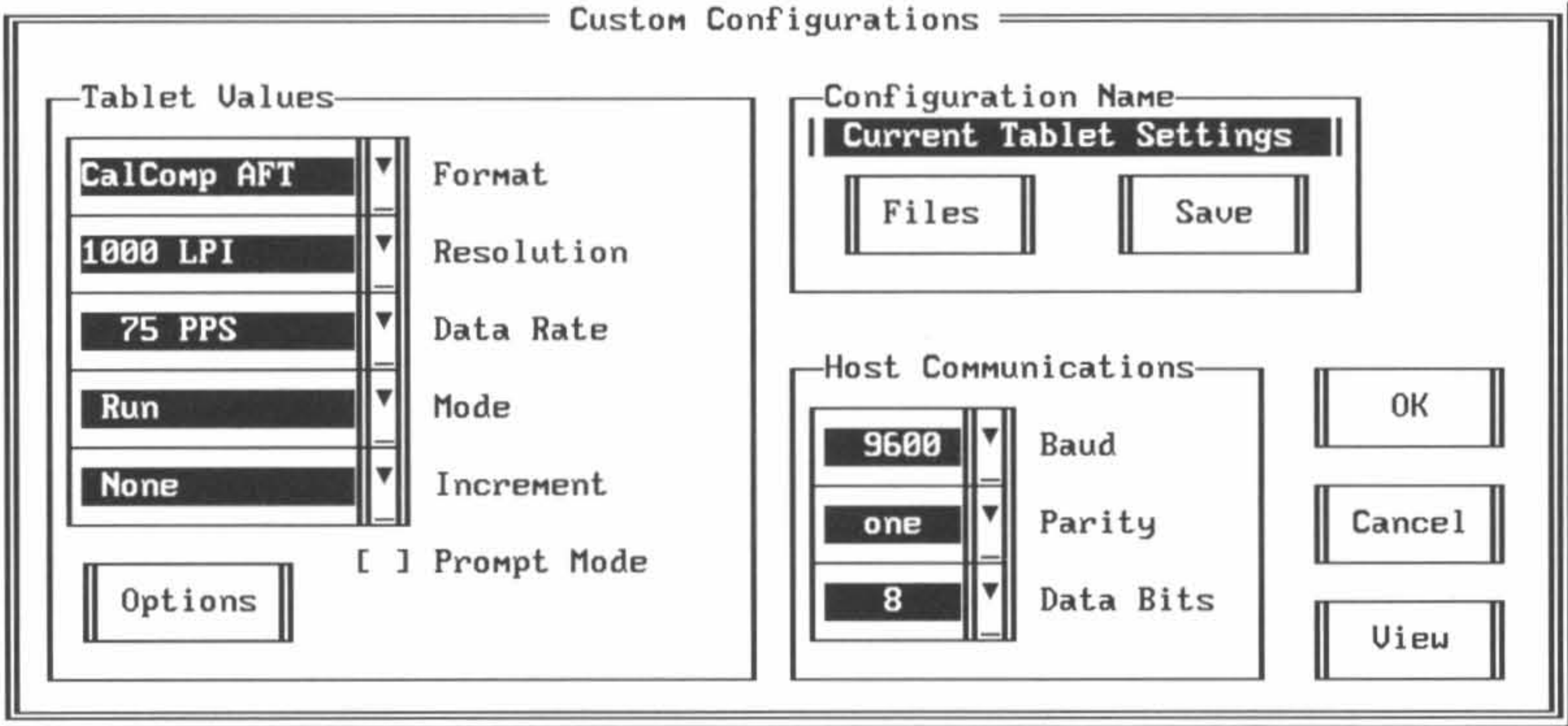
Configuration menu

```
┌─────────────────────────┐
│ Configuration │         │
├─────────────────────────┤
│ Intelligent Configuration │
│ Custom Configuration      │
│ Restore Tablet Defaults   │
│ Tablet Options            │
└───────────────────────────┘
```
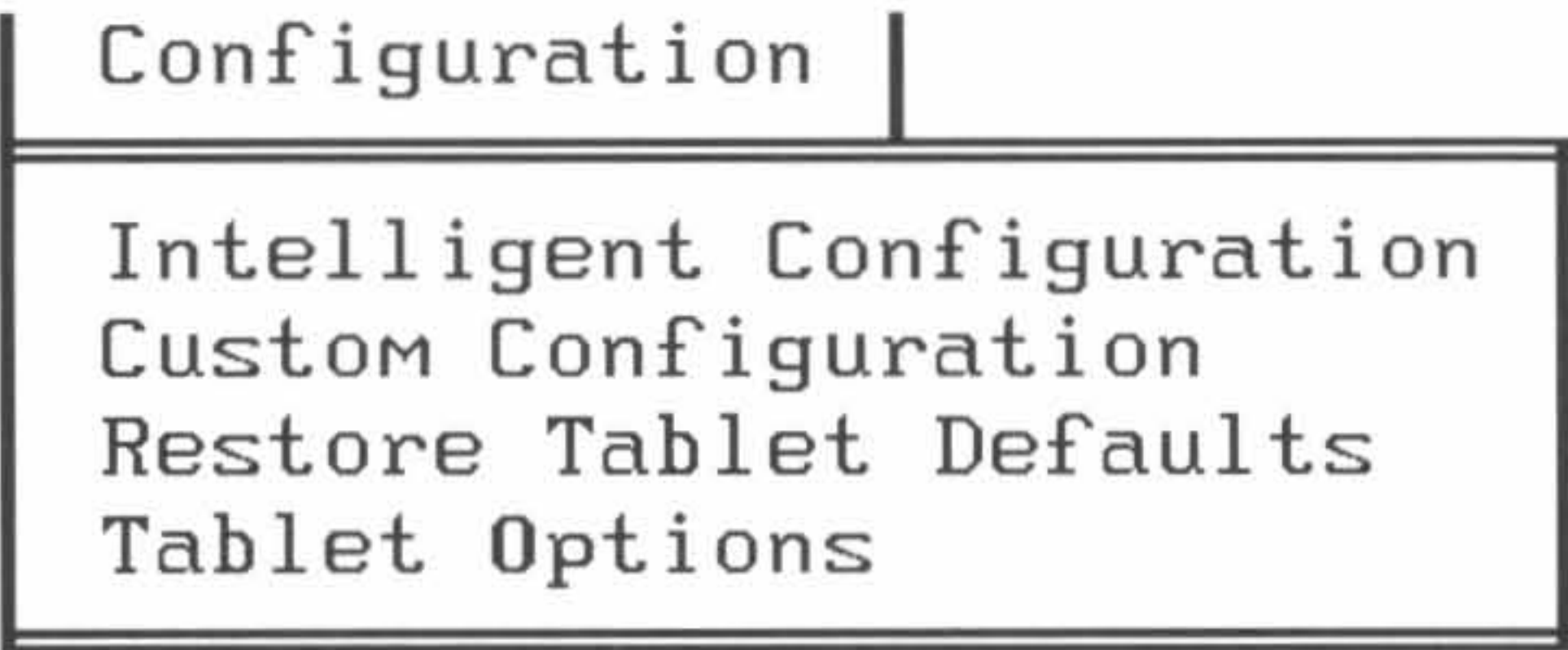
The Configuration menu manages the tablet setup. Through this menu, you can set up the Intelligent Configuration feature (see Chapter 5), customize your tablet setup, reset your tablet defaults, and set the mouse movement speed and tablet frequency.

Custom Configuration screen

Custom Configuration allows you to alter tablet settings. You can use Custom Configuration to set up the tablet to work with your software programs in lieu of using the menu strip.

When you select Custom Configuration, the dialog shown in Figure 3-7 appears with Current Tablet Settings in the Configuration Name area along with the active options displayed in the Tablet Values area. Other options available under Custom Configuration are:

- **Files**
  Displays list of existing configuration files, including the Save area configurations. There are three types of configuration files. A symbol next to the file name denotes which type of file it is:

Δ Current configuration or a configuration from one of the three Save areas on the tablet

≡ Read Only default configuration for a software program used with the advanced Intelligent Configuration feature. These configuration files cannot be modified.

± User files created and saved using Custom Configuration.

- **Save**
  Saves changes made to a configuration. *Changes made in the Custom and Option dialog boxes will be discarded unless you first select Save, then exit with OK.*

- **Exit**
  Exits the Custom Configuration function with Save data retained.

- **Cancel**
  Exits the Custom Configuration function and discards any changes made.

- **View**
  Displays the tablet output for the setup listed in the Configuration Name area.

- **Options**
  Displays advanced configuration parameters. The available options and parameters are defined in the Glossary.
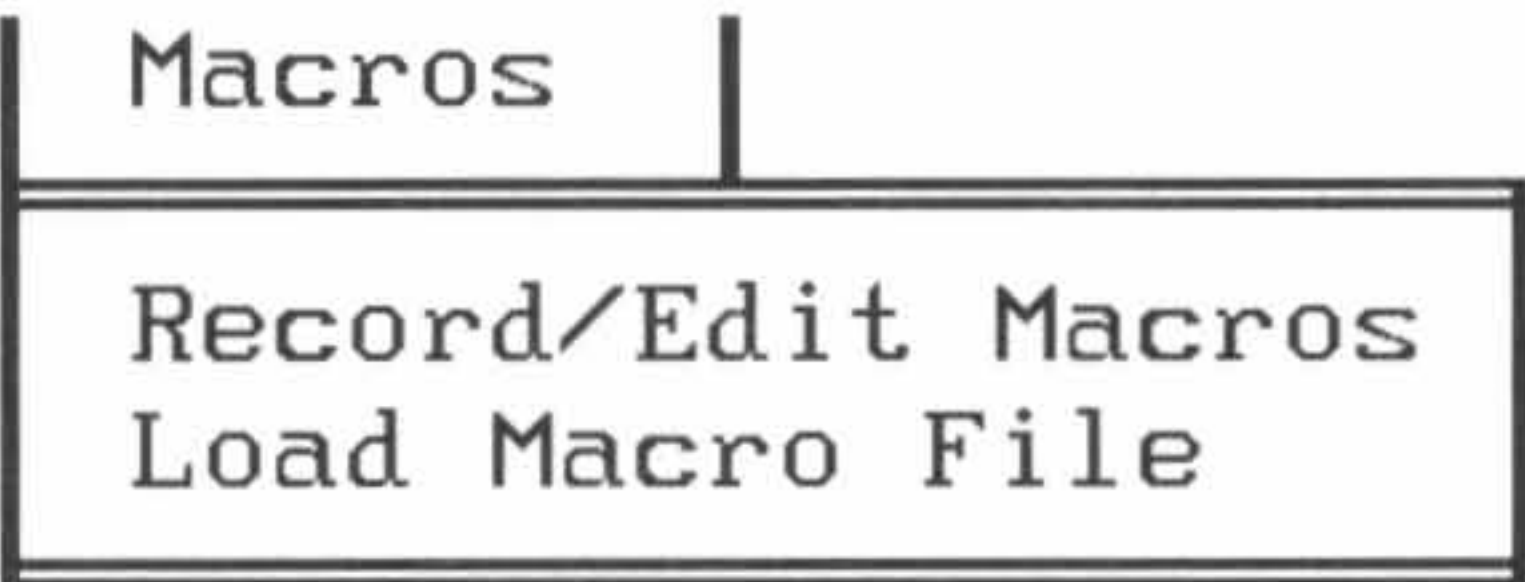
Restore tablet defaults

Use this function to reset your tablet memory banks and database settings to the factory default values if they have been changed.

Tablet options

Use this function to change the mouse movement speed and to change the tablet operating frequency.

Macros menu

```
Macros

Record/Edit Macros
Load Macro File
```

The Macros menu is used to manage macro files for the tablet.

Record/edit macros

Use this function to pop-up the DBM Manager window for recording and editing of macros. More information on recording macros is available under the "Using DBM" section of this chapter.

Load macro file

Use this function to verify the current macro file selection. The default macro file is TEMPLATE.MAC. Also another macro file can be assigned as the default through this function.

Diagnostics menu

```
Diagnostics

RAM/ROM Test
View Firmware Revision
View Tablet Output
```
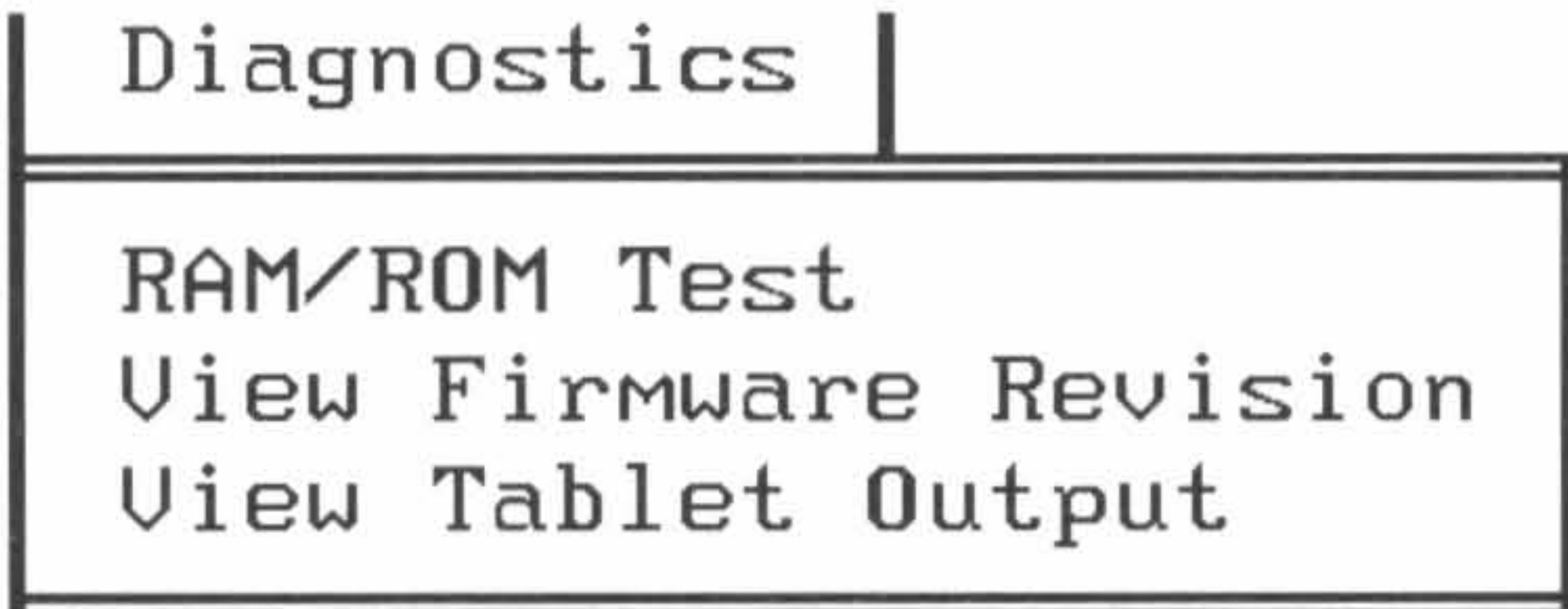
The Diagnostics menu provides information that can help Cal-Comp's Technical Support personnel diagnose some tablet problems you may experience. This can save you time and frustration.

