# THE CORVUS CONCEPT
# ISYS USER GUIDE

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## Table of Contents

# SCOPE

## THE NEXT GENERATION OF COMPUTING SOFTWARE

Congratulations! With the Corvus Concept Integrated System you have entered the next generation of computing software.

The integrated system (ISYS) has been developed to make the Concept's applications easier to use, and more useful at the same time. Movement from application to application, or from function to function within an application has been sped up. Each application is also more fully-featured than any of their preceding counterparts under the CCOS.

Data can also be transferred from a Spreadsheet to Word processing, or directly into a three-dimensional graphics application. Mailing lists can be created, and maintained with the List function. It can be sorted by the Sort function, and individual names can be accessed in less than one-half second with the Lookup function. And all of this, and much more is at your disposal within ISYS!

## PURPOSE AND ORGANIZATION

This guide is intended to give a brief overview of ISYS, and instruct you to use the new applications, and new features. This manual is intended to be used hand-in-hand with "The Corvus Concept Workstation User Guide." "The Corvus Concept EdWord User Guide," "The Corvus Concept LogiCalc User Guide," and "The Corvus Concept Graph User Guide." Reading this manual is not a substitute for reading the other guides. It is meant to be read in addition to them.

The Word processing application has been based on many of the same ideas and functions that EdWord contained. Therefore many of the features in Word processing have not been discussed in this manual. Instead look for full explanations of how Word processing functions work in "The Corvus Concept EdWord User Guide." The only functions contained in this manual are functions not currently in EdWord, and functions that operate in a different manner than in EdWord. The same relationship is true for LogiCalc and the ISYS Spreadsheet.

The guide is divided into six chapters covering the following subjects:

CHAPTER 1 -- What is ISYS? Entering the integrated system. The ISYS volume, and the ISYS Dispatcher.

CHAPTER 2 -- What is integration? Suspending an application. Movement between applications, and the IPC file.

CHAPTER 3 -- Word processing enhancements, and the spelling checker.

CHAPTER 4 -- Spreadsheet enhancements, and where to find more information on using Graph.

CHAPTER 5 -- Using ISYS utilities: clock, calendar, the calculator, list management, information lookup, and sorting IPC files.

CHAPTER 6 -- Data communications using the D-Comm program.

To assist in making this a useful reference guide there is an appendix. It contains a glossary of all function key labels within ISYS, and gives a short explanation of what each one is and does.

## CONVENTIONS

The word "Type" is used throughout this guide to mean that two or more characters are to be entered on the Concept keyboard. All words, symbols, spaces and punctuation beginning with the first character to the right of the word type should be typed exactly as shown. Do not add or delete punctuation at the end of a statement, and type all spaces that appear within the statement. For example,

Type /CCUTIL/FUTIL

would request "/CCUTIL/FUTIL" be typed; the spaces between the word type and the first character to its right (a slash here) should not be typed. Characters may be entered in either upper or lower case.

The word "Press" is used throughout this guide to mean that a single character or key-top symbol is to be entered on the Concept keyboard. For example,

Press [RETURN]

requests the carriage return be pressed on the keyboard. When a key-top symbol is used, press the key to which it refers; do not type out the individual letters of the word shown within the key-top symbol.

Function key labels are used like key-top symbols. There are ten function keys at the top of the Concept keyboard, numbered F1 through F10. The functions of these keys display across the bottom of the Concept screen, and are also graphically depicted throughout this guide.

The function key labels change with each program. Within a program, each function key may represent up to four separate functions. The first function is obtained by pressing the function key. For example, from the ISYS Dispatcher level, "Press [SetVol]" equates to pressing the [F4] key.

The second function is obtained by holding down the [SHIFT] key and simultaneously pressing the appropriate function key. For example, from the ISYS Dispatcher level, "Press Graphics" equates to simultaneously pressing the [SHIFT] key and the [F5] key.

The third function is obtained by holding down the [COMMAND] key and simultaneously pressing the appropriate function key. For example, from the ISYS Dispatcher level, "Press [WndSave]" equates to simultaneously pressing the [COMMAND] key and the [F7] key.

The fourth function is obtained by holding down the [COMMAND] key and the [SHIFT] key while simultaneously pressing the appropriate function key. For example, from the ISYS Dispatcher level, "Press [WndEdit]" equates to simultaneously pressing the [COMMAND] key, the [SHIF] key, and the [F7] key.

Function key instructions in this guide are always given in terms of the labels at the bottom of the Concept screen, and not by the key number. An instruction such as "Press [ListVol]" leaves no doubt that the function to be performed is listing a volume; if the instruction said "Press [F5]," which is the function key corresponding to the [ListVol] label, this guide would give no clear indication of what function is being performed.

Another term used frequently in this guide is default. There are many functions in ISYS that require responses to

be entered from the keyboard. In many instances the program displays the most common (or recommended) answer to the prompt. The answer that the program offers is called the default, and it can be entered by pressing [RETURN]. If the default is not to be used, simply type the new answer and it will be used by the program.

# GENERAL INFORMATION 1

## WHAT IS ISYS?

ISYS is the Corvus Concept integrated system. It includes a variety of applications including word processing, spreadsheet, three dimensional graphics, data communications, list management, sorting, information lookup, a calendar, a calculator, a clock with international time zones, a stopwatch and interval timer, and all functions associated with the Corvus Concept Operating System (CCOS). It is a single software package aimed at solving the majority of business needs with the least effort.

Data can be transferred from application to application through the use of Inter-Process Communication (IPC) files. These files allow data to be shared by the spreadsheet and word processor (and most other functions), unlike data produced by most independant applications.

Sharing data between applications means you are capable of doing much more with that information than simply spreadsheet "what ifs," and having to leave holes in your documents where a table is to be included.

If, for example, you have a spreadsheet containing the names of your salesmen and their sales figures, you can use that data in many different ways. The information can be taken out of the spreadsheet, and sorted by gross sales. Extra columns can be added to include the salesman's region, previous quarter's sales, and salary. The same table can be copied into a document in the word processor and edited. They can even be graphed in three dimensions showing the salesman's name, his first quarter sales, last year's sales, and projected sales, in a single picture.

The List Manager can be used to create a mailing list of customers. That list can be printed on envelopes for mailings, as is expected. The list can also be used as an instantaneous address and phone directory too. If you need the address of James Kilpatrick you can select his last name in the information lookup program and his name, address and phone number would appear. You could even list all the

persons on your list in a particulat area code, or all Smiths. Any aspect of the file could be looked at quickly.

