

CDIM:Thunder Bay User's Guide

**Community Development
Impact Model**

for

Thunder Bay

August, 1994

Econometric Research Limited

C O N T E N T S

INTRODUCTION	3
Who should use this manual?	3
Inside this manual	4
Typefaces and icons in this manual	4
CHAPTER 1 - Welcome to CDIM:Thunder Bay	6
Before you begin	7
CHAPTER 2 - Starting CDIM:Thunder Bay	10
Where to start	10
Initiating program execution	10
CHAPTER 3 - The File menu	14
Reading files	14
Saving files	16
The New option	17
Add File	18
Changing the current directory	18
The Notepad editor	19
DOS Shell	22
Quitting CDIM:Thunder Bay	22
CHAPTER 4 - The Activity menu	23
Add new activity	23
Editing the name of an activity	26
Delete activity	26
Selecting the active activity	27
Specifying the program name	28
Inflation rates	28
Specifying the year	29
Specifying the units for values	29

CHAPTER 5 - The Inputs menu	31
Specifying expenditure details	31
Location of an activity	34
CHAPTER 6 - The Outputs menu	35
Impact reports	35
Printing Inputs	46
CHAPTER 7 - The Setup menu	47
Changing colours	47
Changing the Printer Configuration	50
APPENDICES	
APPENDIX A - Hot-Key Listing	52
APPENDIX B - Calculator Functions	54

I N T R O D U C T I O N

Welcome to CDIM:Thunder Bay. You are using a program which allows you to specify the financial details of an existing or proposed forestry sector project, and performs an economic impact analysis. There are several screen and printed reports to choose from in order to extract the desired information from the system. The program has been designed to be extremely user-friendly, with a pull-down main menu and in-field data editing, as well as context sensitive help at the press of a key. Information can also be exported to Lotus or WordPerfect.

This *User's Guide* is only one part of the CDIM:Thunder Bay documentation. There is also a *Technical Report* which contains the mathematical explanations for the models as implemented in the program. The *System Administrator's Guide* provides the necessary information for installation of the program and user management.

The information in this manual will help you get started by taking you step by step through the many features of the program.

Who should use this manual?

This manual is essential to both experienced and inexperienced CDIM:Thunder Bay users. New users should start with Chapter 1 in order to understand some of the main features of the program. A reasonable knowledge of DOS is assumed, and you should consult your DOS reference manuals if you have any DOS-related questions.

Experienced users will find that all of the chapters can act as a complete reference for the entire program. Through the use of the Table of Contents, you should be able to find information on any given aspect of the program quickly.

Inside this manual

The contents of each chapter of this manual are described in the following paragraphs.

Chapter 1, "Welcome to CDIM:Thunder Bay," introduces you to some of the program's basic features.

Chapter 2, "Starting CDIM:Thunder Bay," shows you how to start the program and get to the main menu.

Chapter 3, "The File Menu," provides details on saving and reading files, using the built-in notepad editor, initializing the system and exiting the program, along with several other utilities such as the DOS shell.

Chapter 4, "The Activity Menu," provides details on how to add, edit, delete and select Activities. Also discussed are the printed report header and units for values options.

Chapter 5, "The Inputs Menu," provides details on how to enter the required data for the program to operate on, including location and expenditure details.

Chapter 6, "The Outputs Menu," provides details on how to extract the output data for viewing and printing. Also described is the option which allows you to print the inputs to the program.

Chapter 7, "The Setup Menu," shows you how to change the colours of the different windows in the program, as well as how to set the printer to be used, and how to change your password.

Typefaces and icons in this manual


The different typefaces in this manual are used as follows:



`Monospace type` This typeface represents text as it appears on the screen, and anything you must type.

Italics Italics are used for emphasis, to introduce new terms, and when listing the names of other manuals in the CDIM:Thunder Bay documentation set.

K E Y C A P

This typeface indicates a key on your keyboard. It often indicates a particular key you should

press - for example, "Press  to cancel a menu."

When a command is written out in full as it appears on the menu, the keys used to execute the command are printed in boldface type, with individual commands separated by a vertical bar (|). For example, to execute the **File|New** command, press  .

A mouse icon in the right margin indicates special instructions for mouse users.



Special notes, helpful hints, suggestions and shortcuts are indicated by the word **Note** in the right margin.





Note

Welcome to CDIM:Thunder Bay

CDIM:Thunder Bay has several features which are designed to make the program very easy to use, and to help guide you through the process of performing an economic impact analysis on a forest sector project.

These features include:

- **On-line help.** From many places within the program, press **F1** to display a *help screen* describing the current area and your options within it. Press **Esc** or **F1** to remove the help screen and instantly return to what you were doing.
- **Single-key Command Menus.** When a menu is active, there is a highlighted character for each available choice. By pressing the key corresponding to the highlighted character of the desired menu option, that choice is instantly activated. Pressing **Esc** will back you out of a menu in most cases, returning you to the menu one level above the active one. If you are nested several levels into a menu tree, pressing **Esc** repeatedly will eventually return you to the Main Menu.
- **Choice Lists.** Whenever a list of choices is available, you can choose from the list by selecting via the arrow keys and pressing **Enter**. Choice lists differ from menus in that there is no highlighted character available for each choice. An example of a choice list is the Select File list which appears when the **Read** option is selected from the **File** menu.
- **Flexible Colour Settings.** You can change the colours of all windows and menus. There is a default colour setting if the configuration file (named CDIM.CFG) is not present, as well as a sample colour setting in the CDIM.CFG file included on the distribution disks. Monochrome video modes are detected and handled automatically.

- **Choice of Printers.** You can select from either Epson dot matrix or Hewlett Packard Laserjet printers. You can also specify the port to which the printer is connected. This allows you to print to network printers as well as your own local printer.
- **Mouse Support.** If you have a Logitech or Microsoft compatible mouse, and the mouse driver supplied with it (MOUSE.COM) is installed, you can easily select options from menus and choice lists. You can also move directly to any desired input field on an input screen.
- **Hot Keys.** There are several "hot-key" combinations which allow the user to instantly check the time of day and elapsed time since system start, to start the *Notepad Editor*, or to quit the program from anywhere (**the input file is not saved**). These key combinations are activated in connection with the  key. The list of Alt-key combinations can be viewed by pressing -, or simply by holding the  key down for a few seconds. The entire list of hot-key combinations is also given in Appendix A.
- **Security.** Individual files can be given a password, and only those who know the correct password can read the file.



Note

Before you begin

Before you begin working with CDIM:Thunder bay, please have your system administrator ensure that you have an up-to-date version properly installed on your computer. Installation instructions can be found in the *System Administrator's Guide*.

Below is a list of the required files used in the CDIM:Thunder Bay package. The installation program will automatically install *all* of these files for you.

CDIM.EXE	The main program which allows you to run an economic impact analysis.
PRNFILES.BIN	The binary file containing the input/output parameters for the model.
USERS.LST	The list of users who have been given passwords for your machine
DISCLAIM.PRN	The disclaimer which appears on the printouts generated by the program.
CDIM.CFG	The colour and printer selections for CDIM:Thunder Bay.

CDIM.HLP The help file for CDIM.EXE which contains all of the help screens.

The CDIM:Thunder Bay program is designed to automatically handle almost any hardware configuration made up of a combination of the following:

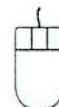
- **Video Card.** Almost any video card can be used. Any of the following should work without any problems:
 - Monochrome adapter (MDA or Hercules)
 - IBM EGA
 - IBM VGA or Super VGA

If you have a single colour monitor attached to any of the above video cards except the first, you may want to place the following line in your AUTOEXEC.BAT file, so that CDIM will use a two-colour configuration, no matter what colour settings the CDIM.CFG file contains:

```
MODE BW80
```

You can also type this command at the DOS prompt before running the CDIM program if you prefer.

- **Math Coprocessor.** CDIM will automatically detect and use any math coprocessor in your computer.
- **Printer.** CDIM is designed to make use of either an Epson dot matrix or Hewlett Packard Laserjet printer, or compatibles.
- **Expanded or Extended Memory.** If you have expanded memory in your machine which adheres to the LIM 3.2 or 4.0 standard, or extended memory using the XMS memory specification as provided by HIMEM.SYS, then CDIM will automatically make use of this memory when swapping between the CDIM.EXE program and the DOS shell. The CDIM.EXE program swaps itself out of low memory when starting the DOS shell in order to provide as much working space as possible. If no expanded or extended RAM is available, then CDIM.EXE will swap itself out to disk using a temporary file in the directory pointed to by the DOS environment variable TMP or TEMP, or the root directory if neither of these are defined.
- **Mouse.** The CDIM program will automatically make use of mice which are compatible with the Microsoft Mouse interface. These include the Microsoft Mouse (bus and serial), the Mouse Systems Mouse, and the Logitech mouse. The necessary



mouse driver software (MOUSE.COM) which accompanies the mouse must be loaded before CDIM will recognize the presence of a mouse.


- **Disk Drives.** While the program can run from floppy disks, you may run into trouble running the DOS shell from within CDIM if you have no expanded memory available. CDIM needs to swap itself out to disk in order to run the DOS shell. You would probably have enough disk space on a high-density floppy disk to place all of the CDIM:Thunder Bay files and still have enough space for a temporary swap file, but it would be slow. It is therefore recommended that the CDIM:Thunder Bay files be installed to a separate directory of a hard disk drive.

Starting CDIM:Thunder Bay

Where to start

When you have a complete set of files installed on your system, and you have a password for the program, it is time to start the program. If your PATH environment variable points to the directory which contains the CDIM:Thunder Bay program, then you can run the program from any directory. In fact, that is the best thing to do. Create a directory to hold all of your input and output files for CDIM, and perform all of your work in these directories. You might even want to have separate directories for each project.

Initiating program execution

The CDIM:Thunder Bay program can be started at the dos prompt by typing CDIM and pressing  you will then see the following screen:

```
          CDIM: Thunder Bay
          Version 1.0 - August 1994

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DEPARTMENT OF NATURAL RESOURCES CANADA
Ontario Region



Community Development Impact Model

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disassembling, reverse engineering, or in any way modifying the program code
except as may be permitted by Econometric Research Limited is strictly
prohibited. Violators will be prosecuted.

For inquiries please contact Mr. Asghedom Ghebrenichael (705) 949-9461.
                                     FAX (705) 759-5700.

Press any key to continue
```

Figure 2.1
The CDIM:Thunder Bay
Copyright screen

After reading the Copyright notice, press  to see the NODA funding notice. Press  again to see the CDIM:Thunder Bay Main Menu. The main menu has five options, shown in the figure below. Each of the options on the main menu opens a pull-down sub-menu. These sub-menus are shown in figures 2.3 through 2.7.