RAM/ROM test

Use the RAM/ROM test to verify the checksum for each memory bank. The checksum is the result of internal calculations used to check the integrity of the tablet's memory. When you select the RAM/ROM test, a window appears with either a pass or fail message. Click on OK to continue.

View firmware revision

Use this function to display the revision level for the PROM (programmable read only memory). The revision level is useful information for CalComp's technical support personnel when troubleshooting a problem. The serial port connection used and the tablet size are also displayed.

View tablet output

This function displays the tablet output data for the currently selected configuration. The output shows X,Y coordinates, button states, etc. as it is returned on the serial port. The View function is also available from the Custom Configuration screen.

Screen menu

Figure 3-10: CALDBCFG Screen menu

```
┌─────────────┬─────────────┐
│ Screen      │             │
├─────────────┴─────────────┤
│ Colors    On/Off          │
│ Save      Colors          │
└───────────────────────────┘
```

The Screen menu manages how CALDBCFG is displayed on your computer screen.
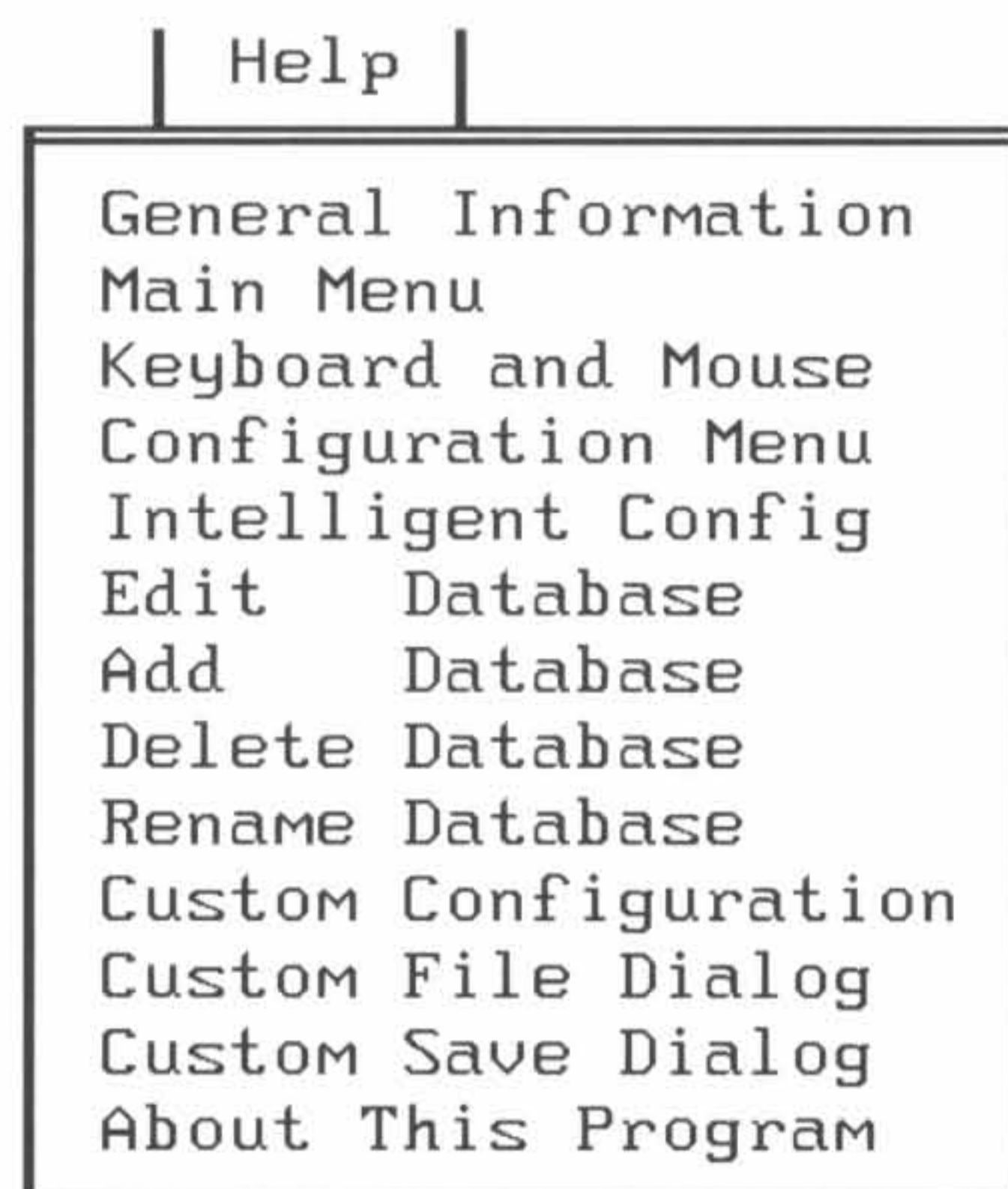
Colors on/off

Use this function to toggle the screen colors on and off. If you are using a monochrome display, turn the colors off since many elements of the main screen may be hidden with the colors turned on.

Save colors

Use this function to save any color changes to disk so that they will be active every time CALDBCFG is run.

Help menu

```
    | Help |
  ┌─────────────────────────┐
  │ General Information      │
  │ Main Menu                │
  │ Keyboard and Mouse       │
  │ Configuration Menu       │
  │ Intelligent Config       │
  │ Edit    Database         │
  │ Add     Database         │
  │ Delete Database          │
  │ Rename Database          │
  │ Custom Configuration     │
  │ Custom File Dialog       │
  │ Custom Save Dialog       │
  │ About This Program       │
  └─────────────────────────┘
```

There are two ways to receive help with CALDBCFG:

- Select the Help menu from the main screen. A list of help topics appears. Highlight and click on the topic you need help with.

- Press <F1> at any time for help with the current operation or dialog.

Either way a help screen appears. The screen displays the number of pages of information available in the lower left corner of the screen. To view more information, click on the Next button. To view previous information, click on the Prev button. To exit help, click on OK or press <Esc>.

The following step-by-step instructions describe how to use the CALDBCFG functions. All procedures relating to Intelligent Configuration are described in Chapter 5.

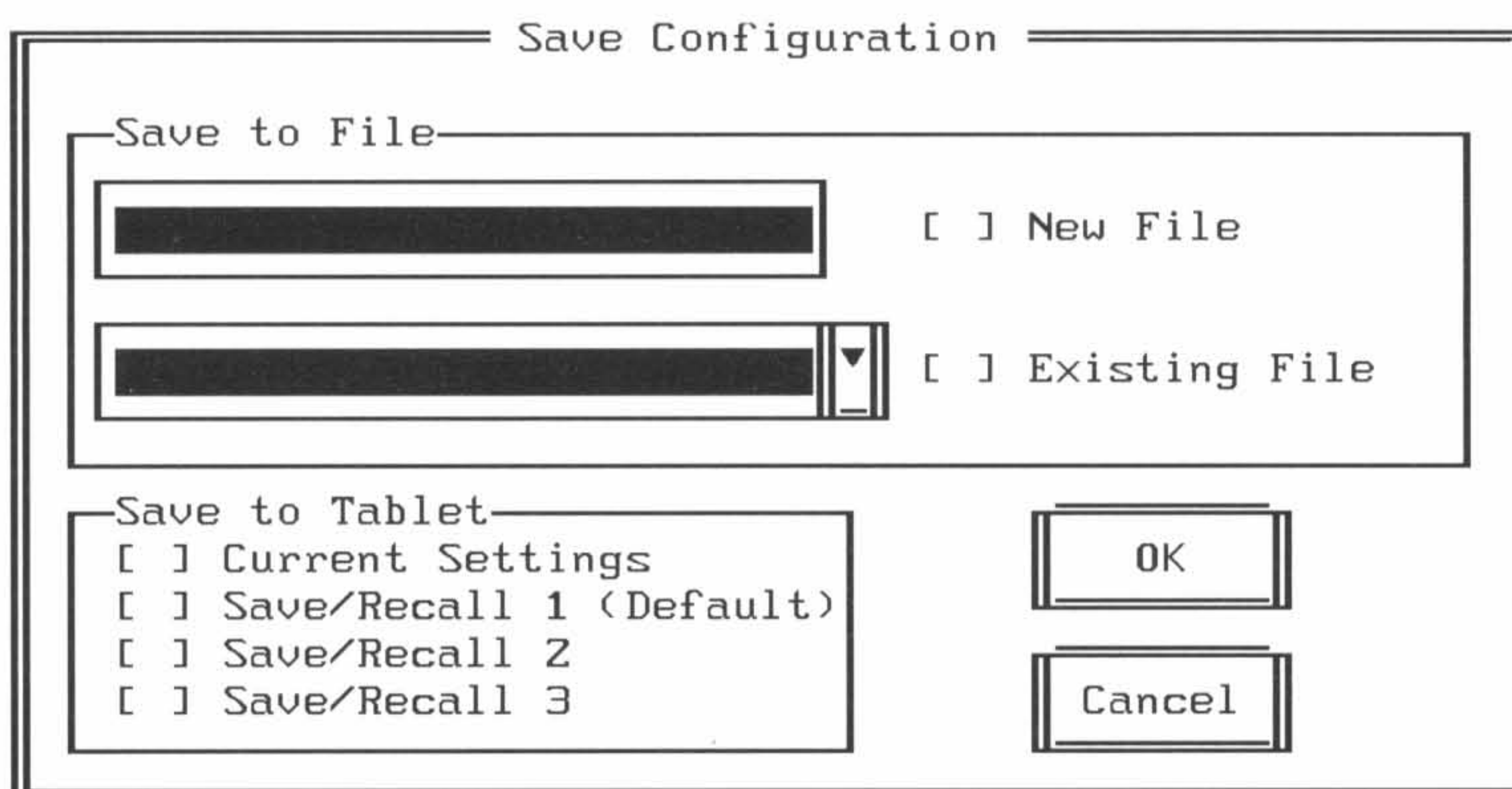## Changing tablet settings

Figure 3-12: CALDBCFG Custom Configuration screen

To change an option in the Current Tablet Settings or one of the Save areas:

1. Click on Configuration from the main screen.

2. Click on Custom Configuration.

3. Click on Files then highlight the configuration you wish to modify. Double click on Edit.

When changing settings, change Format first. Other available settings are determined by the Format setting.

4. Review the Tablet Values and Host Communications settings. To change a setting, click on the box where the setting is listed. A menu appears listing the available selections. Click on the new setting.

5. Click on Options to view more tablet settings. Make necessary changes and click on OK.

6. After all modifications have been made, click on Save. The window shown below appears.

Figure 3-13: CALDBCFG Save
window

```
═══════════════ Save Configuration ═══════════════
 ┌─Save to File──────────────────────────────────┐
 │ ┌─────────────────────────────┐               │
 │ │█████████████████████████████│   [ ] New File │
 │ └─────────────────────────────┘               │
 │ ┌─────────────────────────────┐▼              │
 │ │█████████████████████████████│ [ ] Existing File │
 │ └─────────────────────────────┘               │
 └───────────────────────────────────────────────┘
 ┌─Save to Tablet──────────────┐  ┌──────────┐
 │ [ ] Current Settings        │  │    OK    │
 │ [ ] Save/Recall 1 (Default) │  └──────────┘
 │ [ ] Save/Recall 2           │  ┌──────────┐
 │ [ ] Save/Recall 3           │  │  Cancel  │
 └─────────────────────────────┘  └──────────┘
```

7. At this point you have two options:

Click on one of the configurations listed in the "Save to Tablet" area. Click on OK.

Or to give the setting a new name:

Click on the text box to the left of New File. Enter the name of the file in the text box. Click on OK.

8. Click on Exit.

Verifying the current macro file

To verify the current macro file selection:

1. Click on Macros from the CALDBCFG main screen.

2. Click on Load Macro File. A window appears displaying the currently selected macro file.

Loading a macro file

To load a different macro file as the default:

1. Click on Macros from the CALDBCFG main screen.

2. Click on Load Macro File.

3. Click on the current file name. A drop down list appears displaying the available macro files.

4. Click on the file you wish to use.

5. Click on OK.

Adding a macro file

To add a new macro file to the available macro list:

1. Click on Macros from the CALDBCFG main screen.

2. Click on Load Macro File.

3. Click on New File. A zero appears within the parenthesis.

4. Click on the text box. Enter the name of the new macro file.

5. Click on OK.

Viewing tablet output

You can view tablet output from the Configuration and Diagnostics menus. To view output from the Configuration menu:

1. Click on Configuration then on Custom Configuration.

2. Click on Files then select the configuration you wish to view.

3. Click on View. A window appears.

4. All tablet output is written to the window. The output is shown in the output format defined for the configuration selected under Configuration Name.

To view output from the Diagnostics menu:

1. Click on Diagnostics.

2. Click on View Tablet Output.

3. Click on the Configuration Name box. A drop down list appears.

4. Select the configuration you wish to view.

5. Click on the View button. A window appears.

6. All tablet output is written to the window in the screen. The output is displayed in the output format defined for the currently selected configuration.

Notes:

4 Windows Drivers and Utilities

The CalComp Digitizer software for Windows provides the:

- CalComp mouse drivers for Windows
- Tablet manager program

The Windows mouse drivers are required to use your CalComp tablet with Windows.

Although the Windows Tablet Manager is not required to use your tablet with Windows applications, it provides the tablet with extended capabilities that can improve productivity. The Windows Tablet Manager provides tablet management functions such as mode selection, tablet mapping, and macro recording. It is also used to set up Dynamic Windowing, a powerful advanced Windows feature described in Chapter 5.

Using the Windows mouse drivers

The Windows mouse drivers for CalComp tablets are ready to use whenever you complete the installation program. Not only do the mouse drivers provide all mouse functions for Windows programs, but they also provide mouse functions for all DOS programs executed through Windows. This feature is unique to the CalComp Windows drivers and makes the CalComp digitizing tablet a true mouse replacement.

To use the mouse in DOS programs, open your DOS program through Windows. Press <Alt><Enter> to bring the program into a window. Now you can use the Windows mouse within your DOS program.