Essentially ISYS is a complete solution to most business needs. Each aspect of the system has been fully-featured, and is independantly effective. The ability to share data between various applications only adds to the system's effectiveness.

## THE ISYS VOLUME

The ISYS volume is a third system volume similar to /CCSYS, and /CCUTIL. The volume /ISYS stores the files necessary for running ISYS. It is not meant to be used as a working volume. ISYS should always be run from a current volume other than /CCSYS, /CCUTIL, or /ISYS. The current volume is displayed at the top of the Concept screen. For information on setting the current volume see "The Corvus Concept Workstation User Guide."

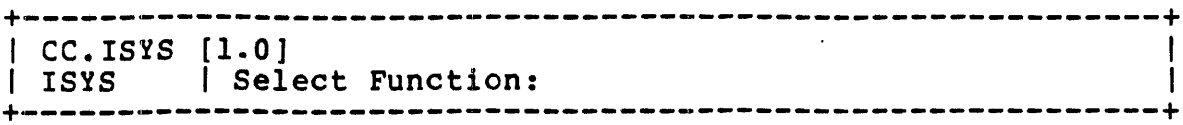
## THE ISYS DISPATCHER

After log-on the set of labels that display is called the Dispatcher level. The label named ISYS enters the integrated system, and places you in another set of labels. This level is called the ISYS Dispatcher level and is the hub of the Concept's Integrated System. Other sets of labels and commands can be called from this level.

The ISYS Dispatcher plays an important part in the overall intergration of the ISYS functions. Some of the advantages of the ISYS Dispatcher are: 1) it can be called from a program, e.g. SprSheet, without exiting the program, 2) it allows you to resume the program it was called from, 3) it allows quick access to other functions of ISYS, and the CCOS.

Programs are run from the the ISYS Dispatcher the same way as from the CCOS Dispatcher. There are two ways to run a program: 1) by typing the name of the file that contains the program, 2) by pressing the function key whose label corresponds with the command you wish to use.

The Command window for the ISYS Dispatcher displays as follows:




The labels for the ISYS Dispatcher are as follows:

**ISYS Dispatcher**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| p-System | | | DataComm | Graphics |
| Lookup | SprSheet | WordProc | SetVol | ListVol |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Exit |
| ClrWndow | SelWndow | Spool | DeskTool | |

**ISYS Dispatcher with COMMAND held down**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| FileMgr | LoadFont | ExecFile | SortFile | SysUtils |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| ClrWndSw | WndEdit | | | |
| RevBkgrd | WndSave | Despool | MountMgr | |

ISYS Dispatcher Level Functions:

To return to the ISYS Dispatcher from any of the commands that have a separate level, press [Exit].

[ClrWndow] clears everything from the current window.

[ClrWndSw] toggles the clear window function of the Select window command. Normally, when a window is selected it is cleared. This command allows you to change the function so that it does not clear the selected window.

[DeskTool] enters the DeskTool utility level. Under this level there is a 15 function calculator, a calendar, and a clock with international time zones, stop watch and lap counter.

[Despool] enters the Concept Despool program.

[DataComm] enters DComm, the ISYS data communications program. This allows you to perform tasks such as modem control and terminal emulation.

[ExecFile] allows you to execute any Exec file entered on the Command line. By typing % before pressing [ExecFile] you area able to run the command interpreter. To exit the command interpreter, hold down the [CTRL] key and press D.

[Exit] returns you to the CCOS Dispatcher level.

[FileMgr] enters the File Manager level.

[Graphics] enters the ISYS graph program. This program allows you to create three dimensional graphs either from a Spreedsheet file or from manually input data.

[ListVol] allows you to list the volumes on-line or files in a volume. Type the volume name and press [ListVol] to list the files in the specified volume. Type / or ! for a listing of all the volumes and devices on-line.

[LoadFont] allows you to load into the current window one of seven standard character sets or manually load a custom designed character set.

[Lookup] enters the ISYS information location program. This allows you to quickly find specific information in a list of subjects using your own data files.

[MountMgr] enters the Concept volume management program.

[p-System] enters the UCSD Pascal runtime operating system. The current volume must be a UCSD volume. H(alt must be used to return to ISYS from the p-System.

[RevBkgrd] reverses the background of the current window.

[SelWndow] enters the Select Window program. This allows you to select the size of the current window.

[SetVol] allows you to specify a volume as the current volume. The current volume is the one where your work is being done.

[SortFile] enters the ISYS Sort program. This allows you to select a field in an IPC file and arrange it in an ascending or descending order.

[Spell] enters the ISYS spelling checker program. This allows you to scan and verify the spelling of the words in a document.

[Spool] enters the Concept Spool program.

[SprSheet] enters the ISYS spreedsheet program.

[SysUtils] enters the System Utilities level.

[WndSave] allows you to save an image of all or a portion of the System Window.

[WndEdit] allows you to position and play back a saved window image.

[WordProc] enters the ISYS word processing program.

# INTEGRATION | 2

## WHAT IS INTEGRATION?

Defining just what makes a software system "integrated" is difficult. In general, however, integrated software systems (perhaps better described as integrated applications systems) should have the following attributes:

- o functions common to the various applications should be both invoked in the same fashion and operate in tthe same fashion regardless of the application in use.
- o the various applications should be able to easily access each other's data. This implies a common format and access methodology for data that is used by all applications.
- o the applications should operate from within a common environment. Systems currently available have accomplished this in two ways: by integrating all functions within a single program, and by providing a "shell" from which applications are run.

Note that the user interface to the system (pressing function keys to select a task, or manually placing a mechanical mouse on an image and pressing a button) is NOT part of the definition.

Corvus ISYS fulfills this definition of an integrated system. ISYS uses common functions, it allows data to be shared between applications, and ISYS runs from a shell environment. Using the shell environment means that each application is developed separately, but is made to work with the other applications. Therefore, each is made to be more versatile, and more fully featured than those tied into a single program.

**SUSPEND AND RESUME**

One of the main features of ISYS is program suspension. This feature allows you to temporarily stop the actions of one program, and start running a different program. This feature is activated by the Suspend label, which is found in Data Communications, Word Processing, Spreadsheet, and Graphics.

