Introduction

This chapter provides a short survival course in the use of EDY. EDY is an editor developed by the author and used for the development of SIMION. This program is provided in case you do not have a good way to create the ASCII files needed for user programming and creating geometry definition files.

EDY is a powerful editing program. This appendix only tries to teach you enough to start using EDY. You will probably learn a lot more from EDY itself once you get started.

Running Another Editor From SIMION

SIMION 7.0 uses the EDY editor by default. However, you have the option of accessing the editor of your choice from within SIMION.

How to Designate an Alternate Editing Program

If you prefer another editor, use the **MSDOS SET** command to link SIMION to your editor via the GUI_EDITOR environmental variable. The line below makes **notepad.exe** the active editor:

SET GUI_EDITOR=NOTEPAD.EXE

Note: Both Windows 9x and NT use a slightly different program search method for MSDOS that requires that you supply the file's *extension* (*e.g.* .*EXE*) for the editor's name in the SET GUI_EDITOR command line.

Passing Long Filenames to the Designated Editor

For compatibility with EDY and most other editors, SIMION *normally* passes the *short* name of the file to the designated editor. However you have the option of requesting that the long file name be passed by using the following **SET GUI_FILENAMES** command line:

SET GUI_FILENAMES=LONG_FILENAMES   (*Note only the 'L' is actually required*)

Setting Environmental Variables

In the Windows 9x environment, setting of environmental variables is done by either specifying their SET commands in the AUTOEXEC.BAT file or in a batch file that you create to run SIMION.

In Windows NT, environmental variables are added by clicking on System icon in the Control Panel, selecting the Environmental tab, and adding or deleting the desired environmental variables.

What Is EDY?

EDY is a full screen *in-memory* editor. That means a file is loaded into the computer's memory and edited. EDY makes use of all available computer memory. *However, if your programs are too large to fit into RAM they will not load into EDY.*

A 32 bit MSDOS extender (*Rational*) based version of EDY has been provided with SIMION 7.0. This MSDOS extender version of EDY allocates 2 Megs of RAM for file space by default. You can change this allocation with EDY_MEM environmental variable via following MSDOS SET command:

SET EDY_MEM=10000000

The example above sets the RAM size to 10 Megs (*a value of 0 will option about 400k*).

Running EDY

The EDY program consists of two files: **EDY.EXE** (*program*) and **EDYSET.EDY** (*personality file*). Both of these files must be somewhere in the currently active search path (**DOS PATH** *statement*) for EDY to execute properly (*e.g.* **C:\DOS**).

Note: The installation program optionally installs a copy of these files in the Windows directory so that they are on the search path.

Running EDY From the MSDOS Prompt

To start EDY from the MSDOS prompt simply enter **EDY** and press **<ENTER>**. If you know the file you want to edit (*e.g.* **README.DOC**) you can specify it at startup (*e.g.* **EDY README.DOC <Enter>**).

Running EDY From Within SIMION

The GUI's File Manager provides an **Edit** button in those cases when use of a file editor is allowed. To edit a file, click on its button (*leaving it depressed*) and then click the **Edit** button. To enter the editor without a file just click the **Edit** button (*without selecting a file first*).

Quitting EDY

To quit EDY enter the following three keystrokes: **Esc Q <Enter>**. If you have any active files in memory EDY will display them and ask you if you want them saved.

EDY'S Display Screen

Top Line

The top line of the screen contains a help and cursor data line. The four numbers on the upper right are line number, line length, cursor column, and the ASCII code for the character under the cursor.

Help Screen

The next 4-5 lines contains the help screen. Help screens in EDY are **concurrent** (*displayed with file image*) and **contextual** (*EDY knows what you're doing*). As you perform tasks EDY will automatically display the proper help screen to assist you. If you don't want the help screens press the <F1> key to turn them off (*you may turn help screens back on at any time by pressing the* <F1> *key again*).

File Windows

The file windows take up the rest of your screen. You should see a single file window at first. The file's name and type are displayed in the upper left corner of the file window. The file type is normally *(a)* for ASCII (*more of file types later*).

Bottom Status Line

The bottom screen line contains status indicators and messages. The three indicators on the lower right indicate the status of the <Caps>, <Num Lock>, and <Insert> keys. Any messages from EDY to you will appear in the lower left corner. You should see the word **READY** indicating that EDY is waiting for your input.

Basic Editing Procedures

The following material covers basic editing methods with EDY:

Moving the Cursor

The cursor (*flashing square*) is moved with the arrow keys. Other keys can also be used:

Home	**>**	**Beginning of line**
Ctrl Home	**>**	**First line in file**
End	**>**	**Go to end of line**
Ctrl End	**>**	**Last line in file**
Page Up	**>**	**Move one display page up**
Page Down	**>**	**Move down one display page**
Ctrl Left Arrow	**>**	**Left one word**
Ctrl Right Arrow	**>**	**Right one word**
Tab	**>**	**Right one tab stop**
Shift Tab	**>**	**Left one tab stop**

The mouse can also be used to move the cursor in any direction. Clicking **both** mouse buttons together toggles (*on and off*) an EDY power scroll mouse feature (*try it*).