The Windows drivers use the following pointing device defaults:

Button 0   left mouse click
Button 1   double click (Tablet Manager must be active)
Button 2   right mouse click

Windows Tablet Manager overview
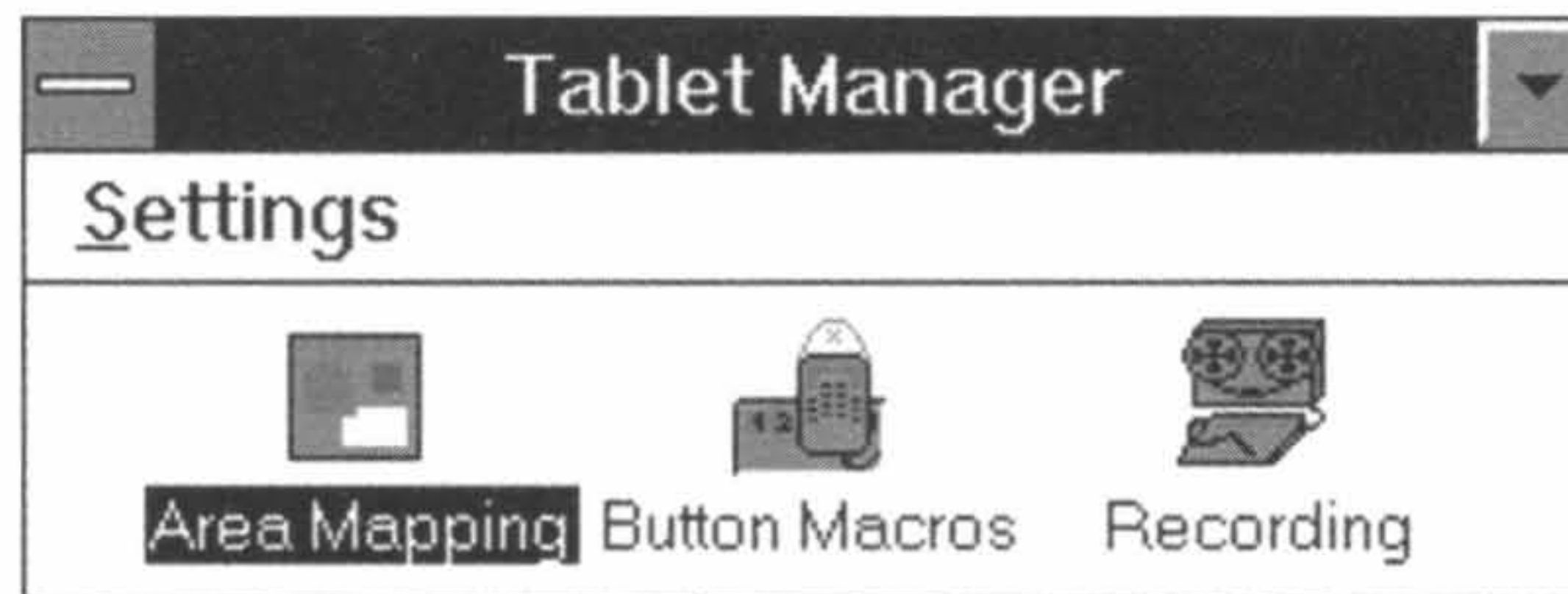
There are three utility programs available through Tablet Manager:

- **Button Macros** - manages the functions assigned to the pointing device buttons and the menu strip keys.

- **Recorder** - records macros and assigns them to specific pointing device buttons or menu strip keys.

- **Area Mapping** - creates tablet maps and configures them for various functions. This utility is also used to set up Dynamic Windowing (see Chapter 5).

How to begin

Tablet Manager is accessed from the Main window. To begin Tablet Manager:

1. Double click on the Tablet Manager icon in the Main window.

2. The window in Figure 4-1 opens displaying the three utility program icons. Double click on the icon of the utility you wish to use.


Once you have opened Tablet Manager and set up the utility functions you wish to use with your tablet, do not close it again. Minimize it by clicking on the ▼ symbol. This will allow the Tablet Manager features to remain active while you are using other programs.

To re-open Tablet Manager, double click on the icon at the bottom of your screen or click on key 18 on the menu strip.

To exit Tablet Manager, double click on the button in the upper left corner.

Button Macros overview
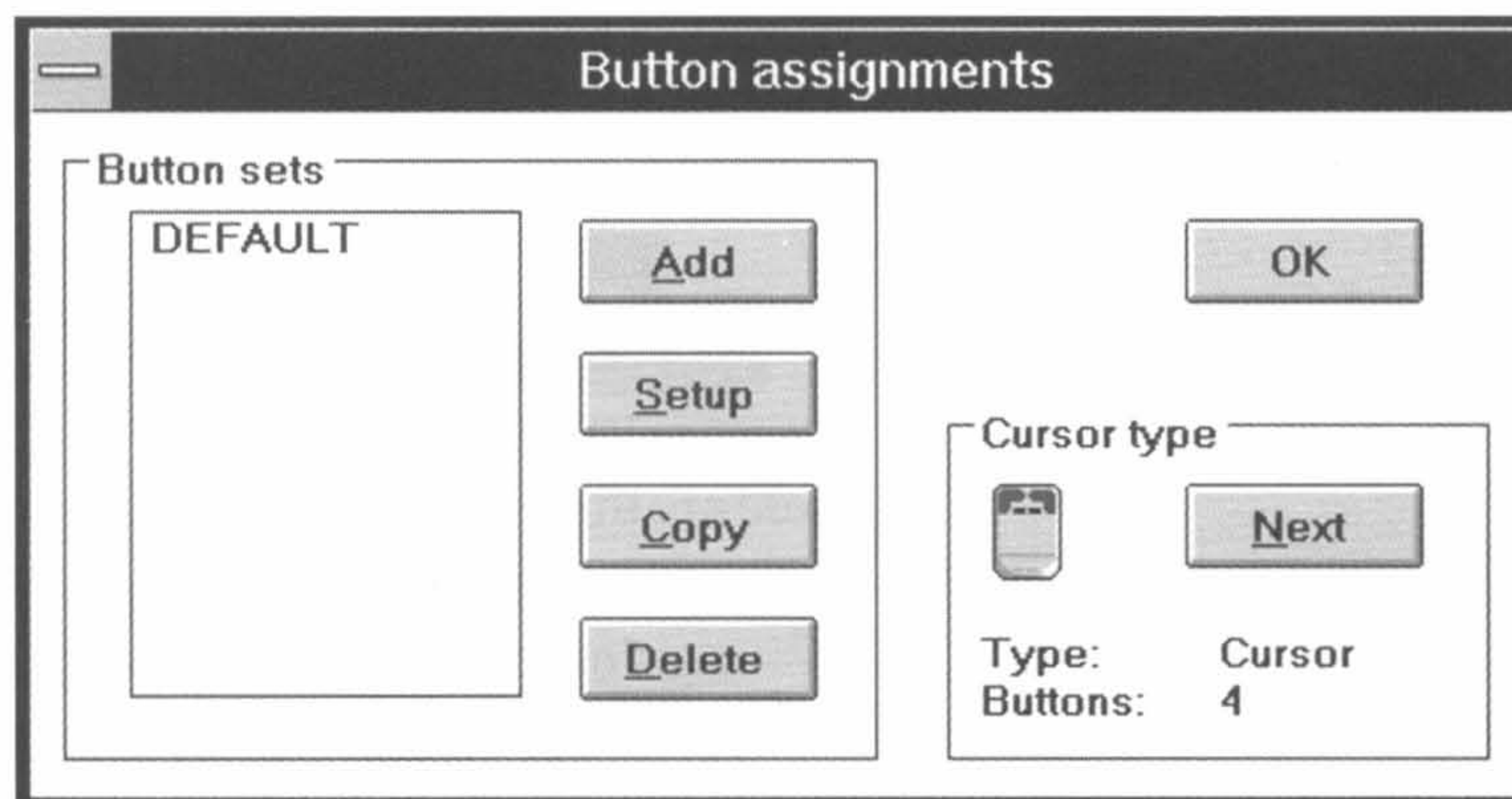
Button Macros manages the functions assigned to the pointing device buttons and menu strip keys. All CalComp pointing devices are programmable. With Button Macros, you can program your pointing device buttons or menu strip keys from a list of standard (factory-recorded) macros or from a list of user-recorded macros. You can program a different group of button functions, called a button set, for each Windows program you use. The button set is activated whenever the program window is active. Thus, the tablet and pointing device are automatically customized for each Windows program you use.
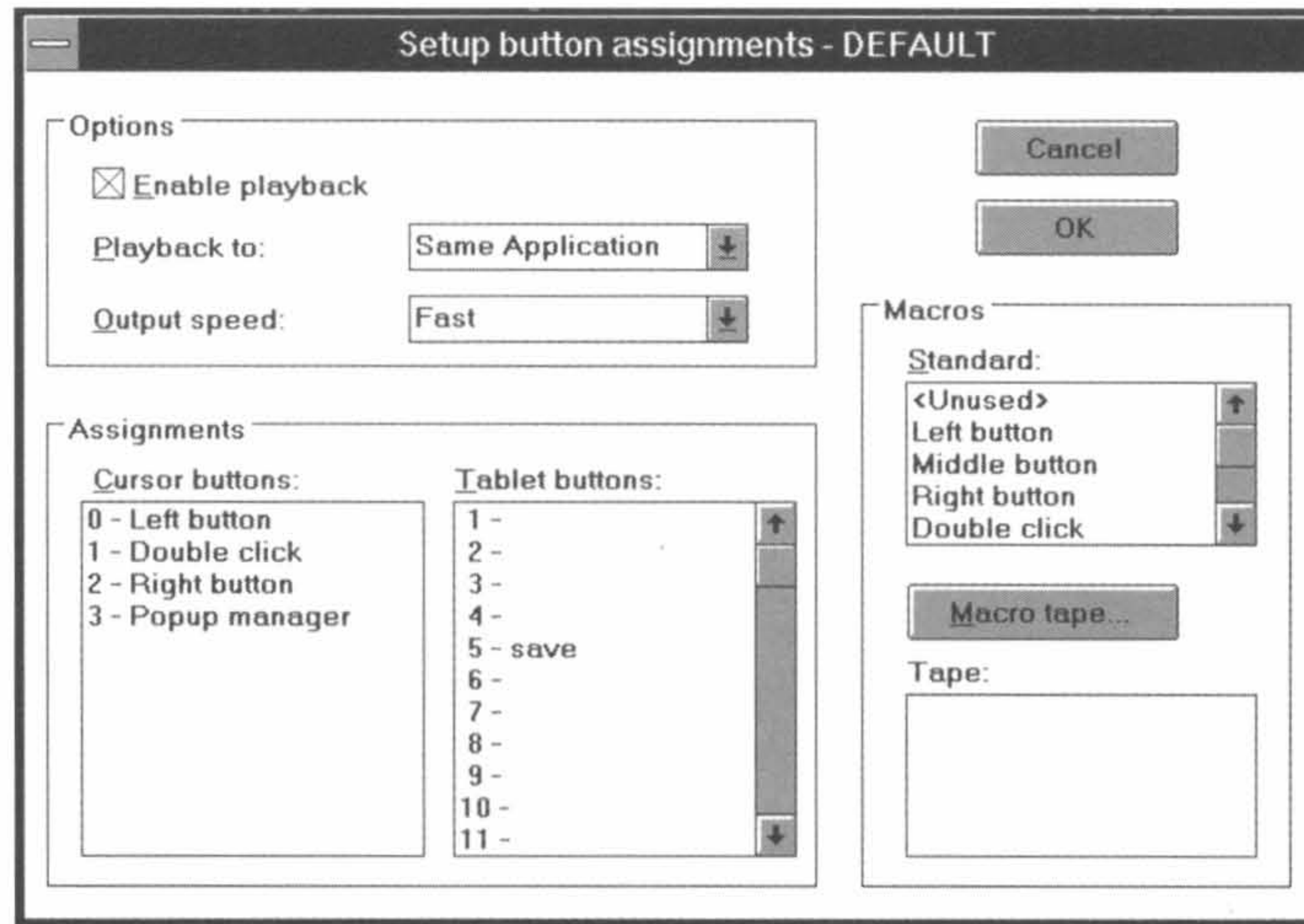
When you select Button Macros, the dialog in Figure 4-2 appears displaying a list of existing button sets. If no button sets have been created, DEFAULT will be the only button set listed.

Add

Click on this button to add a new button set to the Button Sets list. The new button set will be assigned to a specific Windows program.

Setup

Setup is used to assign macros to the pointing device buttons or menu strip keys. Setup can be accessed through Add or by clicking on an existing button set name then on Setup. The dialog (Figure 4-3) consists of three main areas: Assignments, Macros, and Options.

Assignments area

This area lists the functions assigned to the pointing device buttons and menu strip keys. The Cursor Buttons area reflects the number of buttons available with the currently selected pointing device. Thus, the number of buttons listed varies. The Tablet Buttons area always lists 18 buttons to correspond to the number of menu strip keys there are on the tablet.

Macros area

The macros assigned through Setup can be selected from a list of standard (factory recorded) macros or from user-recorded macros. The standard macros are:

- **<Unused>**
  Disables a button or key.

- **Left button**
  Assigns the left mouse click to a button or key.

- **Middle button**
  Assigns the middle mouse click to a button or key.
- **Right button**
  Assigns the right mouse click to a button or key.
- **Double click**
  Assigns the double mouse click to a button or key.
- **Pop-up mananger**
  Opens the Tablet Manager window.
- **Abs<>Rel mode**
  Toggles between absolute (tablet) mode or relative (mouse) mode.

Click on the Macro Tape button to load user-recorded macros (see Using Button Macros for more information).

Options area

Options area commands define the playback parameters for the macros:

- **Enable Playback**
  Enables or disables the macro playback option.
- **Playback To**
  Enables a macro to be played back either through a specified program or through any program.
- **Output Speed**
  Defines the speed at which the macro is played back. The Fast selection plays back the macro at the speed of the computer. The Recorded Speed selection plays back the macro at the same speed you recorded it. This means if you paused between selections, the pause time is recorded.

Copy

Click on this button to copy an existing button set to a new name.

Delete

Click on this button to delete an existing button set from the list.

Cursor Type

The Cursor Type area displays the pointing device name, icon, and number of buttons for the currently selected pointing device. Click on Next to select the type of pointing device you are using. The type of pointing device selected affects the number of cursor buttons listed in the Setup Button Assignments dialog. However, the button functions assigned will not change. For example, if you are using a pen and change to the 4-button cursor, the first three button functions on the mouse will remain as they were defined for the pen, but the fourth button will be undefined because it did not exist for the pen. The reverse is also true. If you are using a 4-button cursor and change to the pen, the first three button functions will be displayed, but the fourth is lost because the pen has only three buttons.