To suspend a program, press [Suspend]. The labels that appear are, with two exceptions, the same as the ISYS Dispatcher. The exceptions are: 1) the program you are using does not appear in the labels, and 2) [Resume] appears where [Exit] is normally found. For example, if you suspended Spreadsheet, the labels would display as follows:

**Suspend from Spreadsheet**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| p-System | | | DataComm | Graphics |
| Lookup | | WordProc | SetVol | ListVol |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Resume |
| ClrWndow | SelWndow | Spool | DeskTool | |

**Suspend with [COMMAND] held down**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| FileMgr | LoadFond | ExecFile | SortFile | SysUtils |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| ClrWndSw | WndEdit | | | |
| RevBkgnd | WndSave | Despool | MountMgr | |

The blinking overlay window then displays.

Suspend's primary advantage is to allow you to perform different tasks without exiting your current program and allow you to return to your suspended task at the same point before it was halted.

To return to a suspended task, press [Resume]. The display is restored to show your suspended task.

Suspend has many advantages, however, there are certain guidelines that should be kept in mind when using this feature. These guidelines are discussed in the following section.

## USING MEMORY IN ISYS

When using the Suspend command of an application consider how a program and the computer's memory relate.

When a program is run portions of the programs instructions to the computer are stored in a special area of the computers memory. Smaller programs are able to store all their instructions in the computers memory. Once in memory, information can be given to the program and the program will continue according to its design.

After a program is finished running, the space in memory it occupied is freed up and is then availble to be used by other programs. However, when a program is suspended the area of memory that program is using is not released. Any program that is invoked while a program is suspended is given a different area of memory to use for its purpose. This is a key element of ISYS; allowing you to suspend and move to different tasks.

However, if several programs are suspended, eventually you will run out of memory for use by any additional programs. To avoid potential inconviences that would arise from this situation, you should not invoke a program that has the Suspend feature after suspending two other programs. For example, if you suspend Word processing, invoke Data Communications and suspend that, you should not then invoke Spreadsheet. This would cause an error message, and subsequently the program would fail.

Another guideline to follow is to watch the number of different character fonts loaded, and the number of devices on-line. Though there is no hard rule on how many, but the more additions to the system may cause a program to fail. For example, if you have the printer assigned, a floppy drive active, all seven character sets loaded at one time or

another, and the Data Communications program suspended, Word processing suspended, using Lookup may fail. This is an obvious overloading of the system, however, you should be aware of this situation.

## MOVEMENT FROM FUNCTION TO FUNCTION

Under ISYS, you can move between applications and functions in one of two ways. The first way is to suspend the current application and select a new application or function. The second is to exit the current application and select a new application.

All the major applications of ISYS, Data Communications, Graphics, Spreadsheet, and Word processing, allow you to suspend their tasks, while the remaining ISYS functions, e.g. Spool and FileMgr, must be exited. So by suspending or exiting you can save data out to an IPC file or a regular CCOS file and move to a different application. Once in the new application you can load the file into the current application and proceed accordingly.

For example, while using Word processing you could save the current document to a file and suspend Word processing. Next, you could press [FileMgr] and copy the file to a different volume. Another example of moving between applications and functions is while using Spreadsheet you could print the spreadsheet out as a report and suspend Spreadsheet. Next, you could press [Spool] and send the report to a network shared printer.

## THE IPC FILE

An IPC file is an Inter-Process Communication file that is used to exchange information between ISYS functions. The different functions often store data in different ways, so the IPC file is needed to structure the data in the same way for all intermediate steps.

An IPC file must have the information stored in a particular format. That format consists of a line specifying the column width, a line that identifies columns, and information in the other lines divided into the proper lines and columns.

Each line is called a record. Records are broken down into fields. A record may be as simple as a customer's name, address, and telephone number. The fields in that record

might be first name, last name, street address, city, state, zip code, and telephone number. An example of how this would look in the proper IPC file format is shown below:

```
+----------+----------+---------------------+----------
LAST NAME   FIRST NAME  STREET ADDRESS        CITY
Mathews     Richard     427 Elmwood Lane      Cooley
McGuiness   Larry       824 Lytton Ave.       Elmo
Buckley     Robert      14279 Wolf Road       Los Angeles
Young       Cheryl      642 Cotton Way        Doubleday
  ...
```

The first line defines the size of each column in every record. The second line identifies each field, or column. The third, and following lines contain the data in IPC format.

The Spreadsheet imposes a limitation on the size of each column. Each field must contain a minimum of 3 characters, and a maximum or 63 characters.

IPC files can be created in several different ways. the List function in Word processing can be used to define and create new IPC files. The Word processing program can be used to create, or edit IPC files. By creating the first two lines in the form shown above, the file is in the IPC format.

The Lookup, and sort programs do not create IPC files, but they do use files in the IPC format for sorting of information searches.

The Spreadsheet program creates IPC files by using the Mark and Bound functions. The first line defining columns in the spreadsheet is used to define the column sizes in the IPC file.

In most applications the IPC file is automatically created, and when transferred into a new application automatically loaded. Normally, the user will treat IPC filers like regular text files. the default name is IPC.TEXT, but other names can be used; for example, STAR.TEXT could be used, and the .TEXT is automatically appended to the name.

# 3 WORD PROCESSING

## WHERE TO FIND MORE INFORMATION

Many of the functions in the Word processor are not discussed in this manual. The commands and methods of operation in Word processing are identical to those in EdWord, except where noted in this document. To find out about any Word processing commands that are not covered in this section, or that are not covered in enough depth in Appendix A, look in "The Corvus Concept EdWord User Guide."

## WORD PROCESSING ENHANCEMENTS AND CHANGES

This section briefly describes enhancements and changes to EdWord that now make the word processing program for ISYS. Besides rearranging the label placements adding new commands, there are five major changes to EdWord that make up ISYS Word processing. The changes are as follows:

- Scrolling
- Major command grouping under the [COMMAND] key
- The Exit label
- The Resume label
- The Suspend label

Scrolling is performed by holding down the [COMMAND] key and pressing one of the cursor keys. Pressing the up cursor key scrolls the display up, while pressing the down cursor key scrolls the display down. An added feature is the ability to scroll to the right by pressing the right cursor key and left by pressing the left cursor key.

Major command grouping under the [COMMAND] label is major change to EdWord to make ISYS Word processing. When the [COMMAND] key is held down the labels change to display the following:

**Word processing**
**all levels with [COMMAND] held down**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | Lists |
| Adjust | Settings | DeskTool | PrintFmt | Search |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| Print | | Spell | SelfTest | ISYS |
| MoveText | Enhance | Goto | Document | Suspend |

This arrangement allows quick access to any of the major commands from any command level.