Text Entry

Text is entered directly via the keyboard. EDY supports both *overwrite* and *insert* modes of text entry. The <Ins> key is used to toggle between these modes. When the **INS** screen indicator is on (*cursor is larger too*) you are in *insert* mode.

Creating a New Line

A new line is created by pressing the **<Enter>** key. The new (*zero length*) line will appear just *below* the current cursor line.

Creating Blank Lines

Blank lines are created by pressing the **<Enter>** key (*to create a new zero length line*) *followed* by a **<Spacebar>** key. This puts *at least one character* in the line. *EDY does not like zero length lines and will automatically remove (delete) them when you move the cursor away from them.*

Deleting Text

Characters *under* the cursor are deleted with the **<Del>** key. Characters to the *left* of the cursor are deleted with the **<Backspace>** key. Areas of text (*lines and etc.*) are deleted by first marking them using the **<F2>** key *or mouse* and then using the **<Del>** key.

Marking Areas of Text by Using the Keyboard

EDY allows you to mark areas of text much like you mark an area in the **View** function in SIMION. First move the cursor to a corner of the area to be marked. *If whole lines are to be marked, move to column one of the first or last line.* Press the **<F2>** key (*If Help is active EDY will provide help screen assistance*). Now move the cursor to the diagonally opposite corner of the area to be marked. *If whole lines are to be marked, move to column one of the other bounding line.* Press **<F2>** again and the area is marked.

Marking with the Mouse

Areas can be marked with the mouse in roughly the same manner. Move the mouse to the starting point to mark. Press *and hold down* the **left** mouse button. Move the mouse to the ending point. Release the **left** mouse button and the area is marked.

Knowing How to Mark an Area

If you mark an area using its diagonals, EDY will consider the region fully bounded. However, if you mark vertically (*keep both marking points in the same column*) EDY will assume *all text to the right* of the marks to be marked too. Moreover, for vertical moves it will consider the lines extend out to column 32,000 (*this prevents line fragmentation on moves*).

Things You Can Do With a Marked Area

The following is a list of things you can do with a marked area:

Delete it

Press the **<Del>** key and EDY will ask you if you're sure. Press **Y** for *yes* and the marked area will be deleted.

Erase it

Press the <-> key and EDY will ask you if you're sure. Press **Y** for *yes* and the marked area will be erased (*all non-space characters will be replaced with spaces*).

Copy it

After marking a text block move the cursor to the desired destination point. *Pause*. Notice that a ghost image of the marked block will flash. ***This helps you position the text block.*** You now have three options:

Put Text on New Lines

Press the ***<Enter>*** key to create new lines for the copied text block (*existing text will be shifted down to make room for the new lines*). Press **Y** to confirm the copy.

Insert Text into Existing Lines

Press the **<Ins>** key to insert the text block at the current cursor location. Existing text will be moved to the right to make room for the inserted text. EDY will ask for confirmation. Press **Y** to confirm the insertion.

Overwrite Existing Text

Press the **<+>** key to overwrite the text block at the current cursor location. Existing text under the text block will be replaced by the text block. EDY will ask for confirmation. Press **Y** to confirm the overwrite.

Moving a Text Block

A marked text block can also be moved. Press **M** to select the move capability. Now move the text block with the cursor keys or mouse. You can move horizontally or vertically. Press **M** or **<F2>** when you're through moving.

The move function works by transferring all the characters you would destroy across the text block into the space vacated when the text block moves a column or line. ***This means you can undo a mistake if you carefully retrace your steps.***

The other way to move a text block is to mark it, copy it to the new location, and then hit the **<Del>** key to delete it at its original location. ***This is the recommended way to move large blocks of text.***

Stretching a Text Block

Stretching (*enter* **S**) works much like move except the text block destroys all characters in its path and fills in the vacated space with copies of the previously adjoining characters. If boxes are marked carefully (*just one of their edges*) you can actually stretch or shrink them with the *S*tretch facility.

Command Entry

Commands are entered by pressing the **<Esc>** key. A help screen menu will appear to assist you in command selection. To select a command enter its first letter (*e.g.* **Q** *for Quit*). The command's help

screen will then appear to help you with its options. The following discusses loading and saving files plus the DOS shell. *Using the other commands should serve as an adventure.*

Loading a File

A file is loaded by pressing **<Esc>, L**, entering the file's name, and pressing **<Enter>**. If you want a directory listing press the **<F1>** key after you enter the **<L>** key. Notice also that the load command accepts other parameters beside the file's name. These parameters are separated by commas. *Remember commas must be inserted to skip parameters.*

Saving a File

A file is saved to its existing name by the following three keystroke sequence: **<Esc> S <Enter>**. You can select another name by entering it after the **S** (*the default saving name remains unchanged*).