OK

Click on OK to exit the Button Assignments window. All changes will be saved.
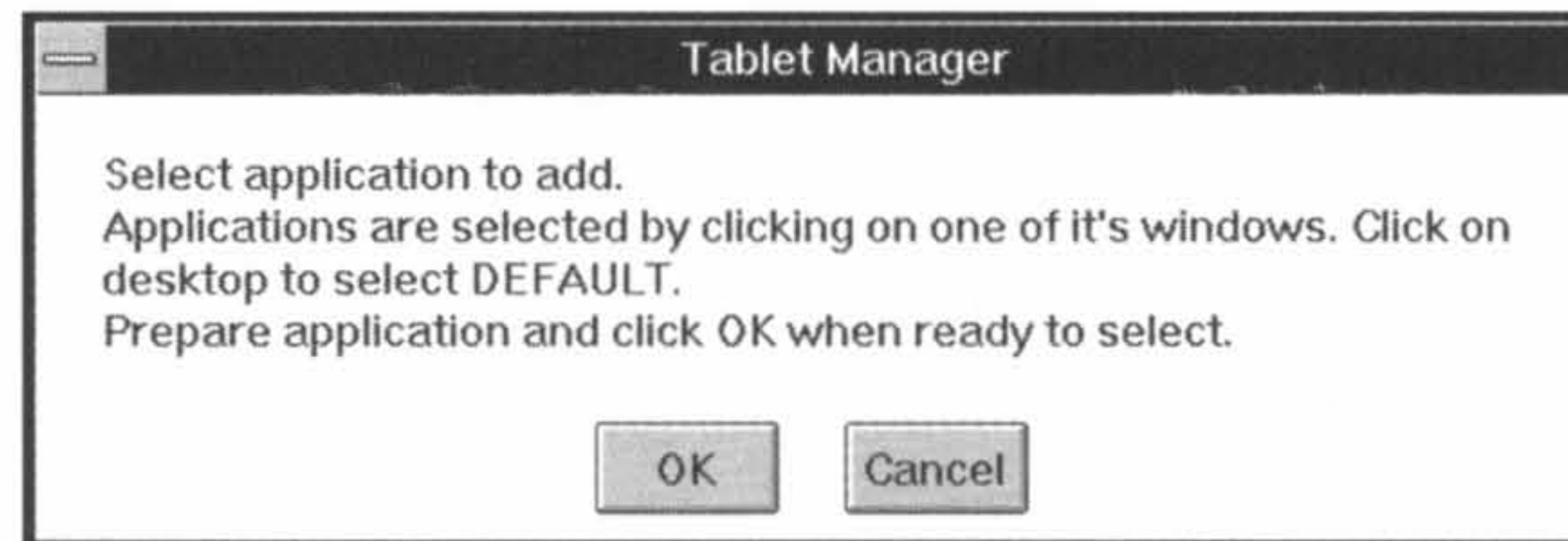
The following step-by-step instructions describe how to use the Button Macros functions described in the overview section.

Adding a new button set

To add a new button set to the list:

1. Open the Windows program you wish to use with the button set.

2. Pop-up the Tablet Manager (the default pop-up button is key 18 on the menu strip).

3. Double click on Button Macros.

4. Click on Add. The message window below appears.

```
┌─────────────────────────────────────────────────────────────┐
│ ▬                    Tablet Manager                          │
├─────────────────────────────────────────────────────────────┤
│                                                             │
│  Select application to add.                                 │
│  Applications are selected by clicking on one of it's        │
│  windows. Click on                                          │
│  desktop to select DEFAULT.                                 │
│  Prepare application and click OK when ready to select.      │
│                                                             │
│              ┌──────┐   ┌────────┐                          │
│              │  OK  │   │ Cancel │                          │
│              └──────┘   └────────┘                          │
└─────────────────────────────────────────────────────────────┘
```

5. Click on OK to exit the message window. The program window comes forward with a mouse icon as the screen cursor.

6. Click anywhere in the program window. A confirmation message appears. Click on OK.

7. The Setup Button Assignment dialog in Figure 4-3 appears. Assign the macros you wish to use for this Windows program then click on OK (see "Assigning macros" below).

8. The new button set appears in the Button Set list.

Editing an existing button set

To edit an existing button set:

1. Double click on the button set name you wish to edit. The Setup Button Assignment dialog appears.

2. Change the macro assignments you need to change then click on OK (see "Assigning macros" below).

Assigning macros to the button set

Macros are assigned to the Cursor Buttons or Tablet Buttons areas through the Setup Assignment dialog (shown in Figure 4-3). You can either assign a standard (factory recorded) macro or a user-recorded macro. For information on how to record a macro, see Recorder.

Assigning standard macros

To assign a standard macro:

1. Click on the button set then click on Setup.

2. Click on a number in the Cursor Button or Tablet Button lists that corresponds to the pointing device button or menu strip key where you would like to assign a macro.

3. Double click on a macro in the Standard Macro list.

4. The macro appears in the assignment list.

Assigning user-recorded macros

To assign a user-recorded macro:

1. Click on the button set then click on Setup.

2. Click on Macro Tape. The Load Tape window appears on the screen displaying a list of available macro tapes. Each macro tape contains a group of user-recorded macros.

3. Double click on the name of the macro tape you wish to load.

4. The Load Tape window closes. The macro tape name appears in the Setup dialog with the macros listed in the Tape area.

5. Click on a number in the Cursor Button or Tablet Button lists that corresponds to the pointing device button or menu strip key where you would like to assign a macro.

6. Double click on the macro name you wish to assign. The macro appears in the assignment list.

If a macro name appears in curly brackets, it means an existing macro has been overwritten.

Assigning macros to the button set

Macros are assigned to the Cursor Buttons or Tablet Buttons areas through the Setup Assignment dialog (shown in Figure 4-3). You can either assign a standard (factory recorded) macro or a user-recorded macro. For information on how to record a macro, see Recorder.

Assigning standard macros

To assign a standard macro:

1. Click on the button set then click on Setup.

2. Click on a number in the Cursor Button or Tablet Button lists that corresponds to the pointing device button or menu strip key where you would like to assign a macro.

3. Double click on a macro in the Standard Macro list.

4. The macro appears in the assignment list.

Assigning user-recorded macros
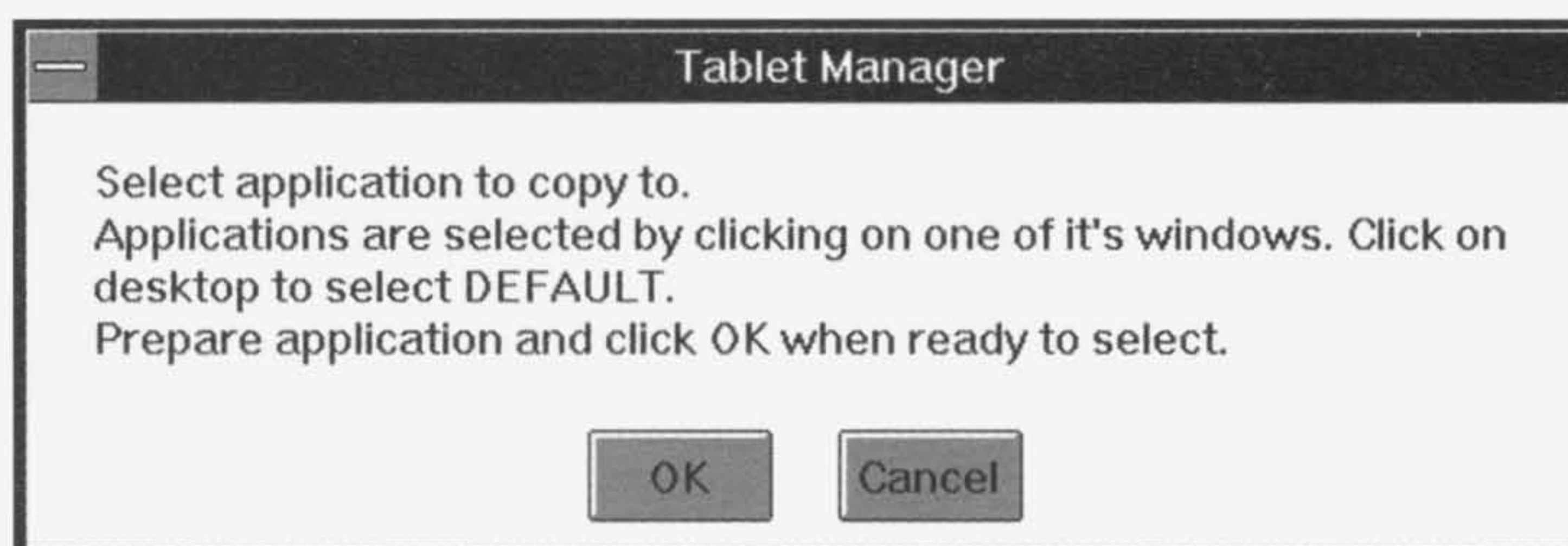
To assign a user-recorded macro:

1. Click on the button set then click on Setup.

2. Click on Macro Tape. The Load Tape window appears on the screen displaying a list of available macro tapes. Each macro tape contains a group of user-recorded macros.

3. Double click on the name of the macro tape you wish to load.

4. The Load Tape window closes. The macro tape name appears in the Setup dialog with the macros listed in the Tape area.

5. Click on a number in the Cursor Button or Tablet Button lists that corresponds to the pointing device button or menu strip key where you would like to assign a macro.

6. Double click on the macro name you wish to assign. The macro appears in the assignment list.

If a macro name appears in curly brackets, it means an existing macro has been overwritten.

Copying a button set to a new name

To copy an existing button set to a new name:

1. Open the Windows program where you wish to copy the button set.

2. Pop-up the Tablet Manager (the default pop-up button is key 18 on the menu strip).

3. Double click on Button Macros.

4. Click on the button set then click on Copy. The message window below appears.

```
┌─────────────────────────────────────────────────────────┐
│  ─              Tablet Manager                           │
├─────────────────────────────────────────────────────────┤
│  Select application to copy to.                          │
│  Applications are selected by clicking on one of it's windows. Click on │
│  desktop to select DEFAULT.                              │
│  Prepare application and click OK when ready to select.  │
│                                                          │
│                    ┌──────┐   ┌────────┐                 │
│                    │  OK  │   │ Cancel │                 │
│                    └──────┘   └────────┘                 │
└─────────────────────────────────────────────────────────┘
```

5. Click on OK to exit the message window. The program window comes forward with a mouse icon as the screen cursor.

6. Click anywhere in the program window. A confirmation message appears. Click on OK.

7. The Setup Button Assignment window appears displaying the same button functions as the original button set. However, the button functions are assigned to the new program.
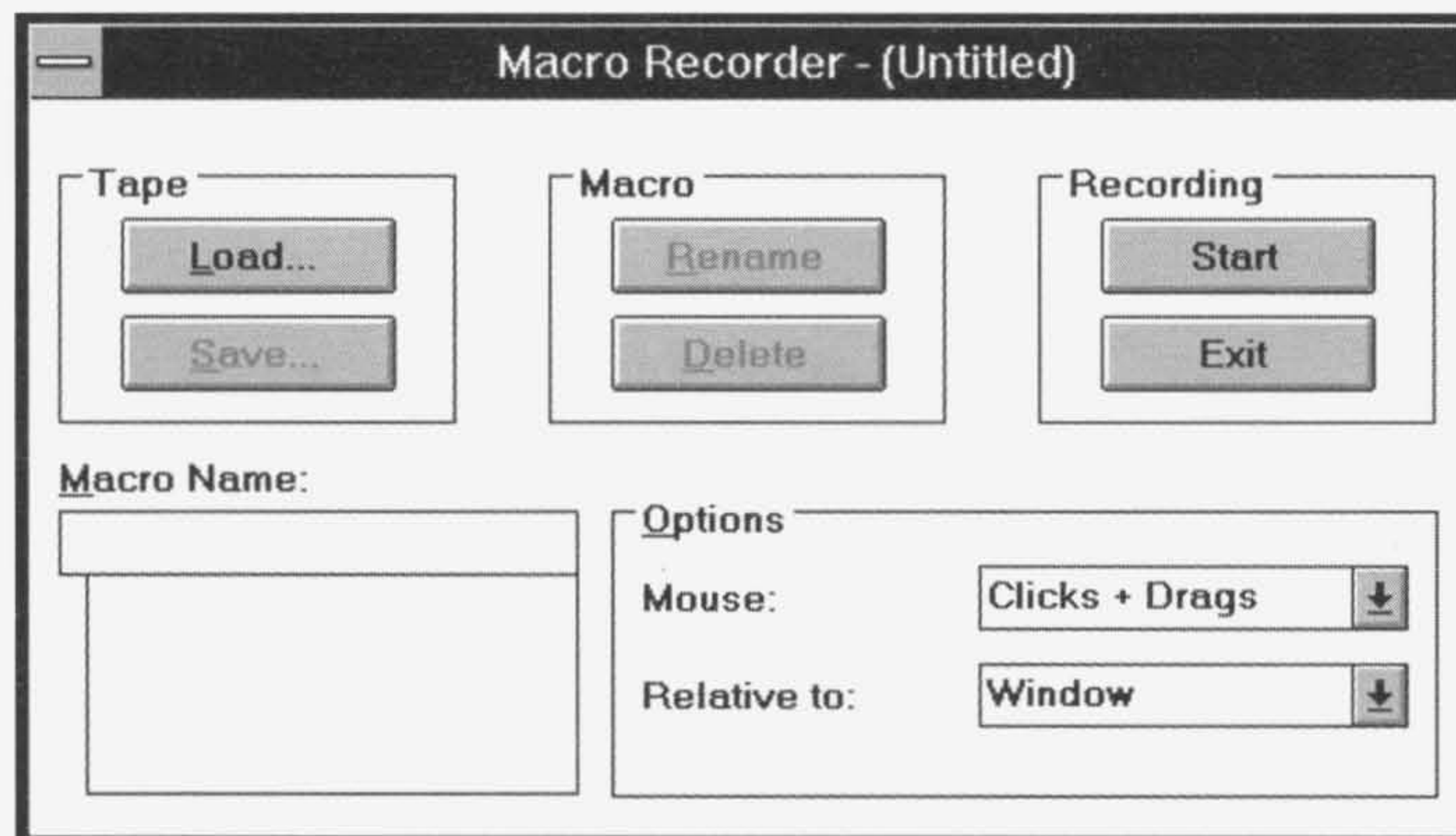
Deleting a button set

To delete a button set:

1. Double click on Button Macros.

2. Click on the button set name you want to delete.

3. Click on Delete.

4. A message window appears confirming the deletion. Click on OK.

5. The button set is removed from the Button Set list.

| Macro Recorder - (Untitled) |

The Recorder utility records macros and assigns them to pointing device buttons or menu strip keys. Recording macros in Tablet Manager is much like recording songs on a music tape. You can record several macros onto one macro tape just like several songs are recorded onto a music tape. This allows you to record several macros to a tape set up for a specific Windows program.

In order to use the macro you have recorded, it must be assigned to a pointing device button or menu strip key within a button set. The button set can be the DEFAULT button set or a button set assigned to a Windows program (see Button Macros for more information on button sets).

A macro cannot be executed if the Tablet Manager is closed. Make sure Tablet Manager is minimized instead. You must minimize Tablet Manager before you can playback a macro.

When you select Recorder, the Macro Recorder dialog shown in Figure 4-4 appears. Five main areas exist in this dialog: Tape, Macro, Recording, Macro Name, and Options.

Tape area

The Tape area contains two command buttons—Load Tape and Save Tape.

Load Tape

Load Tape opens a macro tape and displays the macros recorded on the tape.

Save Tape

Save Tape saves a recorded macro to a specific macro tape. Several macros can be included on one tape. A tape must be saved before exiting Recorder.

Macro area

The Macro area contains two command buttons—Rename and Delete. These buttons can only be accessed if a macro tape is loaded.

Rename

Rename changes the name of a macro on a tape.

Delete

Delete removes a macro from a tape.

Recording area

The Recording area contains two command buttons—Start and Exit.

Start

Before you use Start, make sure the program you want to record the macro for is open and the macro tape you want the macro recorded to is loaded. Start begins recording. A recorder icon with the tape reels running appears at the bottom of the screen to remind you that you are recording.