In ISYS Word processing, the labels Exit and Resume appear in the following label positions at every command level:

| F1 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Resume |
| | | | | Exit |

Exit always returns you to the Main level of ISYS Word processing. Resume returns you to the previous command used. For example, if after using Enhance you select Goto, pressing [Resume] returns you Enhance. This Resume is different than the Resume found in the ISYS Dispatcher. Suspend is discussed under the heading "Suspend and Resume."

**Word Processing Changes**

The following is an alphabetical list of the changes to EdWord that make up ISYS Word processing.

[Adjust] has changed considerably. When you press [Adjust] the following labels appear:

**Adjust**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| Standard | Block | Indented | Qoute | Item |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | Hyphenat | | | Resume |
| ParaFrmt | Justify | PrevPara | NextPara | Exit |

The labels Standard, Block, Indented, Qoute and Item allow you adjust text into different paragraph formats. The ParaFrmt label allows you to alter the indentation and margin settings of any the format labels. The Justify and Hyphenate labels allow you to activate those functions when a format label is selected. PrevPara moves the cursor to the previous paragraph, while NextPara moves the cursor to the next paragraph.

[Bound] has two additional commands, Save and Sort. See Save and Sort.

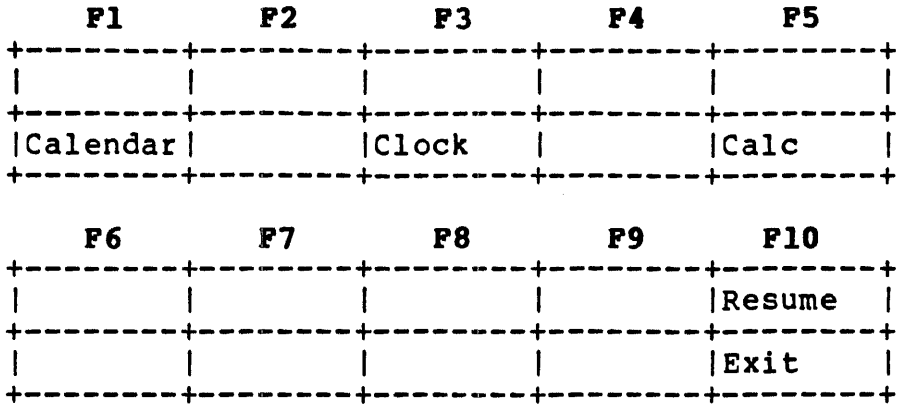
[Cut Line] operates just like the Cut Text command. This command is found under the Main level.

[Cut Sent] cuts text from the current cursor position to the next period. This label is found under the MoveText level.

[Del Word] deletes the characters from the current cursor position to the next blank character. This label is found under the Main level.

[DeskTool] enters the Desk uitility level. When you press [DeskTool] the labels change to display the following:

**DeskTool**




Calendar displays a one month calendar for the year and month of your choice. Clock displays a clock with international time zones. The clock also has stop watch and lap functions. Calc displays a 15 function standard infix calculator.

[Flush L] aligns the text of the current line with the left margin. This label is found under the MoveText level.

[Flush R] aligns the text of the current line with the right margin. This label is found under the MoveText level.

[Goto] has two additional commands, NextScrn and PrevScrn. See NextScrn and PrevScrn.

[Index] allows you to create an index with page references of subjects in a document. This label is found under the Print level. Index uses the Dot commands .IX and .IXP.

To index a subject, place the .IX command on the line prior to the occurrence of the subject. Following the .IX command, specify how many pages in succession you want the subject to be referenced. Next enter the subject to be indexed. For example, it could look as follows:

.IX 1 Promises

To index an occurrence under two different catagories, type the index as follows:

.IX 1 Never Kept, Promises

When printed it produces the following:

Never Kept, Promises, 1
Promises Never Kept, 1

The Dot command .IXP allows you to prefix the index. For example it could look as follows:

.IXP G-

When printed it produces the following:

Rain in Spain, G-12
The Sun Won't Shine, G-3

To print an index, after the appropriate Dot commands are placed in your document, press [Print]. Next press [Index]. The Command window displays the following:

```
+-------------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [            ]|
|Print   | Store index in which workpad?                      |
+-------------------------------------------------------------+
```

Type the name of a workpad in your Workspace and press [RETURN]. The Command window displays the following:

```
+-------------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [            ]|
|Print   | Clear index workpad? N                             |
+-------------------------------------------------------------+
```

Press [RETURN] if you do not want clear the workpad used to store the index. Press Y, for Yes, to clear the contents. After the document has been scanned for index commands, you are placed in the index workpad.

[Lists] allows you create multiple subject lists in an IPC format. This list can be sorted later by

the SortFile program or used by the Lookup program.

When you press [Lists] the labels change to display the following:

**Lists**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| EditList | | | | New List |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Resume |
| | | | | Exit |

New List allows you to create a new list. When you press [New List] the Command window displays the following:

```
+-------------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]||
|Lists   | Column title?                                      |
+-------------------------------------------------------------+
```

Enter the name of the column, which can be up to 20 characters in length. Next the Command window displays the following:

```
+-------------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]||
|Lists   | Column length?                                     |
+-------------------------------------------------------------+
```

To this prompt enter the length of the field, which can be up to 40 characters in length. The Editing window then displays the new field in the IPC format.

To enter information into a list, press [EditList]. The Editing window displays your fields in reverse background. The labels change to display the following:

**EditList**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| FirstRec | Last Rec | | | |
| Prev Rec | Next Rec | Search | | Ins Rec |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Resume |
| Del Rec | Sort | Print | Word Cap | Exit |

These labels operate in the same fashion as the labels of the EdWord Forms command.