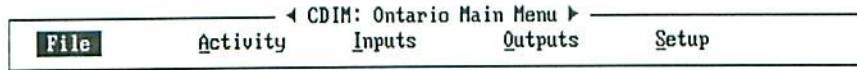










Figure 2.2
The CDIM:Thunder Bay
Main Menu.

When the main menu is active there is a selection bar highlighting one of the options. The first time the menu becomes active at program start, the **File** option is highlighted by default. At this point (i.e. no pull-down sub-menus are open) there are three ways to make a selection:

- press , , , , or  to select **File**, **Element**, **Inputs**, **Outputs** or **Setup**,
- use the  and  keys to place the selection bar on the option you desire and press 
- Place the floating mouse cursor over the desired option and quickly press and release the left mouse button (called clicking)



Once you have made a choice from the main menu, one of the pull-down sub-menus will open, and the first option of the sub-menu will be highlighted by the selection bar.

The major operations of the program have been divided into the following 5 categories corresponding to the 5 main menu options:

- File:** The operations related to file saving and retrieving as well as operations to initialize the program's variables, change the working directory, activate the built-in notepad text editor, or exit from the program.
- Activity:** The operations related to the adding, editing or selecting activities, the specification of the printed report header string, and the units for inputs and outputs.
- Inputs:** The operations related to the entering of the expenditure information for the program to use, including specific expenditure values and numbers of visitors if appropriate.
- Outputs:** The operations related to the creation of useful outputs, in the form of several output screens, printed reports and printed inputs.

Setup: The operations related to the setting of the colours for any of the different types of windows displayed on the screen during program execution, as well as operations related to the configuration of the printer.

The following figures show the individual sub-menus.

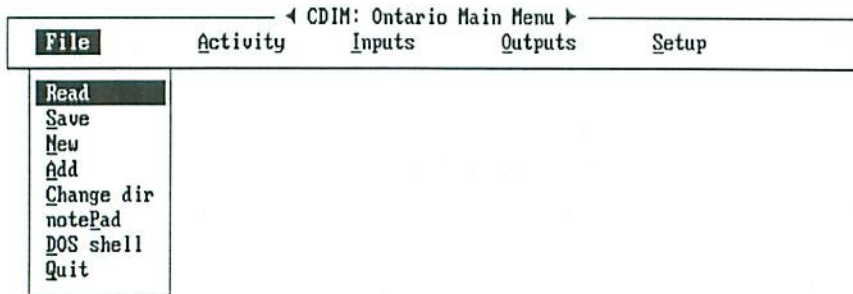


Figure 2.3
The File menu

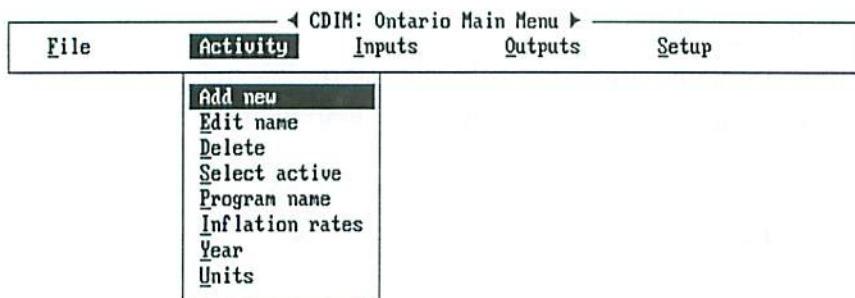


Figure 2.4
The Activity menu

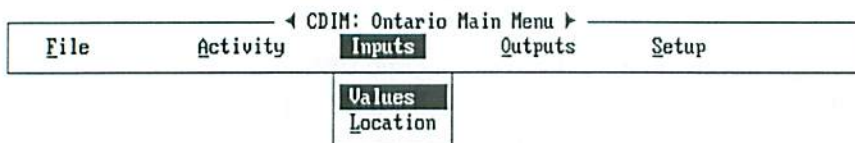


Figure 2.5
The Inputs menu

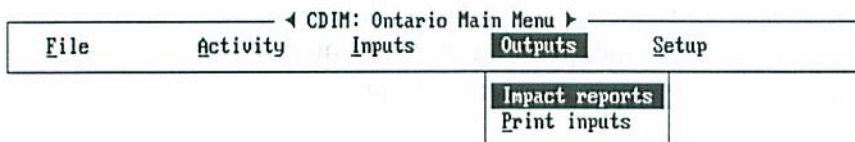


Figure 2.6
The Outputs menu

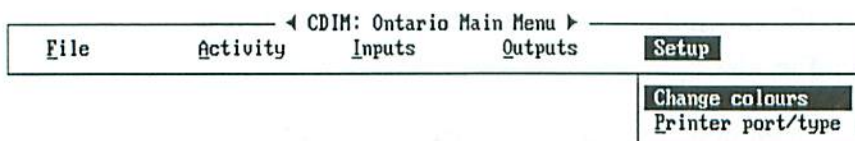




Figure 2.7
The Setup menu

Whenever one of these pull-down menus is active, you can quickly move to an adjacent menu by pressing the  or  arrow keys, and the next menu will immediately become active.

Each of these menus is described fully in the next chapters.

The File menu

After you have used the CDIM:Thunder Bay program, you will want to save your input data, and be able to read it back in to continue to work, or to see the effect of modifications. The operations on the **File** menu are designed to facilitate the saving and reading of data files. Figure 3.1 shows the **File** menu as it appears on the screen.

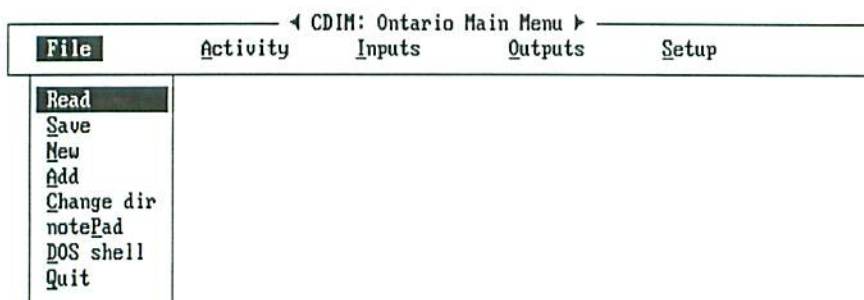


Figure 3.1
The File menu

The CDIM program automatically uses the file extension `.CDM` when you save data files, and will allow you to select from a list of files with this extension when you ask to read or add a file.

The following sections describe the individual options of the **File** menu.

Reading files

If you already have data files saved by the CDIM program, then you can quickly read them back in by selecting the **Read** option. This opens a list of files which have the extension `.CDM` and allows you to select the appropriate file using the arrow keys and pressing **Enter**.

Mouse users can point to the desired file and click the left mouse button.



If there are no files in the current directory with the extension `.CDM`, then a warning message is given to that effect, and the user must press

a key to continue. The figures below show the warning message if no .CDM files exist, and the file selection box that opens up if there are .CDM files.

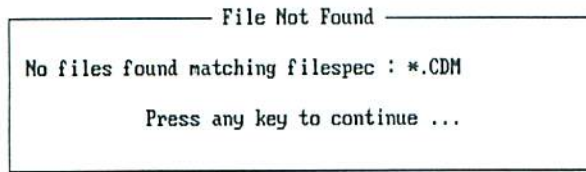


Figure 3.2
The no .CDM Files warning message

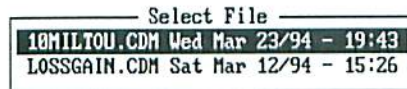






Figure 3.3
The Read file selection list

The file selection box will expand to show as many files as are present in the current directory. When there are more files in the directory than can fit in the selection box, arrows will appear at the bottom right corner of the selection box. These arrows indicate that there are more files below. By holding down the  key, or by pressing the  key, or by clicking the left mouse button while the floating cursor is over the arrows, you can bring more files into view. This allows mouse users to select any input file without having to touch the keyboard at all.



Similarly, when the first file in the list (listed alphabetically) scrolls off the top, there will appear two arrows in the top right corner indicating that there is more files above. By holding down the  key, pressing  key, or by clicking the left mouse button while the floating mouse cursor is over the arrows, you can cause the list to scroll down, bringing more files into view from the top of the box.

Notice that the bottom line of the screen always has information concerning what keystrokes or mouse actions are available to you at any given point. The information line for the file selection box is shown in figure 3.4 below:



Figure 3.4
The information line at the bottom of the screen

After specifying the name of the file to read, you may be asked for the password for that file as shown below:

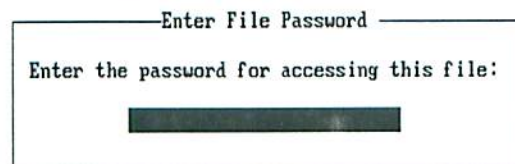


Figure 3.5
The Read file password request dialogue box

You will only be asked for the password if one was specified at the time

the file was last saved.

Once you have read in a file, the summary box near the bottom of the screen will appear, listing the activities contained in the file. A sample summary box is shown below:

Activities Defined For the Program		
Federal	Sample Administration	Kapuskasing
* Logging	Sample Logging Activity	Kapuskasing
1994		Dollars

Figure 3.6
The Activity Summary
Box

Also indicated are the year of expenditure (bottom left corner), and the units used for the input values (bottom right corner). The summary box lists the type of the activities, their names and their locations. An asterisk appears beside the activity which is currently active. For more information on the concept of the active activity, please see chapter 4.

Saving files

When you have entered the input data into the CDIM:Thunder Bay program, you will want to save it in a file for later use or modification. You need only select the Save option from the File sub-menu to save your file. When you select this option, the following dialog box appears, allowing you to enter a filename.

Enter Output File Name

Enter Filename (extension will be .CDM):

Figure 3.7
The Save file output
filename dialog box

If you have previously read in a file, then that name will automatically appear, and you can accept it by pressing , or you can edit the name and save it as any name you like.

Note that you should not attempt to enter an extension when you enter the filename in the dialog box. The entry field is only 8 characters long, so you do not really have room for the extension anyway. Even if you do type in a filename with an extension, the extension will be stripped off, and the extension .CDM will automatically be added for you. This is necessary in order for the Read option to be able to identify which files in your directory are valid input files for the CDIM program.

You can also specify a password for the file after you have specified the file's name. If you are working on a file you have read in from disk to modify, then the password for the file will appear as it was when you

read in the file. A sample password request dialogue box appears in figure 3.8.

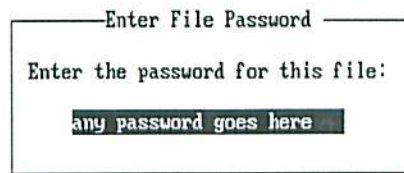


Figure 3.8
The Save file password request dialogue box

When saving new files, the password will be blank. If you leave it blank, then you will not be asked for the password when you next read in the file, but you will always be asked for the new password at file save time, even if there was not previously a password set. In this way, you can assign a password to an old file at any time you desire. Note also that trailing blanks will automatically be removed from your password.