To stop recording, pop-up Tablet Manager. The recording is suspended and a window appears with the following options:

- **Save Macro**
  Saves the recording to the macro name listed in the Macro Name area.

- **Resume Recording**
  Continues recording the macro from the point record mode was suspended.

- **Cancel Recording**
  Exits record mode and discards all previously recorded information.

Exit

Exit allows you to exit the Recorder utility.

Macro Name area

Type the name of the macro you wish to record in this area. You cannot begin recording until you enter a name in this area.

Options area

The Options area allows you to select recording options. Options can be set for types of mouse actions and where to map the mouse actions.

Mouse

The mouse action options available are:

- **Ignore Mouse**
  Records all keystrokes but ignores all mouse input.

- **Everything**
  Records all keystrokes in addition to all mouse movement and input.

- **Clicks + Drags**
  Records all mouse input.

Relative To

The mapping options available are:

- **Screen**

  Records mouse actions relative to the entire screen. This means that the playback selections will occur at the same location on the screen regardless of where the program window is located.

- **Window**

  Records mouse actions relative to the program window. This means that the playback selections will occur at the same location within the program window they were recorded.

The "Relative To Screen" option is most effective when recording keystrokes and the "Relative to Window" option is most effective when recording mouse input.

Using Recorder

The following step-by-step instructions describe how to use the Recorder functions described in the overview section. Instructions for assigning a macro to a pointing device button or menu strip key are on page 4-9.

Loading a macro tape

To load a macro tape:

1. Click on Load Tape. A new window appears on the screen with a list of available macro tapes.

2. Double click on the name of the tape you wish to load.

3. The window closes and a list of available macros appears under Macro Name.

Recording a macro

To record a macro:

1. Open the Windows program where you want to record the macro.

2. Pop-up the Tablet Manager (the default pop-up button is key 18 on the menu strip).

3. Double click on Recorder. The Macro Recorder dialog shown in Figure 4-4 appears.

4. Load the macro tape you wish to use. If you wish to use the default tape, skip this step.

5. Enter the name of the new macro in the Macro Name area. To record over an existing macro, double click on the existing macro name in the list under the Macro Name area.

6. Click on Start in the Recording area. You are switched to the program window and the recorder icon appears at the bottom of the screen to remind you are recording.

7. Perform the functions you want recorded in the macro.

8. To end the record session, pop-up Tablet Manager. The recording is suspended and a window appears.

9. Click on Save Macro to save the macro. The recorded functions are saved and the macro is listed in the Macro Name area.

   If you click on Resume Recording, you can continue recording the macro from the point the macro was suspended. If you click on Cancel Recording, you can exit record mode without saving the macro.

10. Click on Save Tape to save the changes to the macro tape.

Saving a macro to a macro tape

Saving a macro is a two-step process. First, you must save the macro as you end recording. Second, you must save it to the macro tape. To save the macro to a macro tape:

1. Click on Save Tape. The Save Tape window appears.

2. To save the macro to an existing tape, double click on the tape name. Click on Exit.

3. To save the macro to a new tape, select the path then type the tape name in the box under Select File. The tape file must have the extension .DGT. Click on Save. Click on Exit.

Renaming a macro

You must have a macro tape loaded in order to rename a macro. To rename a macro:

1. Click on the macro you want to rename. The macros are listed under the Macro Name area.

2. Click on the Rename function in the Macros area. The macro name is highlighted and appears in the box under Macro Name. A new window opens.

3. Type the new name in the box then click on OK.

4. Click on Save Tape to save the macro tape changes.

Deleting a macro

You must have a macro tape loaded in order to delete a macro. To delete a macro:

1. Click on the macro you want to delete.

2. Click on the Delete function in the Macros area.

3. Click on Save Tape to save the macro tape changes.

Area Mapping overview

Figure 4-5: Draw the regions you want to map on a a blank sheet of paper first, then insert the paper underneath the tablet overlay

② Zip	③ Program Manager
	① Tablet Mode
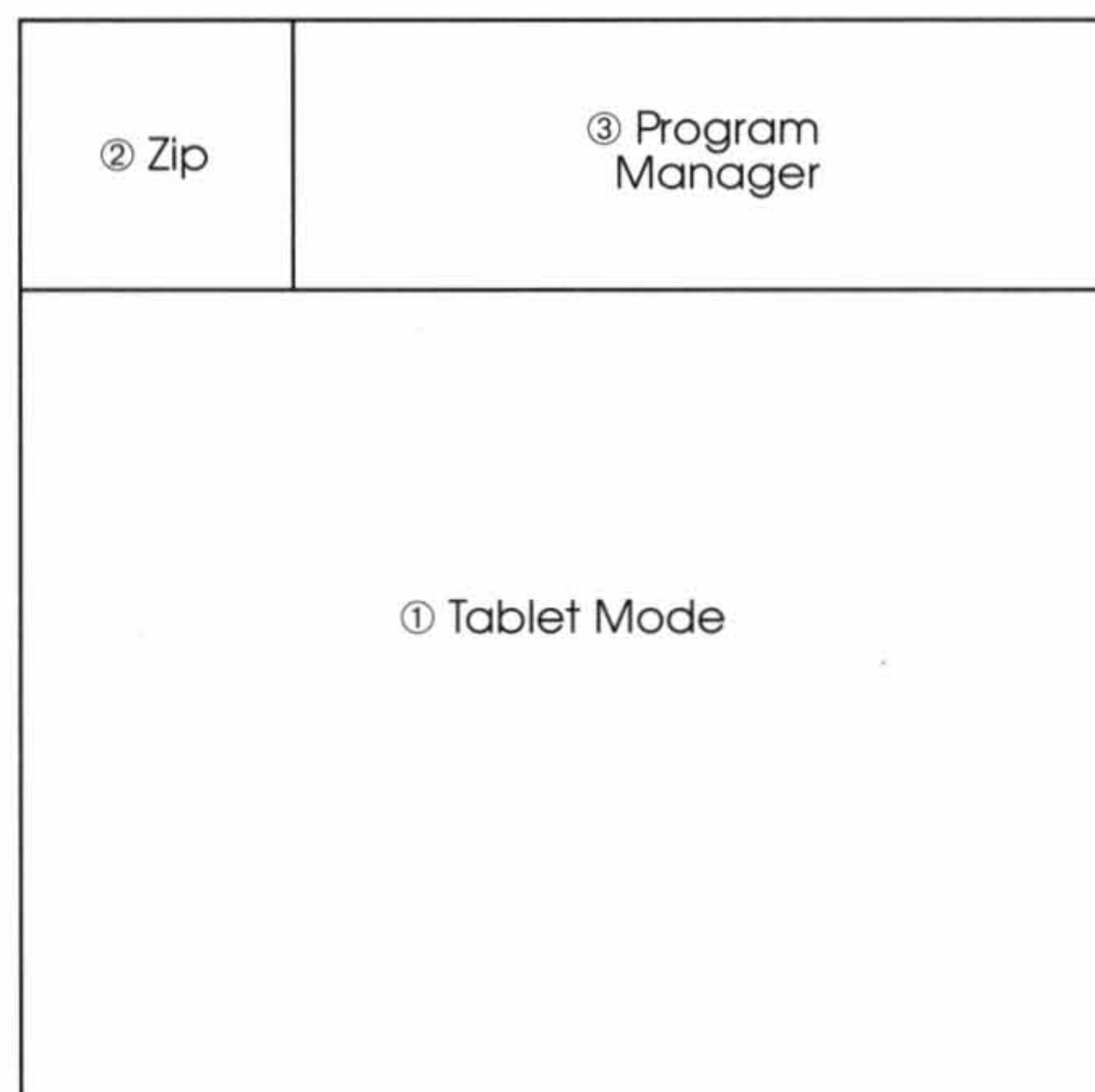
The Area Mapping utility maps the active area of the tablet into different regions. Each region can be uniquely configured to do one or more of the following:

- Operate the tablet in mouse mode
- Operate the tablet in tablet mode
- Map a 1:1 ratio of the region to all or part of the computer screen
- Map a 1:1 ratio of the region to all or part of a program window
- Set up Dynamic Windowing (see Chapter 5)

You can draw the regions on a blank sheet of paper then insert it under the tablet overlay to remind you where the regions are located (see Figure 4-5). You can save groups of regions to a map file. Therefore you can have a customized map for each program you use.

To begin Area Mapping, double click on the Area Mapping icon in Tablet Manager. The Tablet-to-Screen Mapping dialog (Figure 4-6) appears. The dialog consists of four main areas—Files, Region Setup, Selected Region, and Tablet Icon.

*Figure 4-6: Area Mapping
dialog*

Figure 4-6: Area Mapping dialog
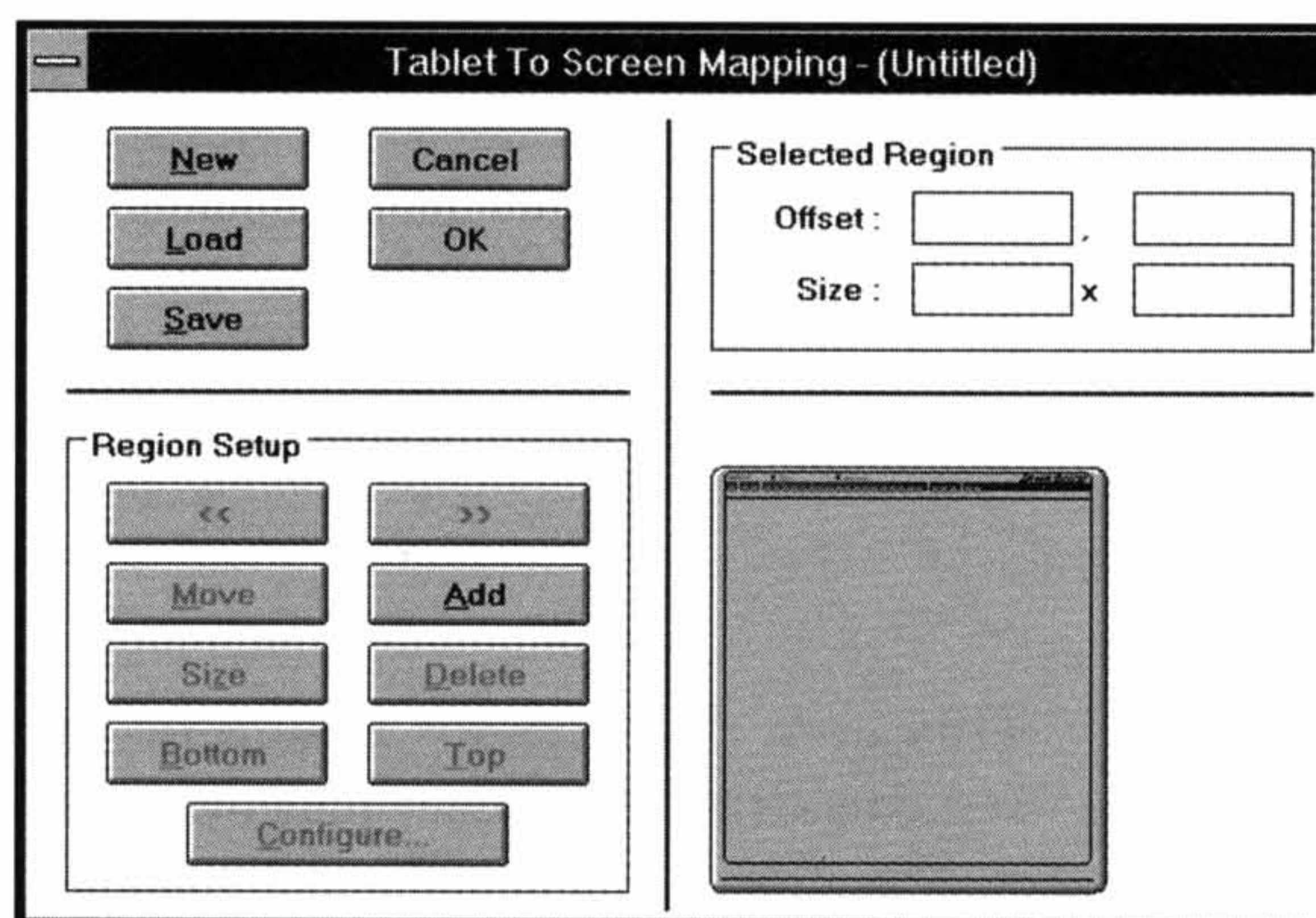
Files area

The Files area contains the buttons used to create, load, and save map files.

New

Click on this button to clear the tablet regions. This allows you to begin a new map.

Load

Click on this button to load a map file. A window appears with a list of available map files. A Delete button is also included in the window. Use this button to delete a map file.

Save

Click on this button to save a set of regions to a map file. This allows you to save and use several maps. When you save a map file, the map is also saved to the default file (DEFAULT.DGM). The default file always contains the last map used.

OK/Cancel

Click on OK to exit and save changes, and on Cancel to exit and discard changes.

Selected Region area

This area provides information on the location and size of the selected region. Offset lists the top left and bottom right tablet coordinates of the region. The tablet coordinates are in increments of .004 inches. Size lists the size of the region in tablet increments.

Tablet Icon area

This area displays an image of the tablet you are using and all regions drawn for the currently loaded map file.

Region Setup area

The Region Setup area manages the set up of the tablet regions. Four command mode buttons are contained in this area—Add, Delete, Move, and Size. Once you have selected a command mode, the program remains in that mode until you exit using the right mouse button (default is Button 2). This means you can continue using the command without reselecting the button. While you are in command mode, the command name appears in square brackets in the Tablet Icon area.

The remaining buttons in Region Setup are used to select and configure the map regions.

Add

Click on Add to create new regions on the active area of the tablet. A cursor appears in the Tablet Icon area. Use the cursor to draw the regions on the tablet. Remember that Add is a command mode button. Therefore, once selected, it remains active until you exit the mode using the right mouse button.

It helps to draw the regions on a blank sheet of paper and insert it under the tablet overlay before you use Add so that you always know the exact location of the tablet regions.

Delete

Click on Delete to remove regions from the active area of the tablet. Delete is a command mode button.

Move

Click on Move to move regions to different areas of the tablet. Move is a command mode button.

Size

Click on Size to change the size of a region. Size is a command mode button.

Configure

Click on Configure to set up a region to do one or more of the following:

- Operate in mouse mode
- Operate in tablet mode
- Map a 1:1 ratio of the region to all or part of the computer screen
- Map a 1:1 ratio of the region to all or part of a program window
- Automatically activate a program

Mouse mode is also called relative mode. It means the movement of the screen cursor reflects the direction and distance that the mouse has moved. However, if the screen cursor is in the upper left corner of the screen and you pick up the pointing device and place it in the upper right corner of the tablet, the screen cursor does not move (assuming the pointing device was moved out of proximity range). Mouse mode allows you to move the screen cursor across the full width of the screen while the mouse stays in a small area on the tablet.

Tablet mode is also called absolute mode. It means the screen cursor moves to the same coordinate position as the pointing device location on the tablet. In other words, if you move the pointing device to the lower left corner of the tablet, the screen cursor moves to the lower left corner of the screen.