[LoadTabs] allows you to load tab settings that are saved with the SaveTabs command. When you press [LoadTabs] the Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]|
|Settings| Load which tab rack? TabAra                      |
+-----------------------------------------------------------+
```

Enter the name of the tab rack the tabs were saved and press [RETURN]. The tab settings from that rack are then loaded with your current tab settings. This command is found under the Settings level.

Main is the main level of ISYS Word processing. See Cut Line, Del Word, NextWord and PrevWord.

[MoveText] is a combination of all the text movement commands. See Cut Sent, Flush L, Flush R, PasteChr, Shift L, Shift R, and ShiftLen.

[NextScrn] moves the cursor down the height of the Editing window. This label is found under the Goto level.

[NextWord] moves the cursor to the next word from the current cursor position. This command is found under the Main level.

[PasteChr] pastes the text from the COPY workpad in a string fashion. Text is inserted from the cursor position onward. This label is found under the MoveText level.

[PrevScrn] moves the cursor up the height of the Editing window. This label is found under the Goto level.

[PrevWord] moves the cursor to the previous word from the current cursor position. This command is found under the Main level.

[Print] has the new commands Index and Spooler. See Index and Spooler.

[Save] allows you to save to a file, the contents of the Bounded area. This command is found under the Bound level.

[Sort] allows you to sort the contents of the Bounded. To use this command Mark and Bound a block of text followed by pressing [Sort]. The following labels appear:

**Sort**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| Sort Key | | | | Order |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Resume |
| Start | | | | Exit |

Sort Key allows you select which column the block of text will be sorted by. The Order key allows you to sort the list in an ascending order, i.e. numbers first from lesser to greater and letters next from a to z, or a descending order, which is reverse. After the appropriate selections are made press [Start] to begin sorting.

[SaveTabs] allows you to save the current tab settings to what is called a "tab rack." To save the current tab settings press [SaveTabs]. The Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]|
|Settings| Store index in which workpad? TabAra             |
+-----------------------------------------------------------+
```

Either press [RETURN] or type the name of the tab rack and press [RETURN]. A tab rack name can be up to eight characters in length. These settings are saved by name to a special area in your current Workspace, and can be recalled by using the LoadTabs command.

[SelfTest] allows you to test the integrity of your current workpad or your entire Workspace. TestWkPd tests your current workpad while TestWkSp tests the entire Workspace. These commands were formerly called Verify.

[Settings] now has two new commands that allow you save tab settings and later recall them. See LoadTabs and SaveTabs.

[Shift L] allows you to move the current line of text a specified number of spaces to the left. The number of spaces the line is moved is set by the ShiftLen label. This command is found under the MoveText level.

[Shift R] allows you to move the current line of text a specified number of spaces to the right. The number of spaces the line is moved is set by the ShiftLen label. This command is found under the MoveText level.

[ShiftLen] allows you to set the number of spaces a line is moved when you press [Shift L] or [Shift R]. When you press [ShiftLen] the Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]|
|MoveText| Shift lines by how many columns? 1                |
+-----------------------------------------------------------+
```

To this prompt type the number of spaces and press [RETURN]. This label is found under the MoveText level.

[Spooler] allows you to send the formatted contents of your current workpad to a shared network printer. When you press [Spooler] the Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]|
|Print   | Print to which queue? PRINTER                    |
+-----------------------------------------------------------+
```