Note

Once you have entered a password (or pressed for no password), your files will be saved for you, and a message box will pop up to inform you of the successful saving, and of the filename you entered. This file can then be read using the **Read** option on this same sub-menu.

The New option

If you are working on a file, and have completed any operations desired on that file, and have saved it to disk, then you may be ready to work on another set of projects. If there is already a file on disk for that other set of projects, then you need only read it via the **File|Read** option. If, however, you wish to start a new project, then you should choose the **New** option from the **File** sub-menu.

The **New** option initializes all variables to default values. When you select the **New** option, the following dialog box appears asking you to confirm your desire to initialize all input variables to default values:

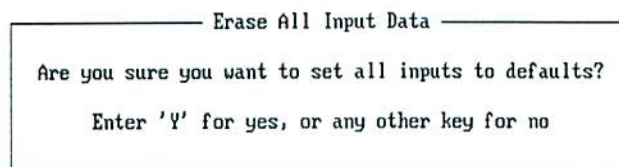


Figure 3.9
The New option dialog box

If this is the desired option, just press for yes. Pressing , or any other key will be interpreted as a negative response to the query, and the action will not take place. The only way to retrieve information after performing a **New** operation is to re-read a file.

Note

Add file

By selecting the Add file option, you can combine the activities of the current file with the activities of another file. However, the total number of activities cannot exceed 4. The process of adding a file is almost identical to the process of reading a file, except that when you read a file, the existing activities are erased from memory before the file is read, while when you add a file, the existing activities stay in memory to be combined with the new activities read from the file.

It should be noted that the year, units of input and inflation rates of the activities added by this process are ignored, but if they are different than those of the existing activities, you will be notified with up to three different notification message boxes (one for each difference). Also, if the number of activities in the file to be added plus the number of existing activities is greater than 4, you will be notified, and the file will not be read in, but any existing activities will remain unchanged.

Note

Of course, if the file to be added requires a password, you will have to enter the correct password before you can access the activities in that file.

Changing the current directory

If you wish to read or save files to a different directory, then you should choose the Change dir option. This option opens the following dialog box, allowing you to specify which directory you wish to set as the working directory.

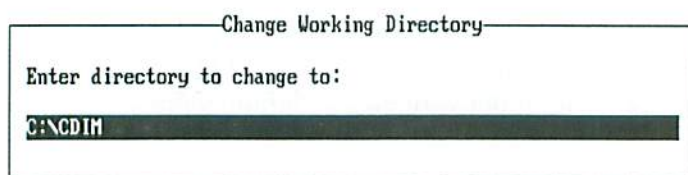



Figure 3.10
The Change Working
Directory dialog box

You can specify any disk drive and directory you wish, but if the directory on the specified disk drive does not exist, then a warning message is given, and the current working directory is not changed.

This option is handy to use when you have different sub-directories for different sets of projects, or when the CDIM:Thunder Bay program is started from a system menu rather than from the DOS prompt. For example, if the program is started from within an environment such as Microsoft Windows, then the initial working directory will always be the same, and may be the directory containing the program and all of its data files. Adding to this directory can cause confusion later if you

want to copy only certain files pertaining to a given project to a floppy disk. Selecting the appropriate files from a directory with many files, most of the names of which are unfamiliar to you, can be a problem. For this reason, it is recommended that you have a working directory just for your CDIM:Thunder Bay data files.

The Notepad editor

There may be times when you are running the program that you wish to make a note to yourself concerning some element of the program. There is a built in notepad editor intended just for this purpose. The editor can be invoked from the **File** sub-menu by selecting the **notePad** option, or it can be invoked from anywhere via the hot-key combination . If you invoke the notepad with the hot-key, then the notepad screen will overlay whatever screen you are currently viewing.

The first dialog box that appears when you select the **notePad** option asks you for the name of the text file you wish to edit/create. By default, the notepad file is the same name as the **.CDM** file you last read or saved, but with the extension **.PAD**. You can edit the name in the dialog box if you desire. If you have not read or saved a **.CDM** file, then there will not be a default name.

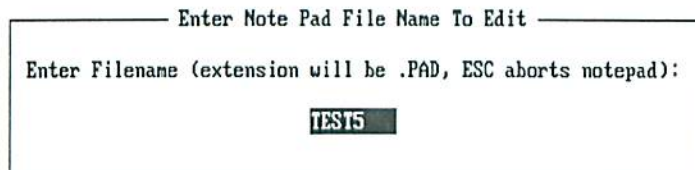




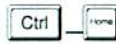
Figure 3.11
The notePad filename
dialog box

Once you have entered a name, the notepad editor will search the current working directory for a file of that name. If one is found, then the file will be read, and you will be able to edit that file. If no file by that name is found, then it is assumed that you wish to create a new file by that name, and the notepad window will open with all lines blank.

The notepad is a text editor, shown in figure 3.12 on the following page, which can handle up to two windows full of text (a total of 20 lines of 60 characters each). The files created by the notepad can be retrieved into other text editors or word-processors with little effort. They are straight ASCII files, and contain no special codes.

The notepad editor has several features which are described below:

Page Movement:

-  Moves the text page backward one page.
-  Moves the text page forward one page.
-  Displays the first page in the buffer and positions the cursor on the first character of the first line.

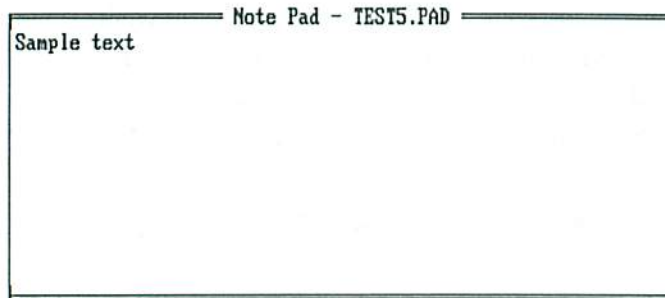













Figure 3.12
The Notepad window




-  Displays the last page in the buffer and moves the cursor to the beginning of the last line in the buffer.

Cursor Movement:







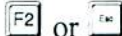

-  Moves the cursor to the top of the current window.
-  Moves the cursor to the last line of the current window.
-  Moves the cursor to the beginning of the previous word in the buffer.
-  Moves the cursor to the beginning of the next word in the buffer.
-  Moves the cursor to the beginning of the current line.
-  Moves the cursor to the end of the current line.

Text Block Commands:

-  forms a paragraph from the text marked as a block.
-  Marks the first line in a block. The current line becomes the first line in a block of text.
-  Marks the last line in a block of text.
-  Moves the block of text to the line the cursor is on. The move is non-destructive; space is opened for the block.

-  Copies a block to the current line. The original block remains in place also.
-  Deletes the block. Lines below are moved up.
-  Unmarks a block.

Editing Commands:

-  Erases all text in the buffer after confirmation.
-  toggles the Insert/Overwrite mode, and changes the shape of the cursor to indicate the mode.
-  Deletes the character under the cursor and moves all following text on the line one position to the left.
-  Deletes the character to the left of the cursor and moves all following text on the line one position to the left.
-  Deletes the word on which the cursor is positioned.
-  Deletes the line on which the cursor is positioned.
-  Terminates the editing session, and asks for the filename to save the text buffer to. The filename is defaulted to the same name as on input to the session, but if you press  again, the file is not saved and the edited text is lost.

The keystrokes used to invoke these features are shown on the notepad help screen shown in figure 3.13.

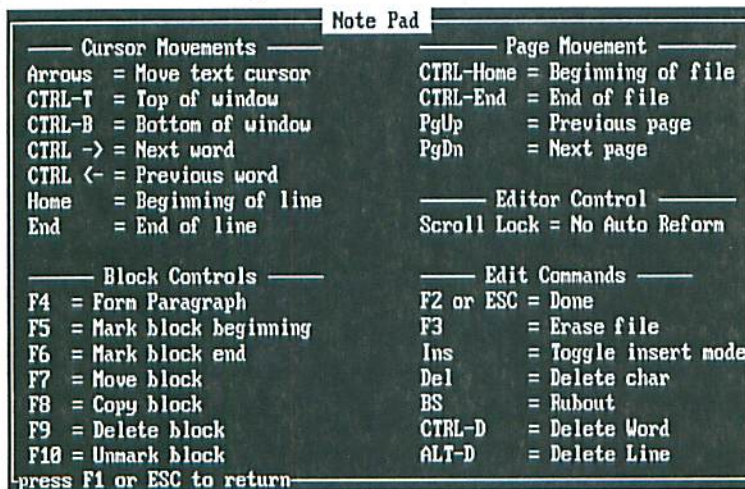




Figure 3.13
The Notepad editor help screen

This help screen, as with all others, is available by pressing .

The notepad editor will automatically reformat paragraphs as you enter new text in the buffer. The reformatting process takes into account all lines of text up to the next blank line. If this reformatting is not desired, simply make Scroll-Lock active by pressing the  key.

DOS Shell

In order to temporarily exit to DOS to run other programs or DOS commands, you can select the **DOS** shell option from the **File** menu. The program will swap itself out to expanded or extended memory if an appropriate memory driver is installed in your CONFIG.SYS file (for example HIMEM.SYS). This means that while running the DOS shell, CDIM will only use about 1024 bytes of low memory (below 640K). The rest will be in memory above 1 Meg. If you do not have expanded or extended memory, then CDIM will swap itself out to disk instead. This may take a second or two, depending on the speed of the disk. CDIM will use about 380K of memory or disk space to swap itself out of low memory.

When you have completed running the program or DOS command, type **EXIT** at the dos prompt, and CDIM will once again become active. While it is a good idea to save your data before running the DOS shell, as the program you run could lock up your machine for some reason, it is not absolutely necessary, as your data will be intact once you type **EXIT** and return to CDIM.

Quitting CDIM:Thunder Bay

When the time comes to exit from the CDIM:Thunder Bay program, select the **Quit** option from the **File** sub-menu. The hot-key combination for quitting the program is **Alt-Q**. When you select the **Quit** option, the following dialog box appears asking you to confirm that you wish to quit.

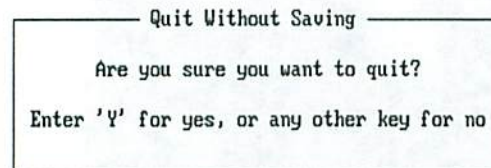


Figure 3.14
The Quit confirmation
screen

As the dialog box mentions, quitting does not automatically save your file for you. It is your responsibility to save your data before quitting the program. If you answer by pressing **Y**, then you will terminate the CDIM:Thunder Bay program and return to DOS (or to the environment from within which you started the program). Pressing any other key will return you to the File sub-menu.