Mapping a 1:1 ratio of the tablet region adjusts the size and location of the region to the same height-to-width proportions of your computer screen or program window. This type of mapping can only be used if the region is in tablet mode.

<< and >>

You can use << and >> to select regions in a counter-clockwise and clockwise pattern on the active area, respectively. The regions are selected in the order they were created.

Top and Bottom

If you have a situation where one or several regions overlap one another, only the exposed areas of the regions will be active when selected. To use the full area of the region use the Top or Bottom functions. Top moves the region directly to the top of the stack. Bottom moves the region directly to the bottom of the stack.

Using Area Mapping

The following step-by-step instructions describe how to use the Area Mapping functions described in the overview section.

Adding a new region

To add a new region to the tablet active area, follow the steps below.

1. Before you begin, we recommend that you draw the maps you intend to use on a blank sheet of paper (see Figure 4-5) then insert the sheet under the tablet overlay.

2. Double click on the Tablet Manager icon then double click on Area Mapping.

3. Click on Add. A mouse icon appears on the tablet icon. The tablet is now in tablet (or absolute) mode.

4. Click and hold on the upper left corner of one of the regions you have drawn previously then drag the mouse to the lower right corner. Release the button.

5. The Add command mode will remain active until you click the right mouse button (default is Button 2).

Saving a region to a map file

You can save the regions you have created to a map file. When you save a map file, the map is also saved to the default file (DE-FAULT.DGM). The default file always contains the last map used. To save a map file:

1. Click on Save. A window appears.

2. Enter the map file name.

3. Click on Save again.

Loading a map file

To load a map file:

1. Click on Load. A window appears with a list of available map files.

2. Double click on the map file name you wish to load.

Configuring a mouse mode region

Before you can configure a region, you must have loaded a map file or have added a new region. To configure a region to operate in mouse mode:

1. Select the region you wish to configure by clicking anywhere within the boundary or by using the << or >> buttons. The selected region will be highlighted by a white box around the region.

2. Click on Configure. The Configure Region window appears.

   Double clicking on a region will both highlight the region and select the Configure function.

3. Click on Mouse mode then select the speed you wish to use for mouse movement (e.g., fast for a zip mouse mode).

4. Click on OK in the Configure Region window then click on OK again in the Tablet-to-Screen Mapping window. The changes will not take effect until you exit the Tablet to Screen Mapping window using OK.

Configuring a tablet mode region

Before you can configure a region, you must have loaded a map file or have added a new region. When configuring a tablet mode region, you must also map the region to the computer screen or a program window.

Mapping tablet mode to the computer screen

To configure a tablet mode region mapped to all or part of the computer screen:

1. Select the region you wish to configure by clicking anywhere within the boundary or by using the << or >> buttons. The selected region will be highlighted by a white box around the region.

2. Click on Configure. The Configure Region window appears.

   Double clicking on a region will both highlight the region and select the Configure function.

3. Click on Tablet mode then select Map Region to Screen.

4. Click on Define Area. A message screen appears instructing you how to define the area of the screen you wish to map. To select the entire screen, click on MAX.

5. Click on OK in the Configure Region window then OK in the Tablet-to-Screen Mapping window. The changes will not take effect until you exit the Tablet to Screen Mapping window using OK.

Mapping tablet mode to a program window

To configure a tablet mode region mapped to all or part of a window:

1. Select the region you wish to configure by clicking anywhere within the boundary or by using the << or >> buttons. The selected region will be highlighted by a white box around the region.

2. Click on Configure. The Configure Region window appears.

   Double clicking on a region will both highlight the region and select the Configure function.

3. Click on Tablet mode then select Map Region to Window.

4. Click on Define Area. A message screen appears instructing you how to define the area of the window you wish to map. To select the entire screen, click on MAX.

   After the window is defined, the program information for the window appears in the Window Area Selection window.

5. Click on OK in the Configure Region window then OK in the Tablet-to-Screen Mapping window. The changes will not take effect until you exit the Tablet to Screen Mapping window using OK

Deleting a region

Before you can delete a region, you must have loaded a map file or have added a new region. To delete a region from the tablet active area:

1. Click on Delete. A mouse icon appears on the tablet icon. The tablet is now in tablet (or absolute) mode.

2. Click anywhere within the map you wish to delete.

3. The Delete command mode will remain active until you click the right mouse button (default is Button 2).

Moving a region

Before you can move a region, you must have loaded a map file or have added a new region. To move a region to a new location on the tablet:

1. Click on Move. A mouse icon appears on the tablet icon. The tablet is now in tablet (or absolute) mode.

2. Click and hold anywhere within the region that you wish to move.

3. Drag the region to the new location then release the button.

4. The Move command mode will remain active until you click the right mouse button (default is Button 2).

Sizing a region

Before you can size a region, you must have loaded a map file or have added a new region. To change the size of a region:

1. Click on Size. A mouse icon appears on the tablet icon. The tablet is now in tablet (or absolute) mode.

2. Click and hold on any side of the map you wish to resize.

3. Drag the side until you reach the desired size then release the button.

4. The Size command mode will remain active until you click the right mouse button (default is Button 2).

5 Advanced Features

Two advanced software features are available through the Cal-Comp Digitizer Software:

- Intelligent Configuration through the DOS utilities
- Dynamic Windowing through the Windows Tablet Manager

This chapter also contains advanced commands for CCMOUSE and DBM.

Intelligent Configuration overview

If you use multiple DOS programs, you may find that each program requires a different setting for your digitizing tablet. Thus a good portion of your time is spent reconfiguring the tablet. Intelligent Configuration eliminates the need to manually set up your tablet configuration every time you use a different program. When activated, this feature keeps track of what programs you are running then automatically sets your tablet to the optimum configuration for that program, including activating any macro files created for that program. Allowing Intelligent Configuration to automatically switch your tablet to the tablet setup or mouse mode your program needs saves you time and increases your productivity.

Intelligent Configuration is made possible by the combined use of the:

- Intelligent Configuration database
- DOS tablet manager, DBM
- DOS configuration program, CALDBCFG

Intelligent Configuration database

The Intelligent Configuration database, supplied with the Cal-Comp Digitizer Software, contains an extensive list of software program names and their factory recommended tablet configurations (see Appendix B). You can add your own program names and configurations to the database and modify any of the existing configurations to suit your own purposes.

DBM

The DOS tablet manager, DBM, controls the loading of the tablet configurations and macro files for Intelligent Configuration. When a DOS program is started, DBM looks up the program's name in the Intelligent Configuration database. If it finds the name and a configuration is defined, DBM will then set up the tablet according to the defined configuration and load the macro file if one is assigned to the program through the database.

Figure 5-1: Intelligent
Configuration dialog


```
═══════════════════ Intelligent Configuration ═══════════════════
┌─Software Name──────┬─Configuration────────────┬─Macro──────┐
│ ATLAS Draw         │ Atlas Draw: CalComp 9100 ≡│ ?........ ↑│
│ AutoCAD            │ AutoDesk Products as ADI ≡│ ACADNULL  │
│ AutoShade          │ AutoDesk Products as ADI ≡│ ?........ │
│ AutoSketch         │ AutoDesk Products as ADI ≡│ ?........ │
│ CadKey 4.0         │ CADKEY: GTCO DP-5 Hi-Res ≡│ ?........ │
│ CADVANCE           │ CADVANCE: CalComp 9100   ≡│ ?........ │
│ CivilSoft          │ CivilSoft: CalComp 9100  ≡│ ?........ │
│ COGO               │ COGO-PC: CalComp 9100    ≡│ ?........ │
│ DATACAD            │ DATACAD: CalComp 9100    ≡│ ?........ │
│ DesignCAD          │ DesignCAD: GTCO DP5 HiRs ≡│ ?........ │
│ DIGICAD            │ DIGICAD: CalComp 9100    ≡│ ?........ ↓│
└────────────────────┴──────────────────────────┴───────────┘
  ┌──────┐  ┌──────┐  ┌──────┐  ┌──────┐  ┌──────┐  ┌──────┐
  │ Edit │  │ Add  │  │Delete│  │Rename│  │  OK  │  │Cancel│
  └──────┘  └──────┘  └──────┘  └──────┘  └──────┘  └──────┘
```

CALDBCFG

The DOS configuration program, CALDBCFG, manages the Intelligent Configuration database. Through CALDBCFG, you can check the defined configurations for the programs against the developer's recommendations. You can also change the configuration or create configurations for new programs.

The Intelligent Configuration feature is not available on network environments. Remember, you cannot run CALDBCFG unless DBM is loaded into memory.

Use the Intelligent Configuration function under the Configure Menu to edit the Intelligent Configuration Database. Select this function to view the software name, tablet configuration, and macro file assignments for each program in the database (see Figure 5-1).

Intelligent Configuration Options

The command options for Intelligent Configuration are:

- **Edit**
  Edits the database assignments for the program. The Allow Shell Configuration in the Edit screen is an advanced option used to control the tablet configurations during "shell out" functions in software programs.

- **Add**
  Use this command to add new software programs to the database. The configuration for the software is defined using

the Custom Configuration function, but the software is added to the database using Add.

- **Delete**
  Use this command to delete software programs from the database.

- **Rename**
  Use this command to rename a software program or its executable file in the database.

Setting up Intelligent Configuration

The following step-by-step instructions describe how to set up the Intelligent Configuration feature and manage the Intelligent Configuration database. To set up Intelligent Configuration:

1. Check the Intelligent Configuration database to ensure the program names you wish to use are listed (see Appendix B).

   If your program is not listed then follow the "Creating a new configuration" and "Adding a configuration to the database" procedure described below.

2. Load DBM into memory by typing:

   DBM <Enter>

   The Intelligent Configuration feature is activated when DBM is loaded into memory.

Editing the database

To change a configuration in the database:
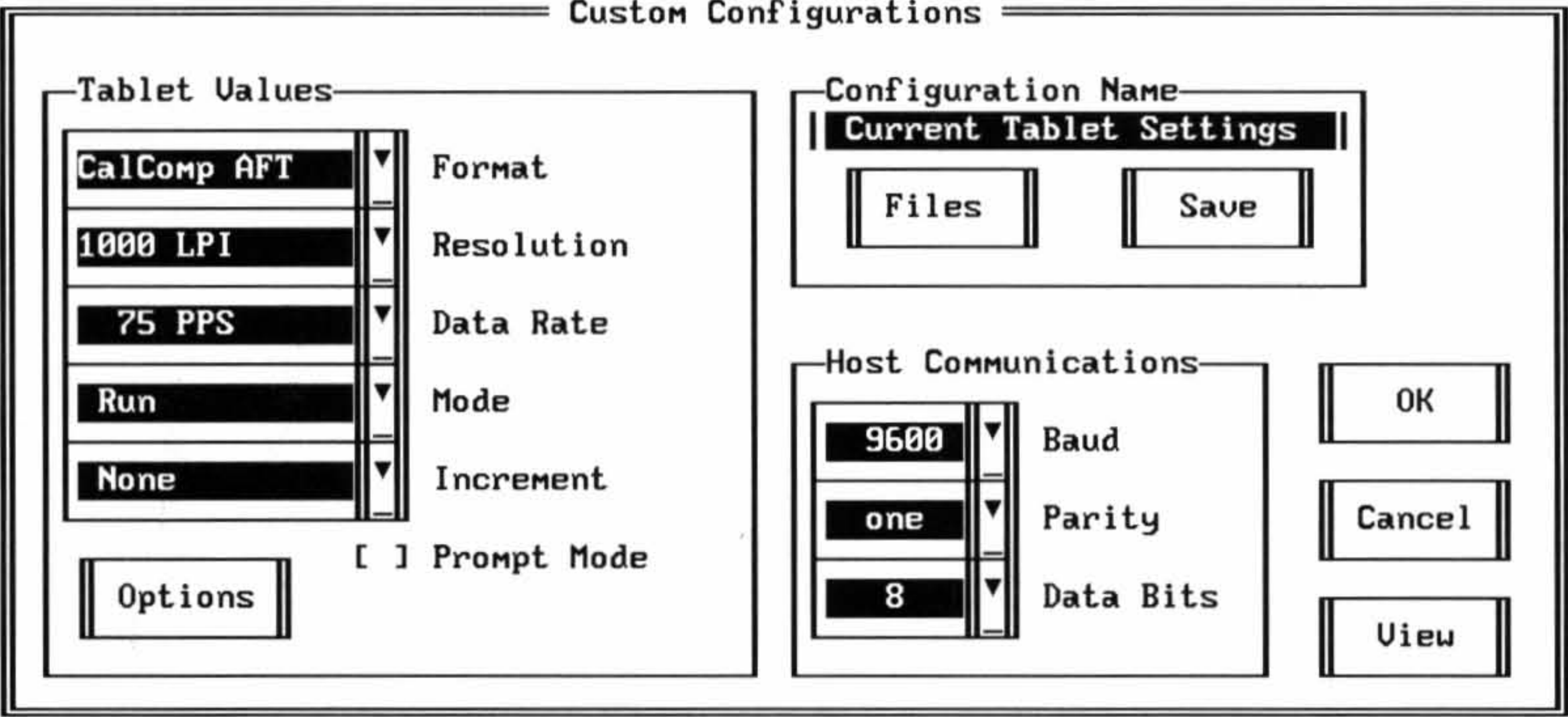
1. Begin the configuration program by typing:

   CALDBCFG <Enter>

2. The main screen appears. Click on Configuration.

3. Click on Intelligent Configuration.

4. Highlight the program name you wish to edit in the Software Name column then click on Edit.

5. Click on the Configuration Name box. A list of available tablet configurations for the program appears.

6. Click on the tablet configuration you wish to use then on OK.

7. The program returns to the previous screen. Click on OK again to save the changes.

8. The main screen appears. Click on File then on Save Changes and Exit.

Creating a new configuration for the database

In CALDBCFG, use the Custom Configuration function under the Configuration Menu to create new configurations and to customize existing configurations. To create a custom or new configuration for the database:

1. Refer to your software user's manual to find the digitizer configuration required for your program.

2. Begin the configuration program by typing:

   CALDBCFG <Enter>

3. The main screen appears. Click on Configuration.

4. Click on Custom Configuration.

5. Click on Edit.

6. Review the Tablet Menu and Host Communications settings. To change a setting, click on the box where the setting is listed. A list of available selections appears. Click on the new setting.

7. To review the advanced tablet options, click on Options. Make necessary changes then click on OK.

8. After all modifications have been made, click on Save. A dialog appears.

9. Type the new configuration name in box next to New File.

10. Click on OK then click on Exit.

11. Add the configuration to the Intelligent Configuration database (see "Adding a new configuration" below).

Adding a new configuration to the database

Before you can add a new program to the database, you must have defined the configuration (see "Creating a new configuration" above). To add a program to the database:

1. From the CALDBCFG main screen, click on Configuration.

2. Click on Intelligent Configuration.

3. Click on Add. Enter the program name you wish to add to the database. Next enter the name of executable file (.EXE) for that program. Click on OK.

4. The Edit dialog appears. Click on Configuration Name. A list of available configurations appears. Your custom configuration should appear in this list. Click on the custom configuration then click on OK.