Renaming a File in Memory

A file in memory can be renamed with the name command: *<Esc> N filename* **<Enter>**. This only *changes* the name of the file on the window and its *default saving name*.

Using the MSDOS Shell

EDY has a MSDOS shell (*you can execute programs within EDY*). To access the MDDOS shell enter the following two keystroke sequence: **<Esc> D**. An MSDOS prompt will now appear. You could run CHKDSK by entering **CHKDSK <Enter>**. Any MSDOS command is also legal. .After you're through enter **<Esc>** *twice* to return to screen mode.

Learning About the Other Control Keys

EDY has many special keys that could prove useful. To toggle through the special keys help screens enter the **<Ctrl K>** key (*keyboard help*). If you want help on **Ctrl** or **Alt** based keys press **<Ctrl F1>** for **Ctrl** key help and **<Alt F1>** for **Alt** key help.

Arbitrary ASCII codes can be entered by holding down the **<Alt>** key while entering a three digit key code from the *upper row* of number keys (*not the number pad keys*) (*e.g.* **Alt 050** *enters the character code 50*).

Experiment with these keys!

Multiple Windows and Split Screens

EDY can have up to eight files in memory at once (*providing there's room*). By default, EDY starts up with two of these file windows visible. You can use the **<F7>** key to toggle between them.

Loading a Second File Into Memory

A second file can be loaded into memory by using the **<F7>** key to shift to the alternate file window and then using the Load command to load a disk file into it.

Transferring Information Between File Windows

Information (*text blocks*) are transferred between file windows by first marking the desired text block (<F2> key) and then using the <F7> key to jump to the next window. The text block can be copied in one of the three modes described above.

Dual Views and Split Screens

EDY actually maintains two views of each file on separate screens. Press the <F3> key to toggle between them. *Thus you can set up two working areas in the same file.* Moreover, it is often nice to see both of these views at the same time. Press the <F4> key to toggle between split and overlapping screen view modes.

More Windows - Any Size

The <F8> key is used to access the window definition functions. When you start EDY all eight file windows are active but only two are visible.

Once in this mode the <+> and <-> keys can be used to jump between file windows. *If the border flashes the file window is currently invisible.* To make a file window visible (*add it to the display chain*) press the <Ins> key. Likewise, to remove a file window from the display chain press the <Del> key.

A file window can be moved and sized too. Use the <F8> key to get into the window definition mode. Notice that the upper left corner of the current file window has a special flashing character. Use the arrow keys to move this character to the new location for the upper left corner. Now press <F2> and small window outline will appear. Adjust the size of this window with the arrow keys. Press the <F2> key again and the file window will move into its new size and location. *The mouse can be used to move and size a file window in the same manner it is used to mark a text block.*

Character Graphics

The <F6> provides access to EDY's character graphics mode. Follow the help screen instructions and you can draw all sorts of organization charts and other worthless things.

Hint: Get into graphics mode, press **L** once (*selects single line*), move mouse to starting point, *press and hold down* the **left** mouse button, move the mouse (*a line is drawn*), and release the left mouse button to stop drawing. You can erase by holding *both* mouse buttons depressed. The **J** (*join key*) can be used to insert the proper joining character at intersections.

The <Spacebar> gives you access to the complete IBM character palette. Use the cursor or mouse to select the desired character. Now press <Enter> or the **left** mouse button to make it the current drawing character.

Note: you must exit from character graphics (press <F6> key again) before you can mark, move, or stretch your graphics.

Macros in EDY

Macros are collections of keystrokes that EDY remembers that you can reference with a few keystrokes. You can teach EDY macros, execute macros, save macros, and recall macros.

Recalling a Macro

Be sure that the help screens are active (**<F1>** *key*). Press the **<F9>** key to activate the macro function. Notice that several macros are saved as A-J on your help screen. Press the letter **B**. Notice that Your screen now shows two file windows. Now press **<F9> A** to return to your previous single file window view. In both cases EDY copies the saved macro into the local macro space and executes it as the local macro.