To this prompt press [RETURN] or type a different pipe name. After pressing [RETURN] the Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]|
|Print   | Message to send with file?                       |
+-----------------------------------------------------------+
```

This message can be up to 65 characters in length. After typing your message press [RETURN]. The Command window next indicates that it is formatting the document, afterwhich it will inidicate that it is sending the document to appropriate pipe.

This command uses the program Spool and Despool.

# USING THE SPREADSHEET 4

## WHERE TO FIND MORE INFORMATION

For more information about the spreadsheet program, refer to "The Corvus Concept LogiCalc User Guide." Most of the Spreadsheet commands are identical to LogiCalc's commands, and that manual is an indespensable tool in learning to use the Spreadsheet. Information about the graphics program is found in "The Corvus Concept Graphics Program User Guide."

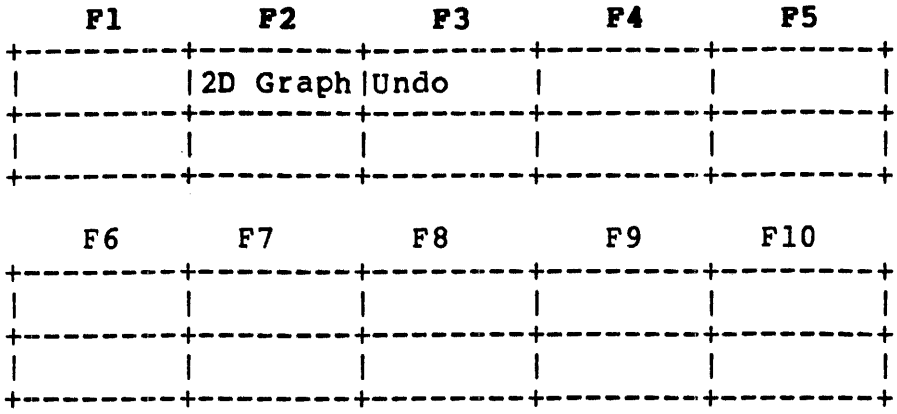
## SPREADSHEET ENHANCEMENTS AND CHANGES

This section briefly describes the added features and changes to the spreadsheet program included in ISYS. These improvements are discussed in the following sections.

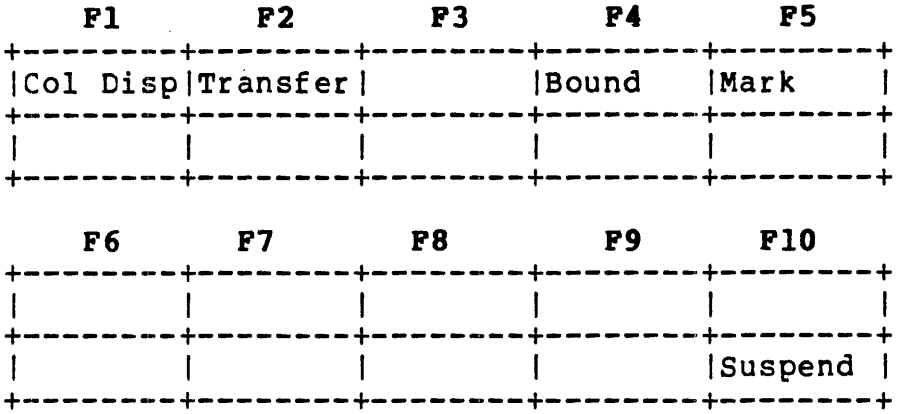
### New Functions

The new functions that can be invoked by pressing a function key are two dimensional graph, Undo, column display, transfer, Mark and Bound, and Suspend. They are shown in their locations, and are described below:

**Spreadsheet**




**Spreadsheet with [COMMAND] held down**




[2D Graph] calls the Graph function (different from the ISYS Graphics program), which produces a barchart, line chart or dot graph for one or two ranges of numeric data. The range must follow a row or column.

[Undo] reverses the last data entry made to the spreadsheet, restoring that cell to its previous state. Certain operations such as Copy or Recalculate are not reversed; however, the last data entry before the operation is undone. Moving the cursor does not affect Undo.

[Col Disp] switches display of spreadsheet columns off/on. Normally, all columns are displayed; with Column Display, selected columns are not displayed. Using the function a second time re-activates display of the columns. Data is not

affected, and can be referenced elsewhere. Not-displayed columns will not print out, and are not included in IPC files, but are listed in a dump of the spreadsheet.

[Transfer] loads an existing IPC file into a specified spreadsheet location, adding the data to the existing sheet.

[Mark] sets the top left corner of the spreadsheet to be made into an IPC file. If Mark is not used, cell A1 is used as the default Mark location.

[Bound] sets the bottom right corner of the sheet area to be made into an IPC file. The bounded area is indicated by reverse video, and a prompt for the IPC file name shows in the Command window. When the IPC name is specified, the data is moved to the IPC file and the process completed.

[Suspend] calls the suspend level of ISYS labels and temporarily halts the spreadsheet program. Another program can be used at this point. Resume terminates the second program and returns the user to the spreadsheet program.

**New Built-In Functions**

Five new built-in functions have been added to the spreadsheet program. Like other built-in functions, these must be defined as numeric data, by starting with the plus sign or using CellType.

LOOK
Table Lookup

searches a table consisting of a range of ascending values paired with a value in the adjacent row or column, to find the the last value greater than or equal to the search value. The adjacent paired value is returned as the result. The general form is:

+LOOK(search value, range)

where the search value is a constant, cell location or formula.

CHOOS

returns the Nth item in the specified range, where N is the truncated integer

Choose Item — of the supplied value. For example, if 3.35 is used, then the third item in the range is returned as the result. The general form is:

+CHOOS(N, range)

where N is a constant, cell location or formula.

NPV — Net Present Value — calculates the net present value (discounted cash value) of an initial investment followed by a series of periodic cash flows. Three elements must be supplied: the discount rate for the period, the initial investment, and the periodic cash flows. The format is:

+NPV(discount rate, range)

where the discount rate is for the period and is a constant, cell location or formula, and the range has the initial investment as the first value, and the succeeding cash flows for the rest of the range. The cash flows must be for same-length time periods.

IRR — Internal Rate of Return — calculates the discount rate that must be applied to a series of future cash flows to equal an initial investment. The general form is:

+IRR(range)

where the first value in the range is a negative number representing the initial investment, and the remaining values are future cash flows, which can be positive or negative values.

MIRR — Modified Internal Rate of Return — calculates the discount rate that reflects the difference between a "safe" rate on negative cash flows and a reinvestment rate on positive cash flows. The general form is:

+MIRR(Rate1, Rate2, Range)

where Rate1 is the safe rate, Rate2 is the reinvestment rate, and the range is the cash flows, with the first value a negative number for the initial investment.

**Changes to Existing Spreadsheet Functions**

Four spreadsheet functions have been changed. These are:

[Save] The password is now displayed, and does not have to be entered a second time to save a file with a password.

[Rplicate] The Prompted option has been changed. Now, only the coordinates for the first formula need to be defined; this pattern is replicated for the remainder of the range.

[Merge] A new option step has been added:

V(alues only or A(ll

When V(alues only is selected, only numeric values are merged into the displayed spreadsheet, without the formulas. When A(ll is chosen, the formulas and their displayed values are merged into the sheet on the screen.

[ListVol] The current file is now highlighted in the ListVolume display. Additionally, a different file can be selected as the current file, or a different volume directory selected. Cursor keys are used to select files.

**New Error Messages**

The following new error messages have been added to the spreadsheet program:

| ERROR MESSAGE | MEANING |
|---|---|
| BAD RANGE | The first coordinate must be the left-most or top-most coordinate of the range. Coordinates can not be reversed. |
| BAD RANGE COORDS | Invalid cell coordinates for range. Check coordinates and re-enter. |
| CELL EXPECTED | Invalid cell coordinates entered for function. Check coordinates and re-enter. |
| CELL. NUMBER OR FUNCTION EXPECTED | LogiCalc can not interpret entry. Check format, cell coordinates and parentheses. |
| CELL OR NUMBER EXPECTED | Check your entry to make sure format is correct, including all parentheses. |
| COMMA EXPECTED | Comma needed to separate parameters for function. Check format. |
| END OF INPUT EXPECTED | Check entry for correct format. |
| INVALID CHAR IN TEMPLATE | The specified IPC file does not have a valid template Check IPC file for correct format. |