Note

The Activity menu

Whether you are modifying an existing data set or entering a new activity, you will use the Activity sub-menu to perform these functions. The following figure shows the Activity sub-menu as it appears on the screen:

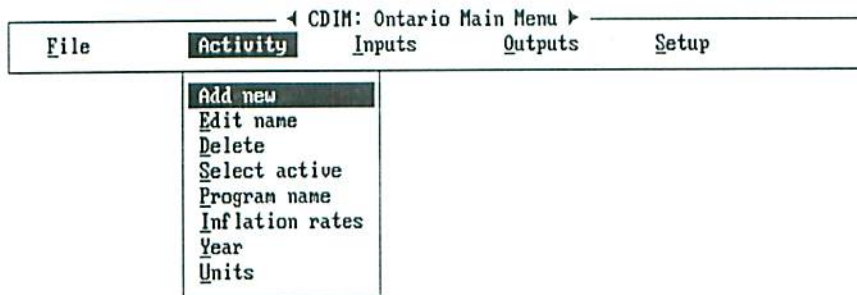


Figure 4.1
The Activity sub-menu

The following sections describe the individual options of the Activity menu.

Add new activity

When you first begin with a new activity, or if you wish to expand the contents of a set of activities, you will need to add a new activity. When you select the Add new option from the Activity menu, you will be presented with the menu of activity categories shown below:

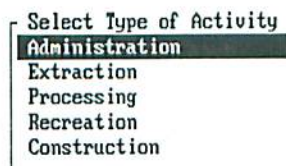


Figure 4.2
The Activity category selection box

Once you have selected the category for the activity, you will be asked to select a more specific type for the activity. There are lists of activity types associated with each of the broad categories shown in figure 4.2.

The types of activities for the Administration category are listed in the selection box shown below:

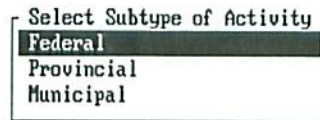


Figure 4.3
The Administration list of activity types

The types of activities for the Extraction category are listed in the selection box shown below:

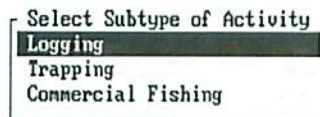


Figure 4.4
The Extraction list of activity types

The types of activities for the Processing category are listed in the selection box shown below:

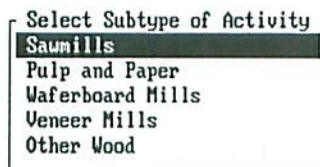


Figure 4.5
The Processing list of activity types

The types of activities for the Recreation category are listed in the selection box shown below:

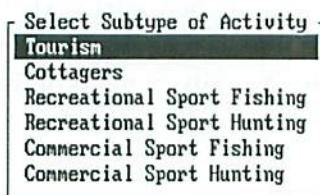
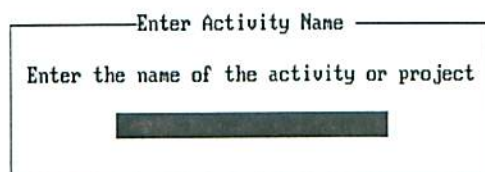


Figure 4.6
The Recreation list of activity types

There is no further breakdown of activities in the Construction category, so no list of types will appear when you select this type of activity.

After you have selected the activity category and type, you will be asked for the name of the activity. The more descriptive the name the better, as this name will appear in the activity summary box at the

bottom of the screen, in activity selection lists, and on screen and printed reports. The dialogue box which asks you for the name of the activity is shown below:



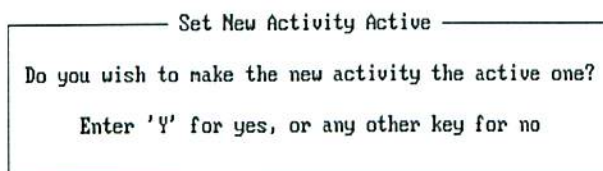
Enter Activity Name

Enter the name of the activity or project

Figure 4.7
The activity name
dialogue box

Once you have entered an appropriate name and pressed , you will be returned to the main menu, and the summary box at the bottom of the screen will be visible now that there is at least one activity to show a summary for.

After you enter the first activity, it is assumed that you want this to be the active one, as there are no others to choose from. After you add the second or successive activity, you will be asked if you want the activity just added to become the active one. You will be asked this immediately after pressing to complete the name of the activity as described above. The dialogue box appears as follows:



Set New Activity Active

Do you wish to make the new activity the active one?

Enter 'Y' for yes, or any other key for no

Figure 4.8
The set activity active
dialogue box

If you press , then the activity you just added will become the active one, whereas if you press any other key, the previously active activity will remain active.

The concept of the active activity is very important. Once you have told the system to add a new activity, you need to specify the expenditures and other information associated with the activity. This information is entered using the **Inputs** menu item from the main menu. While the operations available with the **Inputs** menu are described in the next menu, it is important to know that the operations on that menu operate only on the active activity as set using the **Activity** menu's **Select active** option.

Editing the name of an activity

If, after you have added a new activity, you wish to modify the name that you typed in originally, choose the **Edit name** option from the **Activity** menu. A list of defined activities will be presented, and you can choose which one you would like to change the name of. A sample list is shown below:

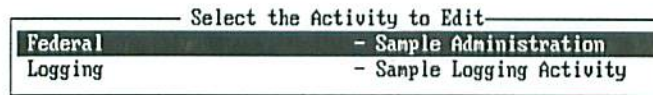




Figure 4.9
The edit activity name activity selection box

Once you select the appropriate activity, you will be presented with the dialogue box shown below which will allow you to edit the name already assigned. You can use the arrow keys to move the cursor left and right, and the  or Backspace keys to delete characters. The  key toggles you between insert and overwrite modes, and the cursor will change shape to signify the current mode. This dialogue box is shown below:

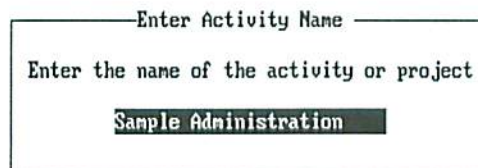



Figure 4.10
The edit activity name dialogue box

Once you are happy with the name, press  to accept it and return to the **Activity** menu.

Delete activity

If you wish to remove an activity from a program (a program is defined as a set of activities), you can do so by selecting the **Delete** option from the **Activity** menu. Once you select this option, you will be presented with a list of defined activities and asked to select the one you would like to delete. A sample of this list appears below:



Figure 4.11
The delete activity selection box

You are not allowed to delete the active activity however. If you try to, you will see the warning message shown in figure 4.12 on the next page.

Cannot Delete Activity

You cannot delete the active activity. Make another activity active first.
Press any key to continue ...

Figure 4.12
The cannot delete active activity warning

Once you have selected the appropriate activity to delete, you will see the following message which indicates that the activity has been marked for deletion, but that it will not actually be deleted until you save the file again. To effect an immediate deletion, you should save the file immediately, and then re-read it back in again using the File|Read option.

Activity Marked For Deletion At File Save Time

Save the file now to effect the deletion of the activity.
Press any key to continue ...

Figure 4.13
The activity marked for deletion message

Once an activity has been marked for deletion, a 'D' will appear to the left of the activity in the activity summary box. An asterisk, '*', indicates the active activity. This is shown below:

Activities Defined For the Program		
D Federal	Sample Administration	Thunder Bay
* Logging	Sample Logging Activity	Thunder Bay
1994		Dollars

Figure 4.14
The activity summary box showing an activity marked for deletion

If you wish, you can remove the marking for deletion from an activity by selecting it to be active using the Select active option from the Activity menu. You must do this after marking for deletion, but before saving the file. The actual deletion is performed by simply not writing the activity out to the file at save time.

Selecting the active activity

You can specify which activity you would like to specify the associated expenditures for through the Select active option on the Activity menu. The actual entry of expenditure information is covered in the next chapter, but before you can enter the data for an activity you must select it as the active one. The selection list is shown in figure 4.15 on the next page.

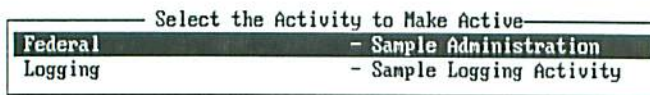


Figure 4.15
The active activity selection box

The asterisk, '*', in the left column of the activity summary box indicates the active activity. If there is only one activity defined, it is always the active one.

Specifying the program name

On each printed report, there can be one line of text defined by the user to identify the set of activities for which the report was generated. To specify this program name or report header, select the **P**rogram name option from the Activity menu. The following dialogue box appears and allows you to enter or edit the program name:

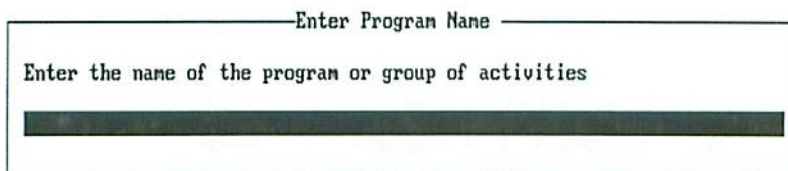


Figure 4.16
The program name dialogue box


Once you have entered the name, press to accept it and return to the menu.

Inflation rates

The program supplies a default set of inflation rates, but you may want to specify your own set. These rates are for the years specified in the following input screen:

Enter Inflation Rate Details	
1990	3.00 %
1991	5.00 %
1992	1.60 %
1993	3.00 %
1994	2.90 %
1995	2.00 %
1996	2.60 %
1997	2.30 %
1998	1.90 %
1999	1.50 %
2000	1.30 %

Figure 4.17
The inflation rates input screen

Once you are happy with the inflation rates, press  to accept them and close the input screen and return to the Activity menu. These inflation rates are stored in the input file, and can be different for every input file.

Specifying the year

In order to tie a program to a specific time period, you can specify the year for which all of the input values are associated. In order to do this, select the Year option from the Activity menu. You will be presented with the following list of years to choose from:

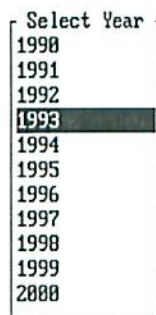


Figure 4.18
The year selection box

Once you select the appropriate year, it will be displayed in the bottom left corner of the activity summary box. The default year when the program first starts up is the current year as stored in your computer (set by the Date command from the DOS prompt). The year selected is applicable to all activities (i.e. the program), and is stored in the input data file at save time.

Specifying the units for values

In order to work in units other than dollars (the default units), you can select the Units option from the Activity menu. When you select this option, you will be allowed to select from the following list of options:

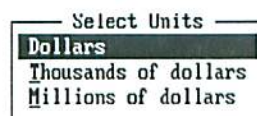


Figure 4.19
The units selection box

Once you choose the units, the name of the units will appear in the bottom right corner of the activity summary box. The name of the units will also appear on the output screens and printed reports, as the outputs will also be displayed in these units. When CDIM first starts up, the default units are Dollars. The units selected apply to all activities, and are saved with the input file at save time.