5. Click on OK again. The main screen appears.

6. Click on File then Save Changes and Exit.

Deleting a configuration from the database

To delete a program from the Intelligent Configuration database:

1. From the main screen, click on Configuration then click on Intelligent Configuration.

2. Click on the program name that you wish to delete.

3. Click on Delete then on OK.

4. Click on OK again. The main screen appears.

5. Click on File then on Save Changes and Exit.

Renaming a configuration in the database

To rename a program name or executable file in the Intelligent Configuration database:

1. From the main screen, click on Configuration then click on Intelligent Configuration.

2. Click on the program name or file name you wish to change.

3. Click on Rename.

4. Type the new program name or executable file name in the respective space. Click on OK.

5. Click on OK again. The main screen appears.

6. Click on File then on Save Changes and Exit.

Dynamic Windowing overview

*Figure 5-3: Draw the regions
you want to map on a
a blank sheet of paper first,
then insert the paper under
neath the tablet overlay.*

② Word-Perfect	③ File Manager	④ Photo-Touch	⑤ Corel-Draw

① Mouse Mode
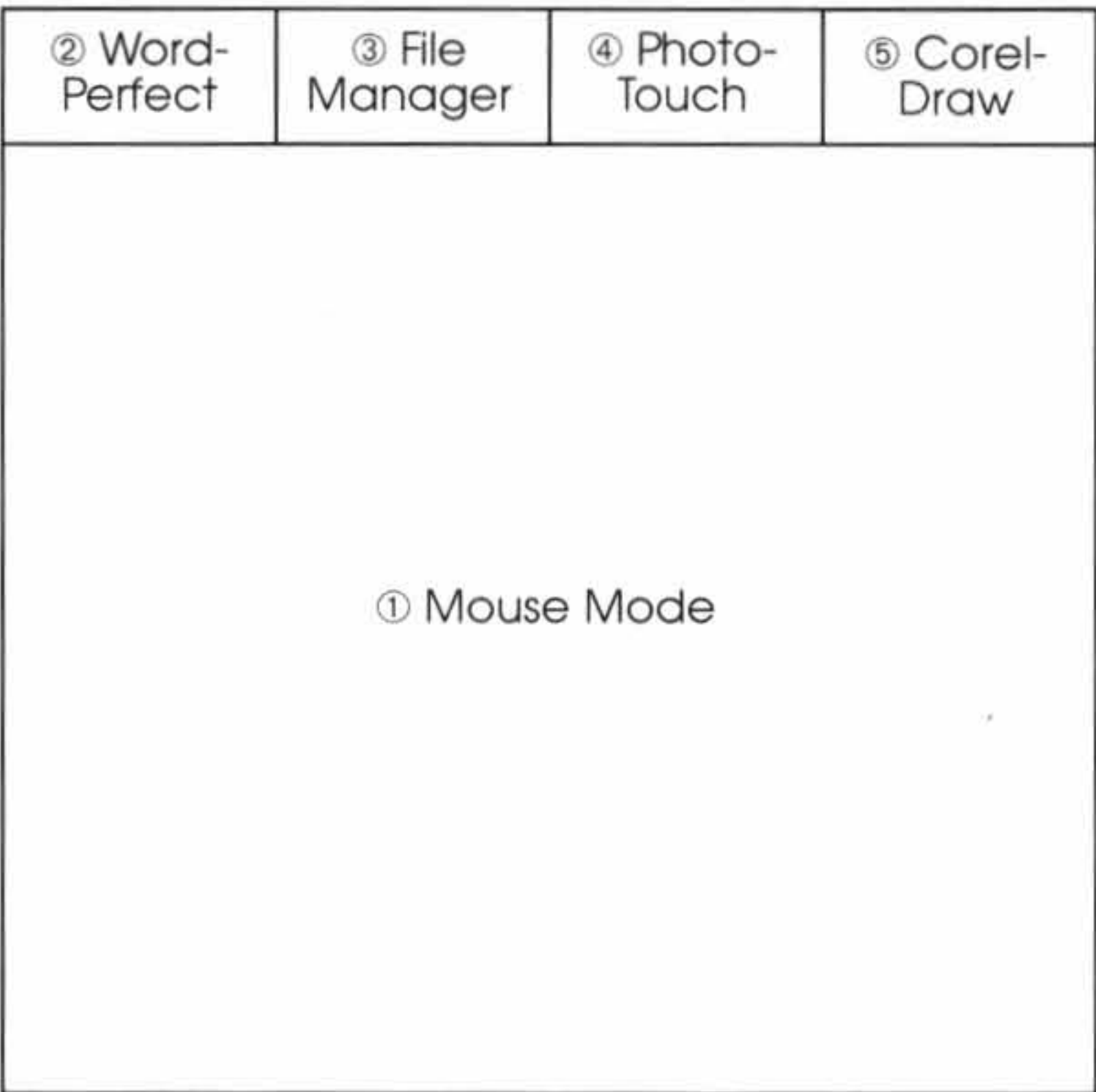
Dynamic Windowing is a very powerful Windows feature. The power of this feature is illustrated in this example. Figure 5-3 shows a map of regions that are numbered for the purposes of this illustration. The map can be drawn on a blank sheet of paper to show the location of the regions then inserted under the tablet overlay. The regions are configured to automatically activate a Windows program. You can place the pointing device in Region 1 to operate the tablet in mouse mode. Upon moving to Region 5, the CorelDraw program window comes forward. Now you must perform a file search. Move the pointing device to Region 3 to pop-up the File Manager window. Get the picture? All programs must be open for Dynamic Windowing to work.
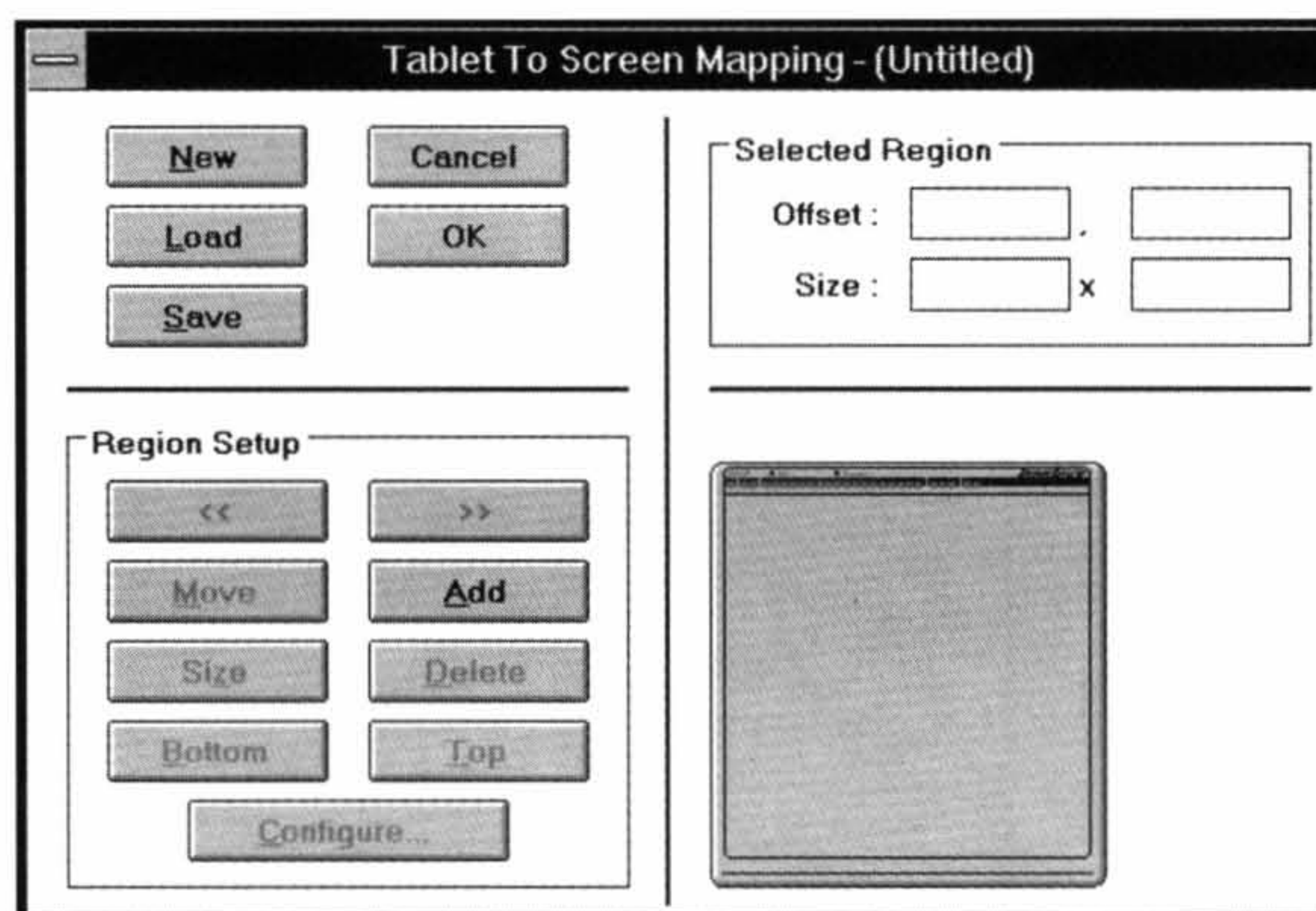
Dynamic Windowing is set up through the Area Mapping utility in the Windows Tablet Manager. To set up Dynamic Windowing:

1. Draw the regions representing the programs you would like to include on a blank sheet of paper and insert it under the tablet overlay (see Figure 5-3).

2. Double click on Area Mapping in the Windows Tablet Manager. The dialog shown in Figure 5-4 appears.

3. Create a tablet map by using the Add function to outline each region drawn previously.

4. Open the program you wish to assign to the first region then pop-up the Tablet Manager.

5. Double click anywhere within the region that corresponds to the program you opened. The selected region will be highlighted by a white box around the region and the Configure Region window opens.

6. Click on Tablet mode then click on Map Region to Window.

7. Click on Auto Activate then on Define Area. The Window Selection window opens.

8. Click on OK. The mouse icon replaces the screen cursor. Move to the program window and click anywhere within the window.

9. A confirmation window opens. Click on MAX to select the entire window.

10. Repeat steps 4 through 9 for each program you wish to include in Dynamic Windowing.

11. After the final region is configured, click on OK in the Tablet-to-Screen Mapping window. *The changes will not take effect until you exit the Tablet-to-Screen Mapping window using OK.*

12. Click on File then on Save Changes and Exit.

What you now have is a map of regions that will activate the program window assigned to it every time you move the pointing device into the region on the tablet drawing. The programs must be open for Dynamic Windowing to work. You can open the programs automatically upon starting Windows by dragging the program icon into the Start-Up window (for 3.1 users) or by adding the program executable file name to the Load line in the WIN.INI file. See your Windows User's Guide for details.

Advanced commands for CCMOUSE

Advanced commands are available to allow you to control the functionality of CCMOUSE. To use the commands you must add them to the command line when starting the program or to the CCMOUSE.COM line in your AUTOEXEC.BAT file. Adding the switches to the CCMOUSE.COM line in the AUTOEXEC.BAT file will allow them to be activated each time the CCMOUSE is loaded into memory. For example, to set up the driver to be used with a high frequency cursor, enter:

```
CCMOUSE /F
```

Command switches

The command switches and their descriptions are summarized below. The switches are not case sensitive, meaning they can be entered in either upper or lower case. Multiple switches can be used together on one command line if separated by commas.

/A

Enables tablet (or absolute) mode.

/B

If your tablet has a speaker, this switch turns the tablet beep on (default is off).

/C

If your tablet has a speaker, this switch turns the pen click sound off (default is on).

/Dnnn

Sets double speed threshold where nnn is a decimal range from 5-10,000.

/F

Sets the driver up for a high frequency pointing device.

/Hnnn

Sets the horizontal (x) sensitivity where nnn is a decimal range of 5-100.

/Vnnn

Sets the vertical (y) sensitivity where nnn is a decimal range of 5-100.

/M

Disables the menu strip (default is on).

/S

Sets the horizontal scaling for the ADI driver. Currently all ADI drivers and tablet drivers supported by AutoCAD do not use the entire tablet active area. The X data is always scaled to the same size as the Y data. This always give a perfect square active area which prevents drawings from being skewed when digitized into AutoCAD. Other Autodesk products, such as AutoShade and AutoSketch, do not have a tablet calibrate command to scale the tablet active area to the entire screen like AutoCAD. This presents a problem because you cannot digitize a drawing that is longer than its height. This can be eliminated by using the /S switch when loading CCMOUSE.COM to scale the tablet active area to the screen.

/U

Removes CCMOUSE from memory.

/1, 2 or 3

Sets rotated tablet orientations where 1 rotates tablet orientation 90° (menu strip on the right), 2 rotates -90° (menu strip on the left), and 3 rotates 180° (menu strip at the bottom).

/?

Lists the available command switches.

Advanced commands for DBM

Advanced commands are available to allow you to control the functionality of DBM. To use the commands you must add them to the command line when starting the program or to the DBM.EXE line in your AUTOEXEC.BAT file. Adding the switches to the DBM.EXE line in the AUTOEXEC.BAT file will allow them to be activated each time the DBM is loaded into memory. For example, to enable the macro editing capability for DBM, enter:

`DBM /E` <Enter>

Command switches

The command switches and their descriptions are summarized below. The switches are not case sensitive, meaning they can be entered in either upper or lower case. Multiple switches can be used together on one command line if separated by commas.

The defaults for DBM are:

- Play and record mode on
- Pop-up activated
- Delay = 1
- Function block polling on
- Intelligent Configuration on

/U

The /U command switch is used to unload DBM from memory.

Since DBM and CCMOUSE are both TSR's, there is the possibility that other TSR's may interfere with the /U command. If this happens, the drivers will not be able to be unloaded via software commands. Call Technical Support for more help.

If you experience memory allocation or "not enough memory" errors while using DBM, unload the manager by typing:

`DBM /U`

Then reload the manager by typing:

`DBM /P`

This will save approximately 10Kb of memory.

/W

The /W command switch writes all recorded macro definitions to the currently loaded macro file. If /W=filename is entered, the macros are saved to the specified file. If the file doesn't exist it will be created. All macro files must have an extension of .MAC. When using /W=filename, the extension does not have to be included.

/R

The /R command switch allows you to use more than one set of macros by loading a different macro file. The macro definitions saved in the new file replace the definitions in the current file. /R alone loads the default file, TEMPLATE.MAC. /R=filename loads the specified file.

/P

There are times when memory usage becomes critical or when you may need to restrict the functionality of DBM. For these purposes, the /P command switch is used to load DBM in a playback mode only. That is, the DBM will allow macros to be played but not recorded. While in this mode the pop-up manager window is disabled. It is important to remember that /P cannot take effect if DBM is unloaded from memory first then reloaded using /P. The playback mode reduces the memory requirements of DBM.EXE by approximately 50%.

/E

The /E command switch loads DBM with editing capability for macros. The procedure for editing macros is described in the next section.