| INVALID RANGE | You must specify a valid range consisting of at least 2 values, which extends along a row or column. |
| LEFT PAREN EXPECTED | Missing left parenthesis. Check format of function. |

| | |
|---|---|
| RANGE EXPECTED | A range of cells must be specified, not a single cell location. |
| RIGHT PAREN EXPECTED | Missing right parentheses. Check format of function. |
| UNKNOWN FUNCTION | You have not used a valid format for the function. Check format and re-enter function. |
| UNABLE TO OPEN IPC FILE | The specified IPC file does not exist or can not be opened. Check file name. |
| ?n? | LogiCalc cannot compute result. Check format, formula and cell coordinates. |
| NOT LOGICALC FILE | When using the ListVol function, only LogiCalc data files, ending with .LC, can be selected. |

## CREATING THE INPUT FILE

The input file that will be graphed must be created before entering Graph. The following types of input can be used:

- o LogiCalc spreadsheet data file (.LC)
- o Text file of a spreadsheet (.LC.TEXT)
- o IPC data file
- o ASCII data file
- o Manual input through the Data Manager Level of the Graph program.

Most data used to produce graphs will come from spreadsheet data files.

### Spreadsheet Data Files

The spreadsheet data file must be set up following certain conventions. The most important of these are:

- All titles must go at the top of the sheet, starting in Row 1, Column A. Titles should be short, usually no more than 25-30 characters per line. They should be defined as titles with the /T command, and a maximum of 8 title lines is allowed. The first title line usually placed at the top of the graph, with the remaining lines being positioned according to the template layout.

- The next line after titles is defined as the column headers if it is text. One line is allowed. The column headers must be right-justified using the /R command directly over each column of numeric data. No blank spaces should be left.

- Row headers must be text data, and also right-justified with the /R command. They must go in column A.

- The data to be graphed must be numeric, and right justified. It should have 0 places of decimal precision displayed. While Graph can accommodate considerable variance between the smallest and largest values to be graphed, your data should all be within 3-5 orders of magnitude. Graph will automatically calculate the scale to use on the chart.

  The absolute maximum size is 32 rows by 32 columns of numeric data. However, most templates are designed for smaller data sets. The templates adjust automatically to fit the size of the inputed data file, but a warning appears in the Command window to alert you that you may have problems with labels and dimensions.

A sample spreadsheet file is shown below:

---

| Column> | A | B | C | D |
|---|---|---|---|---|
| Row | | | | |
| 1 | CORVUS Growth | | | |
| 2 | | | Income | Sales |
| 3 | | 80 | 58 | 2184 |
| 4 | | 81 | 705 | 10235 |
| 5 | | 82 | 2352 | 26830 |
| 6 | | 83 | 4500 | 47500 |

---

Notice that the title appears on the first line, starting in Column A. The next line contains the column headers, which are text and right-justified over the columns. The row headers are in Column A and are text, right-justified. Lastly, the numeric data is in a solid block directly under the Column Headers, and is also right-justified.

The Graphics program lets you use partial spreadsheet files. Additionally, selected rows or columns can be deleted, zeroed or ignored when graphing the data.

**Text Files**

Text files (spreadsheets that have been printed to a text file) can also be used with the Graphics program. These files should follow the same conventions as spreadsheet data files, plus the following requirements:

- The file name must have a ".lc" at the end, so the complete file name is:
  /XXXX/XXXX.lc.text
- There should be a blank line between the title and the row/column headers. This is necessary since Graph cannot tell the difference between titles and headers.
- The numbers should be in a solid block. An empty line signals the end of the data to the Graphics program.

**IPC Files**

The IPC file must follow IPC conventions, with the following details particularly important:

- The first line defines the record fields, and must consist of + and - characters only. The exact length of each field must be defined.
- The second line containing the field names becomes the column headers. If there are no headers these should be left blank.

- Row headers must be in the first field only, and start with the first line of numeric data.
- A blank line must be left between the column headers and the numeric data to be graphed.
- The numeric data must be in a solid block. Graph will assume that the next blank line marks the end of data.

**Data Files**

These are ASCII-character files of numeric data arranged in a table format. The data should be clearly arranged, with at least one blank space or tab separating each field. There should be no extra blank lines in the data. Graph may not accept all data files.

**Manual**

The Manual mode is used to create a data file after entering the Graphics program. Only numeric data can be input; labels and titles must be added later with the Label Manager.

When the Manual mode is selected, prompts appear for the numer of rows and the number of columns in the graph. Once the size has been defined, you are prompted for each item, until the data table is finished. A file name can be specified for this data; otherwise, a temporary buffer is used and then discarded when you are finished.

# ISYS UTILITIES | 5

This Chapter covers utility programs within ISYS. First, the DeskTool utilities are discussed; second, the List function in the Word processor is discussed; then the Lookup function in the ISYS Dispatcher is covered; and finally the Sort function from the ISYS Dispatcher is also covered.

## DESKTOOL UTILITIES

The DeskTool label is found in both the ISYS Dispatcher level and in the Word processing COMMAND level. To enter this level,

Press [DeskTool]

The functin key labels appear as follows:

**DESKTOOL LEVEL**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| Calendar | | Clock | | Calc |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Resume |
| | | | | Exit |

Each of these labels calls a corresponding function: Calendar calls the Calendar function, Clock calls the international clock, and Calc calls the Calculator function. Each of these functions is discussed in one of the following sections.

From the DeskTool level pressing [Exit] returns you to the Main editing level in Word processing, or the ISYS Dispatcher level, depending upon the level from which you called DeskTool. Pressing [Resume] returns you to the level from which DeskTool was called. That is, if it were called from the Word processing Adjust level. Resume would return control to the Adjust level; if it were called from the ISYS Dispatcher there would be no Resume key.

**Using The Calculator**

The Calculator works like a four-function pocket calculator. You can use the numeric keypad or the number keys on the keyboard to enter numbers. Function keys and the numeric keypad keys are used to execute operations.

The Calculator includes the following functions:

- o Addition, subtraction, multiplication, division.