When you specify the units as being other than dollars, you can simplify the input of very large expenditure values. As some of the activity types have inputs based on per-visitor values, it does not make sense to use millions of dollars. For construction, or administration expenditures, it makes sense to use the units which make the data entry the easiest. Remember though, that the units applies to all defined activities in the program, so if you mix Recreation with a Construction activity, you will probably have to use dollars because of the per-visitor nature of the tourism visitors expenditures.

Also note that the values on the output screens and reports are expressed in the same units as the inputs. The exceptions are the energy and employment values which are not scaled, but are always expressed in the same units. This means that if you enter a construction activity using dollars, then go back and change the units to thousands of dollars without modifying the input expenditure values, the output values will be the same except that now the screen or report will show that the units are in thousands. For the employment and energy screens, the numbers will be multiplied by 1000 as compared to the same activity when units were dollars.

Note

The Inputs menu

Whether you are modifying an existing data set or entering a new activity, you will use the **Inputs** sub-menu to perform functions relating to the expenditures associated with the activity. The following figure shows the **Inputs** sub-menu as it appears on the screen:

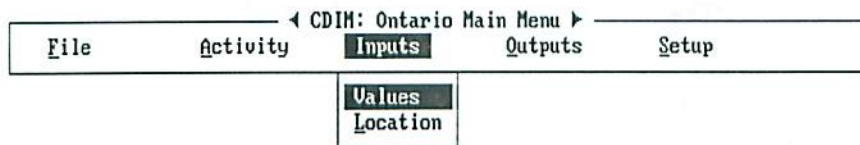


Figure 5.1
The Inputs menu

Once you have activities defined using the **Activity** menu, you can enter the information related to those activities using the **Inputs** menu. You will need to use the **Activity** menu to select the active activity for which you wish to enter data. Once you have selected the active activity, you can proceed to the **Inputs** menu. The following sections describe the individual options of the **Inputs** menu.

Specifying expenditure details

By selecting the **Values** option from the **Inputs** menu, you can specify the expenditure details associated with that activity. The input screen that will be displayed depends on the category and/or type of the activity. The different types of input screens are shown below.

Administration

All activity types in the of the **Administration** category have the same input screen. That screen is shown in figure 5.2 on the next page.

Enter Expenditure Details			
Salaries and Wages		0	
Employee Benefits		0	
Transportation and Communication		0	
Services		0	
Supplies and Equipment		0	
Personal Computers	0		
Word Processors	0		
Software	0		
Furniture	0		
Office Equipment	0		
Office Machinery	0		
Word Processor Supplies	0		
Subsistence Items	0		
Vehicle Equipment	0		
Fuels	0		
Tools	0		
Clothing	0		
Personal Goods	0		
Drugs	0		
Office Supplies	0		
Books	0		
Drafting Equipment	0		
Other	0		
		<u>Total Expend.</u>	0

Editing keys=Home,+,*,Del,BS,Ins Motion Keys=f,↓,PgUp F1=help, ESC=done

Figure 5.2
The input screen for activities in the Administration category

There is a sub-total for Supplies and Equipment, and an overall total for this screen, and both are updated automatically as you enter expenditure details in the different input fields.

Extraction and Processing

The activities in both the Extraction and the Processing categories have the same input format. You can specify the number of units sold and the price-per-unit that these units were sold for. The input screens for these two quantities are shown below.

Total Output Units
Enter The Total Number of Output Units Sold
0

Figure 5.3
The Total Output Units Sold input box

Price Per Unit
Enter The Price per unit sold
0.00

Figure 5.4
The Price Per Unit input box

Remember to keep the units of input (i.e. dollars, thousands of dollars, etc.) in mind when entering the price and quantity values.

Recreation

The input screen for the Tourism type of activity is different from the rest of the activity types in the Recreation category. The Tourism input screen is shown below.

```

----- Enter Visitors Expenditure Details ($/Visitor) -----
                               Day Visitors
Number of Visitors                0
Growth Rate (% per year)         0.00

Food and Beverages                0
Transportation                    0
Miscellaneous                      0
Entertainment                      0

                               Camper Nights
Number of Visitors                0
Growth Rate (% per year)         0.00

Food and Beverages                0
Transportation                    0
Miscellaneous                      0
Entertainment                      0

Total Expenditures                0
-----
Editing keys=Home,+,←,Del,BS,Ins  Motion Keys=↑,↓,PgUp  F1=help,  ESC=done

```

Figure 5.5
The Tourism input
screen

The per-visitor expenditures for day and night visitors are multiplied by the respective number of visitors in each case and the total is then displayed automatically at the bottom of the screen.

The rest of the recreation types of activities have a similar input screen, which is shown below.

```

----- Enter Expenditure Details -----
Acconodation                      0
Meals and Beverages                0
Groceries                          0
Gas and Oil                        0
Transportation                      0
Retail                              0
Equipment                          0
Other                              0

Total Expenditures              0

```

Figure 5.6
The input screen for
Recreation Activities
other than Tourism.

Construction


The input screen for Construction activities is shown below:

Enter Construction Expenditure Details	
Renovation/Repair Construction	0
Residential Construction	0
Non-Residential Construction	0
Road Construction	0
Road Repair and Maintenance	0
Other Engineering Services	0
Other Business Services	0
Furniture and Fixtures	0
<u>Total Expenditure</u>	0

Figure 5.7
The Construction
expenditures input
screen.

In order to enter values in these input screens, simply use the cursor keys to move from field to field. The current input field is always highlighted, and the cursor will blink at the current input location. The editing keys discussed in the section on entering the activity name will also work on these input fields.

While the activity groups may have similar input screens, the mapping of the input values to commodities is different for the different activities inside the program, and will thus generate different outputs.

Once you have finished entering the values for an input screen, press  to close the screen and accept the data.

Location of an activity

The location for all activities is fixed for Thunder Bay. Selecting the Location option from the Inputs menu displays the following reminder:

Location is Fixed
This model is designed for the Thunder Bay community. Press any key to continue ...

Figure 5.8
The Fixed Location
reminder screen

Now you can either go back to the Activity menu and select another active activity to enter data for, or you can go to the **Outputs** menu (described in the next chapter) to generate an impact analysis.

The Outputs menu

After you have created a valid set of activities, or read one from file, you are ready to process the data to generate an economic impact analysis. To do this, use the options on the **Outputs** menu shown below:

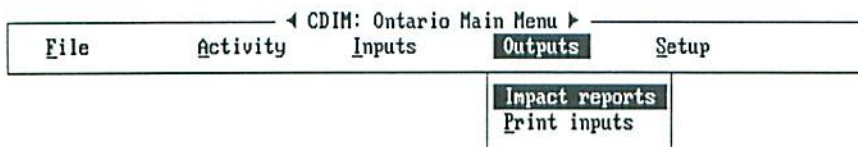


Figure 6.1
The Outputs menu

The following sections describe the individual options of the **Outputs** menu.

Impact reports

In order to process the data to generate the economic impact analysis, choose the **Impact Reports** option from the **Outputs** menu. Once you do this, you will be asked to specify which activity you would like to generate an analysis for. The following activity selection box will appear:

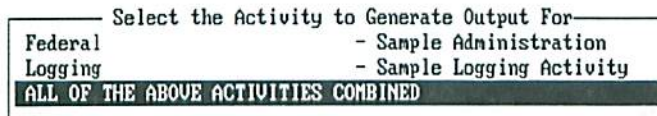


Figure 6.2
The activity selection box for result generation

Notice that the default is the last item on the list, which is the combination of all of the activities combined. If you choose this item, then the analysis will be run for a combination of all of the effects of all of the activities combined as one large program.

Once you have specified the activity to perform the analysis for, you will be asked to specify the scope of the area for which you would like to see the results of the analysis. You can look at results at the

provincial and local levels. The selection box shown below allows you to specify this scope:

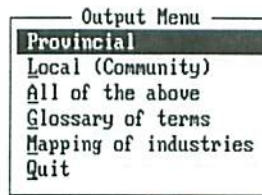


Figure 6.3
The output menu for specifying area scope

If you specify Provincial, then you will proceed to the Impact menu shown below:



Figure 6.4
The Impact Menu of detailed economic impact output screens for the Province Wide option

If, however, you ask for local impacts, then you will be asked to select the region of interest. The region is chosen from the select region menu shown below:



Figure 6.5
The region of interest selection box

If you specify the area of interest as being Thunder Bay, you will be presented with the following menu of impact analysis options:

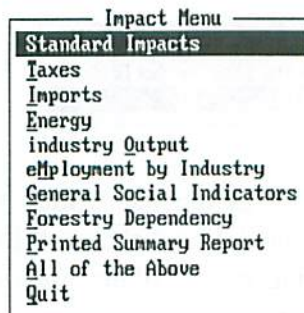


Figure 6.6
The selection box of impacts for the Thunder Bay region

If you select the Other Ontario region from the list shown in figure 6.5, then you will see a slightly reduced set of impacts to select from. The

selection list is shown below:



Figure 6.7
The list of Impacts to select from for Other Ontario

From the appropriate menu of economic impacts, you can select specific economic indicators to look at. There is also an option to look at each output screen in succession. Each of the output screens are shown on the next few pages.

A sample Standard Impacts output screen is shown below:

Impact in Thunder Bay			
Sample Administration Thunder Bay community. Year of Expenditure: 1994	Units: Dollars		
	Impact		
	Direct	Indirect & Induced	Total
Value Added (GPI)	\$13,242,161	\$4,493,496	\$17,735,656
Gross Sales	\$7,000,000	\$3,125,092	\$10,125,092
Wages & Salaries	\$12,068,246	\$2,087,530	\$14,155,776
Employment (Person Years)	336.0	40.5	376.5
Initial Expenditure			\$17,000,000

P=Print H=Histogram ESC=Menu F1=Help

Figure 6.8
A sample Standard Impacts output screen

A sample Taxes output screen is presented On the next page.