Teaching a Macro

To teach EDY a local macro enter the following two keys: **<F9> T**. Now proceed with your task and EDY will learn each keystroke you enter (*up to 2000*). When you're through with the task press the **<F9>** key again to stop the teaching process. The new macro is now called the local macro. *You may execute a local macro again by entering <F9> twice or pressing the right mouse button once.*

Saving a Local Macro

A local macro can be saved as an A-J macro. Press the keys *<F9> S*. EDY will ask for a letter A-J. Enter the desired letter. Now enter the macro name of your choice and the macro is saved. *Note: Macros are saved for the duration of the current session. To save macros permanently you must save the personality file (as described below).*

The MACROS.EDY File - Alt Macros

EDY also has a **MACROS.EDY** file that is installed with SIMION. It provides an advanced set of *Alt macros* for C code development and other tasks. This file is automatically loaded when EDY runs (*if and only if it is on the current search path*).

Viewing the List of Alt Macros

To view list of Alt macros enter **<Alt X>** then **<Alt F1>**. Press **<Esc>** to exit list.

Executing Alt Macros

To execute an Alt macro enter **<Alt X>** then **<Alt A-Z>** (*where A-Z means the letter A through Z that selects the desired macro*). The following Alt macros are explained to get you started (*for C macros: file type of t assumed and auto indents must be ON - <F5>*):

<Alt X> <Alt P>

> *Prints the current file out to any **PCL printer**. File name, date, and page numbering are provided on the listing. This is a quick way to get a nice listing of your user program and geometry files.*

<Alt X> <Alt M>

> *Creates a C function structure at the cursor's location. The cursor will be pointing at the location for entering the function's name.*

<Alt X> <Alt I>

Inserts an IF statement structure at the cursor's location. The cursor will be pointing at the location for entering the IF test.

Examples of other C structures:

<Alt W>	*While*
<Alt D>	*Do While*
<Alt S>	*Switch*
<Alt C>	*C /* */ comment*

The Alt macros provide an easy way to quickly create good looking C coding structures.

*Trick: **When inserting comments in C code, move cursor to <u>first line</u> to comment and enter <Alt X> <Alt C>. For each additional line you want to comment, just point the cursor to the line and click the <u>right</u> mouse button (easy and fast comments).***

Saving New Alt Macros

A local macro can also be saved as an Alt macro **<Alt A-Z>** in the same manner as described above. To see a directory of the current Alt macros press **<F9> <Alt F1>** or **<Alt X> <Alt F1>**. If you save any Alt macros, EDY automatically places them in the **MACROS.EDY** in-memory file. When you quit EDY you will be asked if you want to save the modified **MACROS.EDY** file.

Personality Files

EDY's personality can be changed and this new personality can be saved to its personality file. The personality file remembers: Screen color (**<Alt C>** *changes*), insert/overwrite mode, video driver(**<Alt V>** *changes*), file window visibility and sizes, help screens (*on or off*), default file type, and A-J macros.

To change EDY's personality: Restart EDY, change anything you want changed, and then enter the following four keystrokes: **<Esc> S ! <Enter>** to save a new personality file.

File types

EDY supports a whole collection of file formats. Basically a file is converted into a universal memory format at the time it is read into EDY according to its alleged file type (*e.g. (a) for ASCII*). Likewise it is converted back from the universal memory format to its disk file format (*when saved*) according to its currently active file type. ***You can change a file's format by loading it in as one format and saving it as another.***

The following short discussion should give you more insight:

(a) or ASCII File Type

Disk files are expected to contain lines that end with *linefeed* and *carriage return* characters. These characters are removed during file loading. Tab characters *are* expanded. When an ASCII file is saved *linefeed* and *carriage return* characters are appended to the end of each line. The file is *not* tab compressed when saved.

(t) or Tabbed ASCII

These files are ASCII files that may be tab character compressed. EDY automatically *expands* each tab character found using the current tab spacing for the file type. On file saving EDY first removes any trailing spaces from the end of each line and then *tab compresses* it using the current tab spacing for the file type.

(s) or Special Tabbed ASCII

These are just a second type of tabbed ASCII files. This allows you to have two different tab expansions available without constantly changing the tab spacing parameter (*e.g. for* **.ASM** *files*).

(b) or Binary Files

This format assumes that the file has no lines. EDY loads in arbitrarily fixed length lines. Binary files are saved back *without* line marks. *Any disk file can be loaded as a binary file type.* The line length parameter (*Load command*) can be used to load unmarked database records with their proper line length.

(d) or dBASE Files

This format assumes that the file is in dBASE format. EDY loads in the header and places each database record on its own line. You can delete, insert, or edit records. EDY assumes that you know what you are doing (*you can damage the database*). If you have mangled the file too much EDY will refuse to save it as a *(d)* format.

(v) or Variable Length Binary Records

This format assumes that the first two characters in each line form a 16 bit integer number that indicates the length of the line. The first two characters are removed and the rest of the line is loaded into memory. This format is useful if the file must have arbitrary (*binary*) characters and still retain a notion of variable line length. EDY's personality file **EDYSET.EDY** is of *(v)* file type.