/C

The easiest way to erase all recorded macros that reside in memory is with the /C command switch. This switch clears all pointing device and tablet macros, and resets the pointing device buttons and tablet keys to their defaults.

/D

This switch is used as a delay for macros. When recording macros on some high speed computers (386 or 486), you may need to insert a delay in the macro Shift and Control keys. The delay default is 1. If you notice macros not playing back correctly, terminating prematurely, or hanging, increase the hold delay using /D=n where n is a number from 0 to 9.

/F and /G

DBM monitors the 18 macro keys on the menu strip. In some software programs, having these macros enabled can cause a slight twitching response in the screen cursor or cause the screen cursor to momentarily disappear. If this occurs, use the /F command switch to disable the macro keys (function block). To reactivate the macro keys, use the /G command switch.

/N and /O

The /N switch is used to disable the Intelligent Configuration feature. Some TSR's may conflict with the Intelligent Configuration feature causing the computer to hang or lock up. You should also disable the Intelligent Configuration feature if you are working in a network or multitasking environment. To reactivate the feature, use the /O switch.

/H or /?

Displays help for DBM.

Using DBM to edit an existing macro

Before you can edit an existing macro, DBM must be loaded using the /E command switch. To edit the macro:

1. Click on Edit in the Manager window.

2. Press or click on the macro button you wish to edit.

3. A window appears displaying the recorded keystrokes. Edit the macro using the pointing device buttons as editing keys. These editing functions override the default button functions on the pointing device only while the Edit command is active. The button functions are:

Button 0   exit the editor
Button 1   return to home (beginning of string)
Button 2   page up
Button 3   delete
Button 4   page down
Button 5   move to end of string

4. Press Button 0 to exit the editor. The Save window appears.

5. Click on Overwrite to save the macro to the same button but overwrite the previous recording. Click on Other Key to save the macro to a different button leaving the previous macro intact.

Notes:

A Troubleshooting

How to get help

We want your experience with the CalComp Digitizer Software to be a successful one. If you have a problem, please follow the steps below.

1. Reread the manual to verify you have performed the correct steps.

2. Read this appendix to check if a solution to your problem is provided. Specific problems are listed along with their possible causes and solutions in the troublshooting chart.

3. If you still have a problem, call CalComp Technical Support at (800) 458-5888 (in the U.S. or Canada) or fax us at (602) 948-5508. Outside the U.S. or Canada, contact your local CalComp office or dealer. Please have the following information available before you call:

   - Description of the problem

   - Name and version of software package you are using

   - Type of computer you are using

   - Tablet serial number*

---

* Serial number, part number, and date of manufacture are found underneath the tablet.

- Tablet part number*

- Tablet date of manufacture*

- Type of pointing device you are using

4. Be at your computer when you call.

CalComp's bulletin board

CalComp's bulletin board covers helpful hints, technical notes, and new product information. You can access the bulletin board with your modem by calling (714)236-3045. To access the bulletin board, set your modem with the following parameters:

- 1200 baud or higher
- 8 data bits
- 1 stop bit
- No parity

---

* Serial number, part number, and date of manufacture are found underneath the tablet.

Troubleshooting chart

The following table lists common problems with the CalComp Digitizer Software, their causes, and their solutions.

Problem	Cause	Solution
Frozen display screen crosshairs	Cordless cursor or pen is in "sleep" mode.	Press any button to activate the device.
	Mouse driver or tablet manager not loaded.	Load mouse driver or tablet manager from the DOS prompt.
	Tablet plugged into the wrong connector in the back of the computer.	Check that the serial cable is connected to the serial port on the computer.
	Tablet not powered correctly.	Check that the power cable is installed correctly.
	Intelligent Configuration Database and software digitizer selections do not match.	Check the digitizer configuration required by your software application against the configuration listed in the database. The two configurations should match.
	Battery low in cordless pointing device.	Replace battery in pointing device.
Cannot determine which digitizer driver to choose within your software application	No listing for the CalComp tablet in your software application.	Look for a list of operating parameters in the software manual. Choose a matching configuration or create a custom one using CALDBCFG. If the operating parameters are not in the manual, call the software company and ask for them.

Problem	Cause	Solution
Screen crosshairs appear to shake or jitter	Tablet is set too close to the screen monitor.	Move the tablet farther away from the screen.
	Tablet's frequency setting may conflict with the display.	If you have a corded pointing device, change the tablet's frequency. If you have a cordless pointing device, call Technical Support.
	DBM is loaded with function blocks enabled. These are interfering with the applications digitizer driver.	Run DBM with /F switch to disable function blocks.
Keyboard will not respond	Operating parameters are set incorrectly.	Remove pen or cursor from active area and recheck the tablet settings.
Tablet does not respond	Cable is connected to the wrong serial port of the computer.	Move cable to correct serial port.
	Incorrect digitizer driver selected.	Check the driver selection in the configuration software.
	Menu strip is activated.	If the configuration light is on, click on Config/Exit button in the menu strip to turn off.
Unable to use the entire tablet surface	Incorrect format selected.	Check your selections using CALDBCFG.
	Tablet Manager in absolute mode.	Change to relative mode or select larger region.
	Incorrect resolution selected.	Check the resolution setting for the tablet using CALDBCFG.
	Screen pointing area needs to be defined.	Refer to your application software manual on how to respecify the pointing area.
	Tablet size setting in application is set to a size smaller than the actual size of the tablet.	Reset the application setup to the correct tablet size.

Problem	Cause	Solution
CCMOUSE error message: Tablet not found, check connection and cables.	Tablet is plugged into a 9-pin serial port without the correct 9- to 25-pin adapter.	CCMOUSE requires the serial port to have the Ring Indicator (RI) line available. Some 9- to 25-pin adapters do not correctly support the RI signal. Try connecting to a different serial port.
	The tablet is not turned on.	Verify that the tablet is turned on.
Config/Exit button on tablet flashes; unable to enter configuration mode.	CalComp software is loaded (CCMOUSE or DBM).	While CalComp software is loaded, the Config/Exit button is disabled. Use the /U switch to remove the CalComp software from memory.
	The tablet's menu has been disabled.	Use CALDBCFG to reconfigure the Save/Recall 1 options.
System hangs or locks up when entering or exiting an application.	Not enough base memory on the computer.	Try removing some TSR's or other programs in order to free up some base memory.
	DBM or other TSR conflicting.	Try running DBM with the /F and /N switches. If these do not rectify the problem, contact CalComp for further assistance.
System locks up or hangs after activating DBM pop-up (button 18 on tablet).	Possible video conflict with DBM.	Press the Esc key. It is possible that the DBM is active, but not visible.
AutoCAD error message: Warning— No driver at interrupt 079H.	The CCMOUSE driver has not been loaded.	Load CCMOUSE before entering AutoCAD. CCMOUSE is copied when the digitizer software is installed.
Windows error message: Tablet driver not found— Manager not loaded.	The correct tablet driver is not selected from within the Windows SETUP program.	Run SETUP from the Windows directory and set the mouse driver to a CalComp Tablet Driver with the "Other (disk required by manufacturer)" option.
While installing the Digitizer Software, the program terminated unexpectedly.	Disk is write protected.	Remove disk write protection.

Problem	Cause	Solution
When using the tablet as a mouse, the pointing device skips or doesn't track correctly.	Annother mouse driver besides CCMOUSE is loaded.	Remove the other mouse driver.
	CCMOUSE is loaded into high memory.	Load CCMOUSE into the conventional 640K memory; remove from high memory.

B Intelligent Configuration Database

The following table lists the Intelligent Configuration database for use with the Intelligent Configuration feature of the Digitizer Software. The database lists software programs and their preferred tablet configurations.

Program Name	Preferred Digitizer Configuration
ATLAS	CalComp 9100
AutoCAD	ADI
AutoShade	ADI
AutoSketch	ADI
CADKEY 4.0 using a 16-button cursor	GTCO DP5 - High Res
CADVANCE	CalComp 9100
CivilSoft	CalComp 9100
COGO-PC	CalComp 9100
DATACAD	CalComp 9100
DesignCAD	GTCO DP5
DIGICAD	CalComp 9100
DIGITIZE	CalComp 9100
Dr. Halo III using a 4-button cursor	GTCO Large Pad
DrafixCAD Ultra (except J size tablet)	Numonics 2200
Drawbase	CalComp 9100 #1
EASYCAD 2	CalComp 9100
EASYDIJ	CalComp 9100
FASTCAD (except J size tablet)	Numonics 2200

Program Name	Preferred Digitizer Configuration
Generic CAD	GTCO DP5
Map Edit	Summagraphics MM 1201
MAP INFO	CalComp 9100 #3
Paintbrush IV Plus	GTCO Sketch
Personal Architect	Kurta
Personal Designer	Kurta
Personal Machinist	Kurta
Ventura Publisher	Mouse Systems Mouse
VersaCAD	CalComp 9100
VersaCAD 386	CalComp 9100
Wizard	GTCO ASCII

C Glossary

Accuracy

The similarity of a distance measured by the tablet with the actual distance. When we specify that the accuracy of a tablet is ±.010 inches, we mean that every point in the active area is within .010 inches of where it should be.

Active area

The area on the tablet surface intended for digitizing.

ASCII

Abbreviation for American Standard Code for Information Interchange.

Baud rate

The rate of speed that data flows between a host computer and the digitizer. It is the number of bits transmitted per second. The lower the baud rate, the slower the speed.

Bit

The basic unit of information in the binary system—either 0 or 1.

Button

A switch on the cursor or pen used to input data.

Byte

A group of eight bits that acts as a single unit of information.

Coordinate pair

A pair of numbers representing a unique point on the digitizer surface, usually the distance across and up from the tablet origin.

CR

The ASCII carriage return character usually added to the end of the X,Y coordinate pairs sent by the tablet (ASCII formats).

Cursor

1) A pointing device used to select specific points on the tablet surface. 2) A symbol displayed on the screen marking where the next action will take effect or where the next character typed from the keyboard will appear.

Data bits

Each transmission contains 7 or 8 data bits.

Data rate

The number of coordinate pairs (X,Y) the tablet sends to the computer per second.

Default

A value, action or setting that a computer system assumes, unless the user gives an explicit instruction to the contrary.

Default settings

Preset software/firmware parameters that activate at power up until changed by the user.

Delta mode

The data output represents the change in the cursor's position since sending the last point, rather than the absolute position of the

cursor on the tablet. Delta is unique to the Summagraphics MM 1201 format.

ESC commands

The 9x00 command set precedes each command with ESC.

Echo

Incoming characters that are repeated to the sender.

Format

The form in which data is sent from the tablet. CalComp tablets can output 32 different formats.

Frequency

The rate at which signals are repeated. CalComp have a high frequency of 61.44 KHz and a low frequency of 57.6 KHz.

Grid Update mode

Grid Update is similar to Increment Mode. However, new data points transmit only for the axis that has satisfied the required increment distance. The other axis sends the last value that fulfilled the distance requirements. Grid Update is unique to the Summagraphics MM 1201 format.

Halt mode

The tablet accepts commands but transmits no data until a new mode is selected.

Handshake

An option that allows you to enable/disable the CTS/RTS line enable.

Height

See Proximity.

Highlight

To make something visually distinct. Highlighting is accomplished by inverting the display.

Increment modes

This mode is used with other operating modes. Data points are sent only if the cursor has moved the required increment distance in either the X or Y direction and has satisfied the requirements of the operating mode. These increment distances are set separately for each axis.

Jitter

A repeatability error of short duration caused by electrical noise.

Key

A portion of the tablet surface available to the user for tablet configuration.

Keystroke

A key or key combination that you assign to a macro. When pressed, it triggers the playback of the macro.

LED

Abbreviation for light-emitting diode. The power and configuration lights on the tablet are LED's.

Line mode

The tablet sends coordinate data points continuously, while the pen tip or a cursor button is depressed, and one additional point when the pen tip or cursor button is released.

Line feed

Optional character added to the end of an output format that causes the printer to move to the next line, or causes a line to be added on the display screen.

LPI

Abbreviation for line per inch. English unit of measurement for resolution measuring the number of separate, distinguishable locations that may be found within the distance of one inch.

LPmm

Abbreviation for lines per millimeter. Metric unit of measurement for resolution measuring the number of separate, distinguishable locations that may be found within the distance of one millimeter.

Macro

1) A user-defined command that tells an application to carry out a series of commands when you type the macro. 2) A recorded sequence of characters and commands, identified by a name and possibly triggered by a keystroke.

Margin

Area surrounding the active area on the tablet. The digitizer does not transmit accurate coordinate pairs if the pen or cursor is placed in this region.

Margin data

Data sent from the margin area of the tablet.

Menu active

An option that allows the user to enable/disable the menu strip. When disabled, the Config/Exit button on the menu strip cannot be accessed.

Mouse mode

An operating mode that emulates Microsoft and Mouse Systems mouse drivers. Data constantly transmits when the cursor or pen is on the active area of the tablet.

One byte commands

An option that allows the user to enable/disable the use of the CalComp 2000 or Summagraphics MM commands sets.

Operating mode

The conditions that must be met before the tablet sends information to the computer.

Origin

The point on the tablet which is designated as point (0,0), relative to a grid of conductors positioned in the horizontal (X) and vertical (Y) directions.

Output format

The system of characters used by CalComp tablets for outputting data.

Parameters

The special modes and settings used by the CalComp tablets, such as baud rate, parity, etc. These modes may be entered and changed by the user at any time.

Parity

A type of error detection where a bit is inserted into every character the digitizer transmits. The status of the parity bit confirms that the data was not altered during transmission.

Pen tilt correction

An option that allows for tilt correction in the pressure pen.

Pen tilt data

An option that allows output of tilt data in the pressure pen.

Point mode

The digitizer transmits one coordinate data point when a cursor button or the pen tip is depressed.

Pointing device

The device used to digitize; it may be either a cursor or pen.

Pressure pen data

Data output from the pressure pen.

Prompt mode

The digitizer transmits one coordinate pair each time the computer sends a prompt character to the unit. Prompting can operate with any mode except Mouse mode.

Proximity

The greatest distance above the active area that the pointing device can be raised and still be sensed by the tablet.

RAM

Abbreviation for Random Access Memory, a specific type of memory used by the computer.

Resolution

The distance increment that the tablet outputs in lines/inch or lines/mm.

ROM

Abbreviation for Read Only Memory, a specific type of memory used by the computer.

Run mode

The digitizer transmits coordinate data points continuously, regardless of the status of the cursor buttons or the pen tip. This mode is also called stream by some manufacturers.

Serial transmission

Data transmission protocol where each bit of the data character is sent one at a time over a single circuit. This system saves on transmission circuitry, but is usually slower than parallel transmission.

Stop bits

1 or 2 stop bits transmit with each data byte. They mark a completed transmission.

Stream mode

See Run mode.

Switch Stream mode

See Track mode.

Toggle

Switch the current state between two available states.

Track mode

The digitizer transmits coordinate data points continuously, but only while the cursor button or pen tip is depressed. This mode is also called Switch Stream by some manufacturers.

X direction

The horizontal direction across the face of the tablet.

Y direction

The vertical distance up and down the face of the tablet.

Index