Impact in Thunder Bay

Sample Administration
Thunder Bay community.
Year of Expenditure: 1994

Units: Dollars

	<u>Taxes</u>			Total
	Federal	Provincial	Local	
Personal Income Tax	\$2,365,898	\$1,813,618	\$0	\$3,378,781
Provincial Sales Tax	\$0	\$927,739	\$0	\$927,739
Goods & Services Tax	\$694,282	\$0	\$0	\$694,282
Tariffs	\$526,217	\$0	\$0	\$526,217
Corporate Profit Tax	\$117,579	\$63,312	\$0	\$180,891
Property Tax	\$0	\$0	\$487,829	\$487,829
Business Tax	\$0	\$0	\$55,247	\$55,247
Tobacco & Liquor Tax	\$0	\$286,164	\$0	\$286,164
TOTAL	\$3,783,168	\$2,218,825	\$542,275	\$6,456,269

P=Print H=Histogram ESC=Menu F1=Help

Figure 6.9
A sample Tax impact output screen

When you ask for the Imports screen, you will be asked for the revenue breakdown in terms of revenue from other provinces and other countries. Enter the value as a percentage of total revenue, and enter a set of these values for each activity being analysed. A sample Imports screen is shown below:

Impact Province Wide

Sample Administration
Thunder Bay community.
Year of Expenditure: 1994

Units: Dollars

<u>Exports</u>	
Exports to Other Provinces	\$4,367,394
Exports to Other Countries	\$3,728,146
Total Exports	\$8,095,540
<u>Imports</u>	
Imports from Other Provinces	\$4,327,181
Imports from Outside Canada	\$3,546,786
Total Imports	\$7,873,887
<u>Balance of Payments</u>	
Trade Balances with Other Provinces	\$48,214
Trade Balances with Other Countries	\$181,439
Overall Trade Balance	\$221,653

P=Print H=Histogram ESC=Menu F1=Help

Figure 6.10
A sample Imports impact output screen

A sample of the Energy impact screen is shown below.

Impact in Thunder Bay	
Sample Administration Thunder Bay community. Year of Expenditure: 1994	
<u>Energy (Physical and Energy Units)</u>	
<u>Physical Units</u>	
Coal	0.63 Kilotonnes
Crude Oil	0.29 Megalitres
Natural Gas	0.88 Gigalitres
Electricity	3.38 Gigawatthours
<u>Energy Units</u>	
Coal	18.86 Tera.joules
Crude Oil	11.35 Tera.joules
Natural Gas	38.41 Tera.joules
Electricity	12.18 Tera.joules
Nuclear Steam	1.68 Tera.joules
Total	73.67 Tera.joules
P=Print H=Histogram ESC=Menu F1=Help	

Figure 6.11
A sample Energy
impact output screen

An example of the Industry Output screen is shown below:

Impact in Thunder Bay			
Sample Administration Thunder Bay community. Year of Expenditure: 1994			
		Units: Dollars	
<u>Industry Output</u>			
Agriculture	\$76,413	Forestry	\$43,550
Fishing	\$3,821	Mining	\$12,116
Food & Beverages	\$738,897	Primary Textile	\$148
Clothing Industries	\$0	Wood Industries	\$56,444
Furniture	\$44,726	Paper & Allied P.	\$229,577
Printing & Publish.	\$177,657	Primary Metals	\$181,927
Metal Fabricating	\$48,268	Machinery & Equip.	\$62,592
Transport Equipment	\$251,138	Electrical Products	\$176,593
Non-Metal. Minerals	\$4,153	Petroleum Products	\$74,186
Chemicals & Chem. P.	\$47,881	Other Manufacturing	\$47,477
Construction	\$345,650	Utilities	\$1,483,881
Trade & Finance	\$2,685,290	Services	\$1,786,989
Imputed Rent	\$1,794,688		
TOTAL			\$18,125,892
P=Print H=Histogram ESC=Menu F1=Help			

Figure 6.12
A sample Industry
Output impact output
screen

An example of the Employment impacts screen is shown below:

Impact in Thunder Bay			
Sample Administration			
Thunder Bay community.			
Year of Expenditure: 1994			
<u>Employment by Industry (Person Years)</u>			
Agriculture	1.3	Forestry	0.5
Fishing	0.1	Mining	0.1
Food & Beverages	3.7	Primary Textile	0.0
Clothing Industries	0.0	Wood Industries	0.5
Furniture	0.5	Paper & Allied P.	1.3
Printing & Publish.	1.0	Primary Metals	0.5
Metal Fabricating	0.5	Machinery & Equip.	0.5
Transport Equipment	0.0	Electrical Products	1.2
Non-Metal. Minerals	0.0	Petroleum Products	0.1
Chemicals & Chem. P.	0.2	Other Manufacturing	0.5
Construction	2.5	Utilities	16.0
Trade & Finance	31.7	Services	40.1
Imputed Rent	0.0	Other Employment	272.2
TOTAL			376.50

P=Print H=Histogram ESC=Menu F1=Help

Figure 6.13
A sample Employment impact output screen

There are five screens which are available only when you select Thunder Bay as the region of interest. A sample General Social Indicators screen is shown below:

Impact in Thunder Bay	
Sample Administration	
Thunder Bay community.	
Year of Expenditure: 1994	
<u>General Social Indicators</u>	
Average Price of A House Sustained by New Activity	\$93,466
Average Annual Wage Sustained by New Activity	\$37,598
Increase in House Prices Over Current Average	\$3,946
Increase in Wages Over the Average Annual Wage	\$1,507
Increase in Total Property Value	\$35,189,945
Increase in Wages Over the Average Annual Wage	4.41%
Increase in Total Property Value	0.90%
Using 1991 as the base year	

P=Print ESC=Menu F1=Help

Figure 6.14
A sample General Social Indicators output screen

There are 4 possible Forestry Dependency screens which may show up based on the types of activities you have in the project. The first is the Logging Dependency screen shown below:

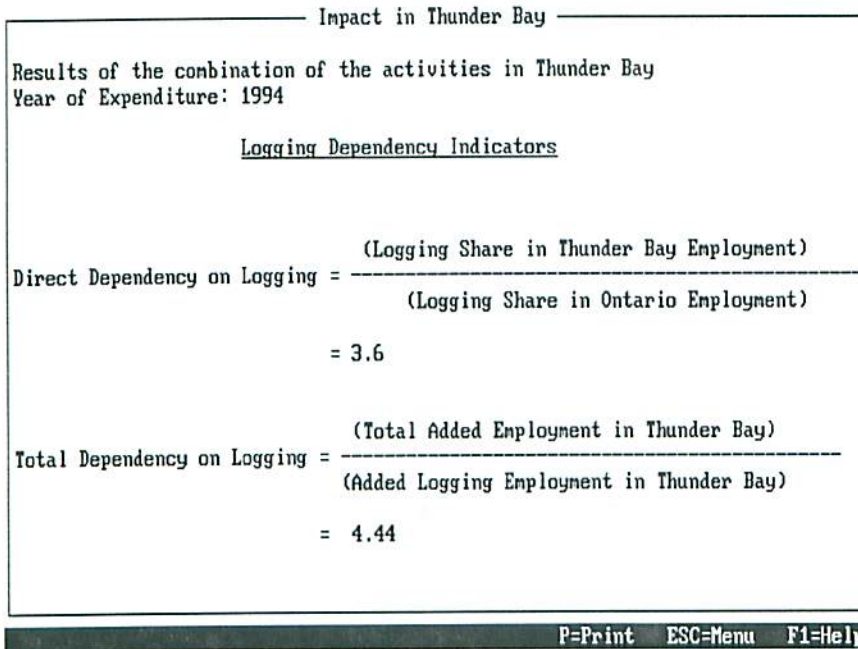


Figure 6.15
A sample Logging
Dependency output
screen

Next is the Pulp and Paper Dependency screen shown below:

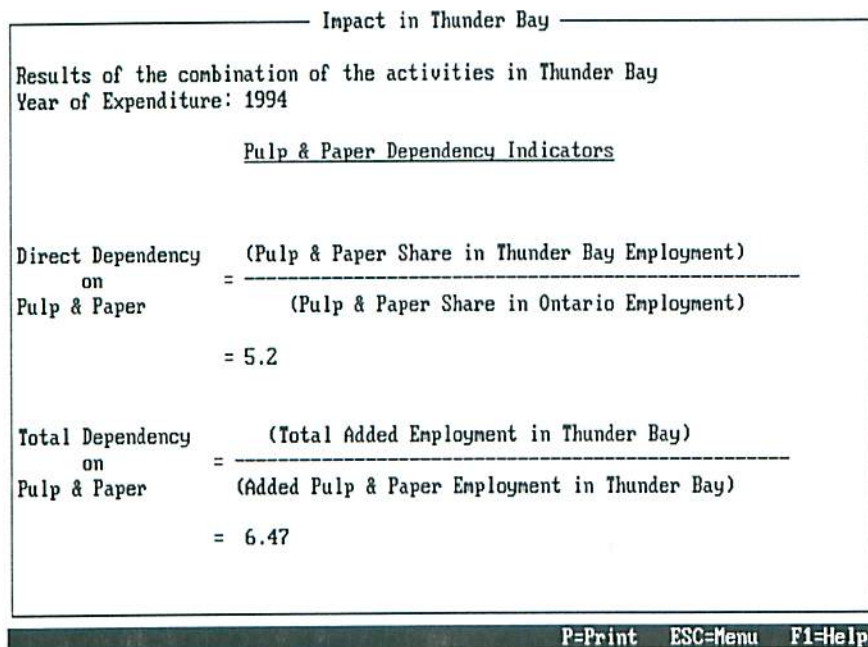


Figure 6.16
A sample Pulp & Paper
Dependency output
screen

Next is the Wood Products Dependency screen shown below:

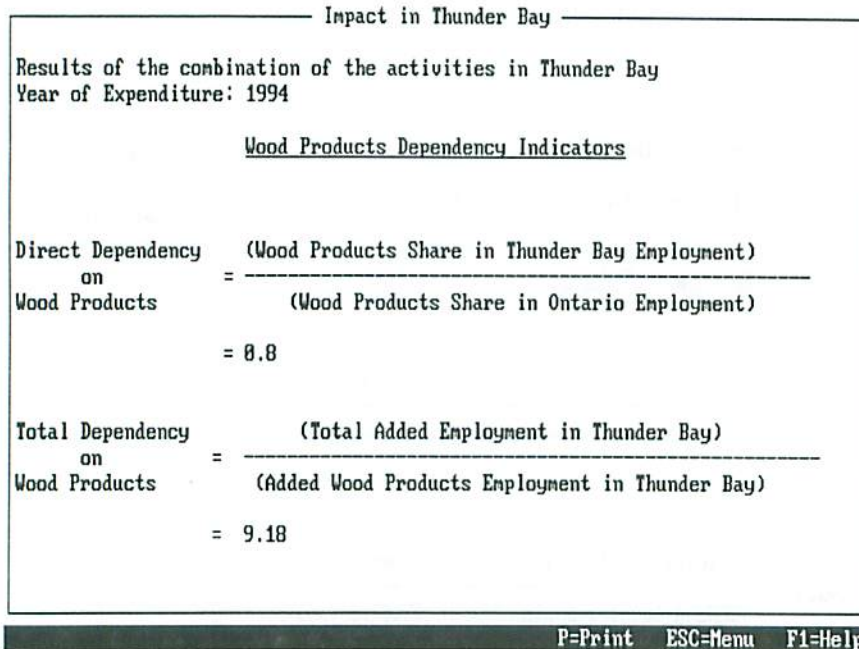


Figure 6.17
A sample Wood Products Dependency output screen

And finally, there is a summation screen, showing the total forest sector dependencies as shown below:

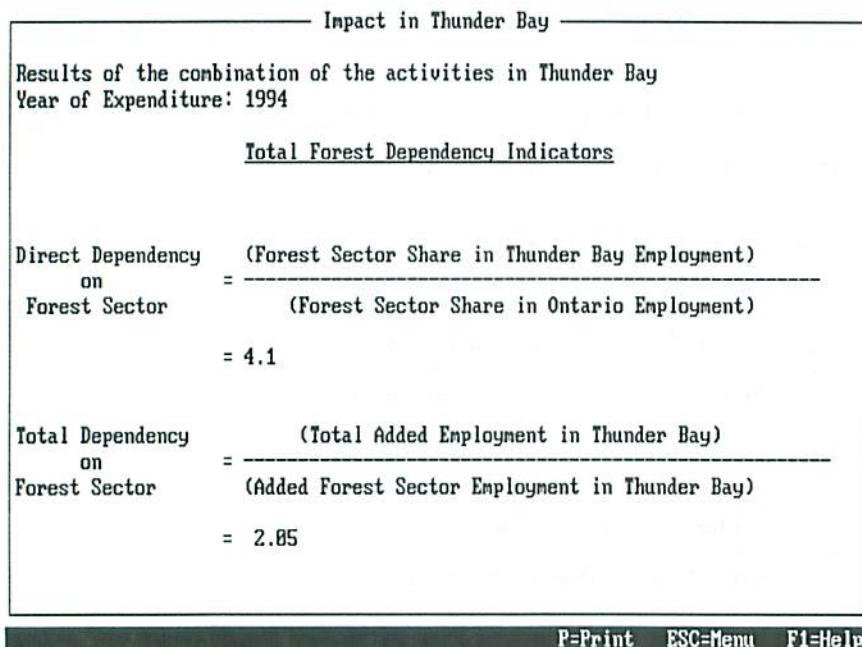


Figure 6.18
A sample Total Forestry Dependency output screen

A sample Printed Summary is included on the next two pages.

Impact in Thunder Bay

Supply Side (Current Year Dollars)

Impacts *

Expenditure \$17,000,000

A Expenditure of \$17,000,000 in the Thunder Bay community will generate a substantial amount of income, employment, and tax benefits province wide.

Sales

Direct \$7,000,000

Total \$10,125,092

Multiplier 0.60

This Expenditure sustains a total Sales volume of \$10,125,092, whereas the Gross Provincial Income (GPI) is increased by \$17,735,656, and Wages and Salaries account for \$14,155,776 or 80% of total GPI.

The Sales multiplier is calculated by dividing total sales by total expenditure.

Value Added (GPI)

Direct \$13,242,161

Total \$17,735,656

Multiplier 1.04

The Value Added multiplier is calculated by dividing total value added by total expenditure.

Wages & Salaries

Direct \$12,068,246

Total \$14,155,776

Direct wages per employee are \$35,917.

Total wages per employee are \$37,598.

Employment (Person Years)

Direct 336.0

Total 376.5

Multiplier 1.12

A total of 376 person years of permanent annual full-time job equivalents are associated with these expenditures. A total of 22.1 person years are sustained per one million dollars of expenditure.

The Employment multiplier is calculated by dividing total employment by direct employment.

Impact in Thunder Bay (Continued)

Imports

Other Count.	\$1,134,707	11 % of Sales	A certain volume of Imports is needed to sustain this expenditure. Total Imports account for 25% of Sales.
Other Prov.	\$1,391,414	14 % of Sales	
Total	\$2,526,120	25 % of Sales	

Taxes

Municipal	\$542,275	3 % of Expenditure	Taxes will accrue to all levels of government as income is generated and sales are made to sustain the new demand. A total of \$6,456,269 will be collected; of which the federal government's share is \$3,703,168, whereas the provincial government's is \$2,210,825, and the local government's is \$542,275.
Provincial	\$2,210,825	13 % of Expenditure	
Federal	\$3,703,168	22 % of Expenditure	
Total	\$6,456,269	38 % of Expenditure	

Taxes/

38%

On a per dollar basis, this Expenditure will result in a Value Added (Income) Multiplier of 1.04 and an Employment Multiplier of 1.12. Tax revenues on a per dollar of Operational Expenditure basis are 38 cents for total Taxes, 22 cents for the federal government, 13 cents for the provincial government, and 3 cents for the local government.

* please consult glossary of terms in the manual

The All of the above option allows you to cycle through each of the impact screens in turn, and print the printed report.

You will notice that at the bottom of each output screen, there is a set of options. The first option is to print the screen. If you select this option, you will be asked to print to the currently defined printer (see the Setup menu in chapter 7 for more details on setting up your printer), to a text file or to a binary file. If you print to a printer, the screen will be printed immediately on the printer. If you print to a text file, you can import this file into a word processor or a spreadsheet at a later time. The only reason to print to a binary printer file is if you do not have the printer currently attached to your computer, and you want to copy the printer file to a diskette, take the diskette to another computer with a printer and print the file on that computer. Be careful, because a binary printer file contains special printer codes, and are different for Epson and HP Laserjet series of printers. Be sure to select the appropriate type of printer before printing any printed report or binary printer file.

Printing to the wrong type of printer will usually cause garbage to be printed, or lots of blank sheets to be ejected from a laser printer.

The second option listed at the bottom of the output screens is to generate a histogram from the results on the screen. A sample histogram is shown below:

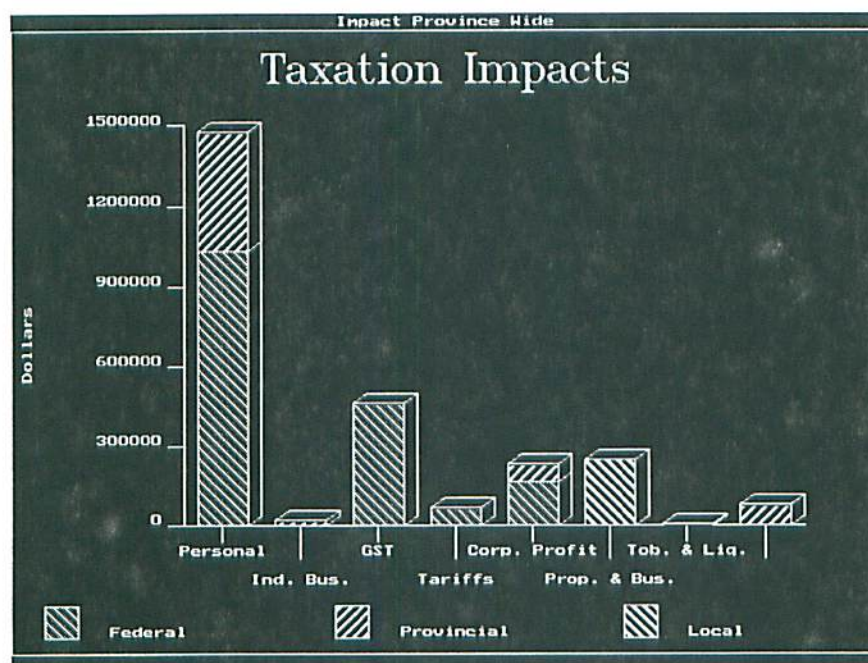



Figure 6.19
A sample Taxes
histogram saved as a
PCX file.

At the bottom of the graphic screen there are two options listed. One is press  to return to the text output screen, while the other is to save the graphic image as a PCX file. PCX files are generally very widely accepted graphic image files that can be imported into word processors and page layout programs. When you save the histogram to a PCX file, you will be asked for a file name. Do not try to enter an extension, because it will be removed and replaced with .PCX.

The last items on the Output menu are the Glossary of terms and the Mapping of industries options. Each of these options prints out a listing on your printer. You can print this reference information at any time.

Printing inputs

The Print inputs option on the Outputs menu allows you to generate a printed list of inputs for each project currently defined. It is useful to include this kind of information in a report, as it will allow the reader to know exactly what input data was used.

Each project category has its own printed inputs format, and you can generate them at any time.

The Setup menu

When you first start using CDIM:Thunder Bay, there is a default colour scheme, and the default printer is a Laserjet compatible connected to LPT1. If there is ever a need to change any of these settings, you may do so via the Setup menu. The Setup menu is reproduced below:

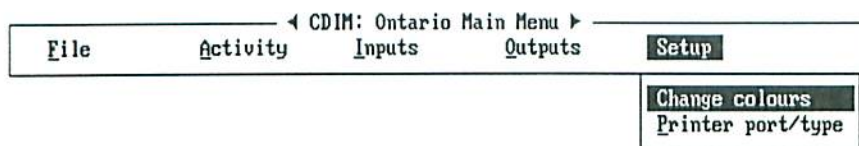


Figure 7.1
The Setup menu

The following sections describe the usage of the individual options of the Setup menu to obtain the desired system configuration

Changing colours

There is a default colour scheme built into the CDIM program. In order to return the system to a default state, merely delete the CDIM.CFG file from the CDIM directory. This file can be recreated very easily from inside the CDIM program. Note, however, that deleting this file will also result in the loss of the printer setup information. Again, this information is very easy to reenter. It is a good idea to use the Setup menu to identify the printer configuration and write it down before deleting the CDIM.CFG file. This will be described in the next section.

It is not necessary to delete the CDIM.CFG file in order to effect colour changes, but it is a quick way to reestablish a basic colour configuration if the colours become too hard to read.

Computers with monochrome adapter cards will only see a limited set of display attributes, but this is caused by the limitations of the hardware, not the software.

By selecting the Change colours option from the Setup menu, you will be presented with the following menu from which you can select the item that you wish to be displayed in a different colour:

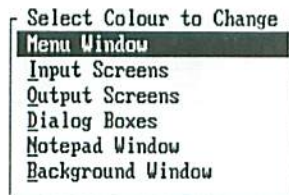


Figure 7.2
The Select Colour to Change menu

There are 6 different types of windows for which you can change the colour schemes. By changing the colour scheme of Menu Window, option 1, you change the colour for each and every menu in the CDIM.

If you prefer to have input and output screens different colours, then you can select the second and third options on the menu and change the colours as desired.

Once you have selected the type of window to change the colour for, the following menu appears:

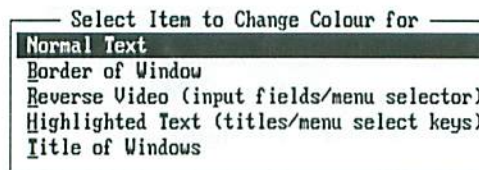


Figure 7.3
The Select Item to Change Colour for menu

From this menu, you can choose which part of the chosen window you wish to modify the colour scheme of. There are five different components for which you can change colours. Two deal with the outside of the window, namely the border and the title, and the rest deal with attributes which appear inside the window. Reverse video is usually only used in menu windows and to designate input fields during data entry, while highlighted text is usually used on data screens for titles or column headings. Numbers on output screens or on inactive input fields are displayed in the Normal text attribute.

Once you have selected the characteristic of the window you wish to modify, the foreground colour selection screen appears, as shown in figure 7.4. As you move the selection bar up and down the menu of available colours listed on the left half of the screen, the corresponding colour is automatically applied to the characteristic of the window selected, and you can see a sample of the new colour scheme in the window on the right half of the screen.



Figure 7.4
The Foreground Colour menu and sample colour scheme window

Once you are satisfied with the foreground colour, press **Enter** or **Esc** to see the following screen in which you can change the background colour of the selected window characteristic:



Figure 7.5
The Background Colour menu and sample colour scheme window

Once again, by moving the selection bar up and down the list of available background colours, you can automatically see the effect in the sample window on the right half of the screen.

Once you are satisfied with the colour for that particular characteristic of the window, press **Enter** or **Esc** in order to be returned to the Select Item to Change Colour for menu. You can select another characteristic to modify the colour of, or press **Esc** to return to the Select Colour to Change menu. If there are other windows, screens or boxes you wish to change colours of, select them from this menu, or Press **Esc** to complete the colour changing operation.

Once the Select Colour to Change menu has been exited by pressing **Enter** you will be asked if you wish to save the new configuration to file for future use. The dialogue box appears as shown below.

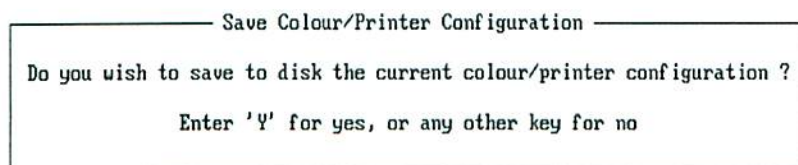


Figure 7.6
The Save Colour/Printer Configuration dialog box

If you answer by pressing **Y**, then the CDIM.CFG file will be updated with the new colour schemes, and they will be in effect every time you run the CDIM program, until you change them again.

Note that you also automatically save the current printer configuration at the same time as the colour information.

Note

If you answer with any other key, then the colour schemes will be in effect only until the program is exited. If you have made changes to the colour scheme which you are not happy with, then press **N** when asked if you wish to save the current configuration. The colour scheme will be active, but you can save your input data file with the **File|Save** option, then exit with the **File|Quit** option, and restart CDIM. The last colour scheme saved will then be in effect again. Colour schemes are not saved with the input data files, only in the CDIM.CFG file.

Changing the Printer Configuration

In order to correctly print reports, it is necessary for the program to know what type of printer it is supposed to print to, and which printer port the printer is connected to. This information is entered via the Printer port/type option on the Setup menu. It should be noted that serial printers can also be used, but there must be some special commands in you AUTOEXEC.BAT file in order for the serial printer to appear to be connected to one of these three ports. Your system administrator should be able to tell you which port to select if you are in doubt.

When you select this option, the following menu of possible printer ports appears, and you can select the appropriate port:

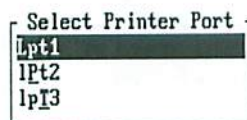


Figure 7.7
The Select Printer Port menu

The previous port selection will already be highlighted, and you may accept the default by simply pressing **Enter**. If the default selection is not correct, select the appropriate port with the mouse or arrow keys and press **Enter**. If the printer port is present and ready to accept characters, then the message shown in figure 7.8 on the next page will appear.

```
Printer Port Selection
Printer LPT1 now selected for printed output
Press any key to continue ...
```

Figure 7.8
The Printer Port
Selection confirmation
message

If the port is not present or is not connected to a printer, then you will receive an error message stating that the last selected printer port is still the active port, and that no change was made.

At this point, the following menu of printer types appears, and you can select the type of printer you wish to print to:

```
Select Printer Type
HP LaserJet
Epson
```

Figure 7.9
The Select Printer Type
menu

Codes for bolding and compressed print are printer specific, so please be sure to select the correct printer, otherwise you may wind up with meaningless output, and wasted paper. Once you have selected the printer type, the following message appears to confirm the selection.

```
Printer Type Selection
HP LaserJet printer now selected for printed output
Press any key to continue ...
```

Figure 7.10
The Printer Type
Selection confirmation
message


After pressing any key, you will be asked if you desire to save the present configuration in the CDIM.CFG file. If you answer by pressing Y for yes, then both the current printer definition and the current colour options will be saved in the CDIM.CFG file and will automatically be in effect each time you run CDIM until such time as you decide to change them again. If you answer with any other key, then the changed printer configuration will only be in effect until you exit from the program.

Hot-Key Listing

While running the program, there are certain hot-key combinations which will allow you to immediately access several of the options of the main menu, without having to escape out of whatever screen you are currently viewing. There are also two features which are only available by hot-key (clock and calculator).


The following list describes each of the hot-key keystroke combinations, and the features activated by them:



Activates the hot-key help screen which describes the current set of active hot-keys. The hot-key help screen, shown below, can also be activated by holding the  key down for several seconds.

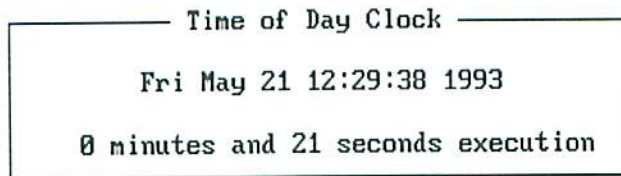
— ALT Key Combinations - Hot Keys —


```
ALT-A - This help screen
ALT-C - Clock
Alt-N - Note Pad text editor
ALT-Q - Quit Instantly, no saving
ALT-S - Save input file
CTRL-ALT-C - RPN Calculator
```

The hot-key help screen can be removed from view by pressing .



Activates the clock feature which displays information regarding the current date and time, as well as the amount of time elapsed since you logged-on to the program. A sample of this display is shown on the next page.



The clock screen can be removed from view by pressing .






Activates the built-in notepad editor, while leaving the current screen active. The program will ask you for the name of the file to edit, as described in Chapter 3 of this manual. Please see that section of the manual for more information on the use of the notepad editor.








Allows you to quit from anywhere in the program. You will be asked to confirm your desire to leave the program without saving you data file. **Q will not save your data file for you!** See Chapter 3 for more information on quitting the program.



Allows you to save your data file from anywhere within the program. You will be presented with the dialog box shown in Chapter 3 of this manual. Please see that section of the manual for more information.

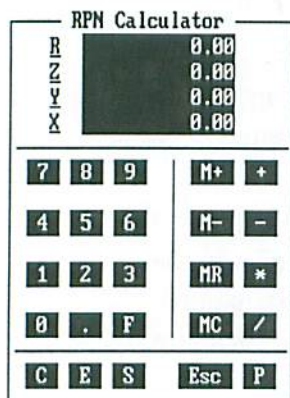
In order to activate any of these hot-key combinations, you must hold down the  key and press the second key of the combination. For example, to activate the notepad editor, you must hold the  key down while you simultaneously press the  key.

The last option is the RPN Calculator. In order to activate the calculator, hold down the  and  keys while you press the  key. There are two ways to close the calculator. One is to press , the other is to use the Paste option using  described in the next section.

A P P E N D I X B

Calculator Functions

While running the program, you may need to use a calculator. You may need to add or multiply numbers together to generate an input, or calculate a secondary result from numbers on an output screen. In either case, simply press **Ctrl** **Alt** **C** to have the calculator pop up over the current screen. The calculator is shown below:



C=Clear X, E=Erase Stack, P=Paste & Close S=Sign Change, Esc=Exit

The calculator behaves just like an RPN calculator (like those made by Hewlett Packard). Once the calculator is open, you have the following functions available to you:

Numbers: You can use any of the following keys to enter numbers into the calculator: **0**, **1**, **2**, **3**, **4**, **5**, **6**, **7**, **8**, **9** and **.** To enter negative numbers, use the **S** (change Sign) function described below.

Stack: Use the **Enter** key to push the value in the X register

up into the Y register. This also pushes the Y register into the Z register and the Z register into the R register. The old contents of the R register are lost off the top of the stack. Use the up and down arrows to roll the stack up or down as desired.

Addition: Press the $\boxed{+}$ key to add the values in the X and Y registers. The result is left in the X register, the value in Z before the operation moves down to Y, R moves down to Z and R is left as zero.

Subtraction: Press the $\boxed{-}$ key to subtract the value in the X register from the value in Y. The result is left in the X register, Z and R roll down, R becomes 0.

Multiplying: Press the $\boxed{*}$ key to multiply the values in the X and Y registers. The result is left in the X register, Z and R roll down, R becomes 0.

Division: Press the $\boxed{/}$ key to divide the value in the Y register by the value in the X register. The result is left in the X register, Z and R roll down, R becomes 0.

Memory: Use the \boxed{M} key in conjunction with a second key (either $\boxed{+}$, $\boxed{-}$, \boxed{C} or \boxed{R}) to perform operations on the memory register. $\boxed{M}\boxed{+}$ add the value of X to the value in memory, while $\boxed{M}\boxed{-}$ subtracts X from memory. $\boxed{M}\boxed{C}$ clears the memory register and sets it to zero. The stack is not modified by the use of the first three memory functions. The $\boxed{M}\boxed{R}$ function recalls the memory register into the X register after pushing X up the stack.

Clearing: The \boxed{C} function will erase the X register and set it to zero. None of the other registers are affected. The \boxed{E} function erases all of the stack registers. In neither case is the memory register affected. Use $\boxed{M}\boxed{C}$ to clear the memory register.

Sign change: Press \boxed{S} to change the sign of the X register.

Negative numbers will become positive, and positive numbers will become negative when you hit this key.

- Fix Decimal:** You can fix the number of decimals by pressing **F**. A menu of options appears, allowing you to select the number of decimals you wish to display. The program rounds all results to the number of decimal places you specify, it does not truncate.
- Pasting:** After you have a value in the X register that you wish to enter into an input field of the program, press the **P** key to enter the number into the field you were in when you opened the calculator. For best results, position the cursor in the appropriate field on the input screen before opening the calculator, and do not start entering digits into the field before opening up the calculator. If you have started entering digits, the result pasted will be prepended by these digits in the input field. This is because the paste function simply puts the appropriate keystrokes in the keyboard buffer, and the program cannot tell whether the keystrokes are coming from you or from the Paste function.
- Help:** As is the case for many screens in the program, there is a help screen for the calculator. Just press **F1** to view the calculator's help screen. Press **Esc** to close the help screen again.