- o Memory with addition and subtraction.
- o Sine, cosine, tangent, arctangent.
- o Natural logarithm and exponential functions.
- o Square root.
- o Adjustable decimal places.

Calc can be entered at two different levels: through Word processing, or through the ISYS Dispatcher level.

To enter the Calculator from either level.

Press [DeskTool]

After the new set of function key labels appear.

Press [Calc]

When the calculator appears, you are ready to begin. In most cases, numbers and operations are entered in the same

order as they are written. For example, to divide 276 by 190, you would write "276/190=", or in the Calculator:

Type 276
Press [HOME]
Type 190
Press [=]

The [HOME] key represents the division function of the Calculator. Results appear in the calculator display. Note that each operation appears on the calculator's "tape." The tape shows a record of the operations performed.

Certain keys on the numeric keypad take on different functions for the Calculator. The following is a table of these functions:

| Key | CALC LABEL | Function |
|---|---|---|
| [Up-arrow] | AC | Clears current operation. |
| [Down-arrow] | CE | Clears current entry. |
| [Left-arrow] | MRC | Clears current value from memory. |
| [Right-arrow] | STM | Stores one value in memory. |
| [HOME] | / | Divides last entry or result by current entry. |
| [,] | * | Multiplies last entry or result with current entry. |
| [-] | - | Subtracts current entry from last entry or result. |
| [ENTER] | + | Adds current entry to last entry or result. |

The Calculator has a memory function that can store one value. For example, to store 707 in memory,

Type 707
Press [Right-arrow]

The [Right-arrow] key represents the store memory function of the Calculator. The current value in the memory appears above the calculator tape marked with an M.

To clear the memory, press the [Left-arrow] which represents Clear Memory.

The Calculator uses function keys for trigonometric functions. To use trigonmetric functions, enter the measurement in radians and press the appropriate function key. For example, to calculate the sine of 4.5 radians

Type 4.5
Press [Sin]

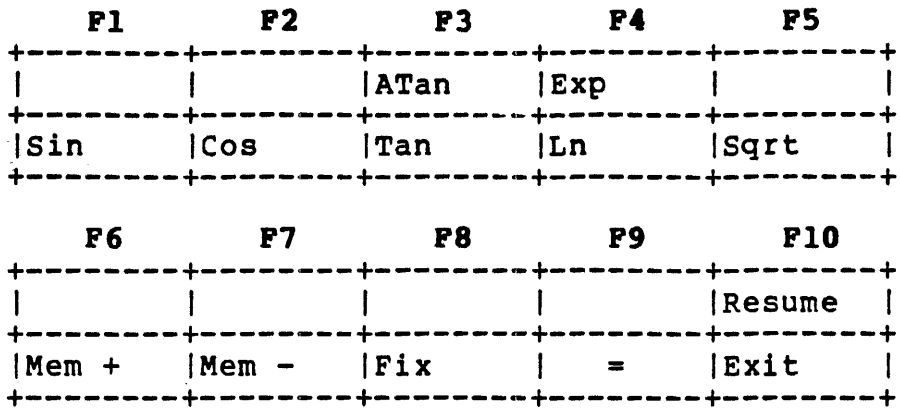
The Calculator also uses function keys for arithmetic memory. Use the arithmetic memory to add or subtract the current entry from memory. For example, to subtract 25 from the current value in memory,

Type 25
Press [Mem -]

Note that the displayed value of the memory changes to reflect the calculation.

The labels for the function keys appear as follows:

**CALCULATOR**




Calculator Functions:

[ATan] calculates arctangent of value entered in radians.

[Cos] calculates cosine of value entered in radians.

[Fix] adjusts number of digits to the right of the decimal place.

[Exit] returns you to the Main edit level in Word processing, or the ISYS Dispatcher level.

[Exp] calculates exponential with base e for current entry.

[Ln] calculates natural logarithm of current entry.

[Mem +] adds current entry to current value in memory.

[Mem -] subtracts current entry from current value in memory.

[Resume] returns you to the Main edit level in Word processing. This key does not appear when the Calculator is called from the ISYS Dispatcher level.

[Sin] calculates sine of value entered in radians.

[Sqrt] calculates square root of current entry.

[Tan] calculates tangent of value entered in radians.

[=] totals current operation.

**Using the International Clock**

The Clock lets you check the time in all 24 time zones. The time in each of the 24 time zones is automatically updated every minute, while a clock appears with a sweeping second hand. The Clock also includes stopwatch and lap time function. To access the Clock,

Press [DeskTool]

After the new set of function key labels appear,

Press [Clock]

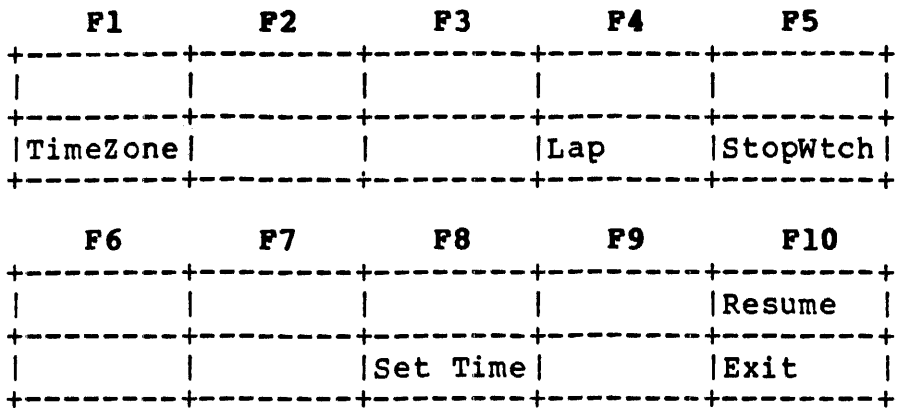
The first step in using the Clock is to select your local time zone. Press [TimeZone], enter the number for the corresponding time zone, and press [RETURN]. The Clock uses the selected time zone as the reference in determining the other 24 time zones.

To set the time on the Clock, press [Set Time]. You are prompted to enter the hours and minutes individually. The hour is entered in military (0-23) time.

To use the stopwatch and lap functions, press [StopWtch]. The stopwatch displays minutes, seconds, and tenths of seconds. To use the lap function, press [Lap]. The lap records the elasped time at the moment you press the key. To exit the stopwatch and lap functions, press [StopWtch], and then press [Lap].

The labels for the function keys appear as follows:

**Clock**




Clock functions

[Exit] returns you to the main level of Word processing, or the ISYS Dispatcher level.

[Lap] records the time at the moment you press the [Lap] key.

[Resume] returns you to the main level of Word processing.

[Set Time] sets the time on the Clock.

[StopWtch] starts the stopwatch function.

[TimeZone] selects a time zone.

**Using the Calendar**

The Calendar displays one month of calendar dates for any year. Any month and year may be selected, and function keys can be used to look at consecutive months and years. To access the Calendar,

Press [DeskTool]

After the new set of function key labels appear,

Press [Calendar]

To select a particular month, press [Month], enter the month in number format, and press [RETURN]. To select a specific year, press [Year], enter the year, and press [RETURN]. You can use the PrevMnth and NextMnth functions to look at a particular year month by month. Use the PrevYear and NextYear functions to view a particular month in consecutive years.

The labels for the function keys appear as follows:

**Calendar**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| Month | Year | | PrevMnth | NextMnth |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Resume |
| PrevYear | NextYear | | | Exit |

Calendar functions

[Exit] returns you to the main level of word processing, or the ISYS Dispatcher level.

[Month] selects a specific month for display.

[PrevMnth] displays the previous month of the same year.

[NextMnth] displays the next month of the same year.

[PrevYear] displays the same month of the previous year.

[NextYear] displays the same month of the next year.

[Year] selects a specific year for display.

[Resume] returns you to the main level of Word processing.

## LIST MANAGEMENT

ISYS provides the IPC file format to allow an exchange of information among different programs. This type of file is produced by different applications, one being Word processing by the Lists command. This command allows you to not only create a list in an IPC format, but to also create form letters and mailing labels.

### Creating A List

A list refers to a collection of records. A record is a collection of of smaller parts called fields. Fields are entries such as names, adresses, comments, etc. A record looks like this:

```
Mr. Theodore Cleaver
123 W. Main St.
Anytown, Ca.  95117
ACME Insurance Company
```

The following is the above record broken into its various fields:

```
+-----+----------+---------+
| Mr. | Theodore | Cleaver |
+-----+----------+---------+
+-----------------+
| 123 W. Main St. |
+-----------------+
+---------+-----+-------+
| Anytown | Ca. | 95117 |
+---------+-----+-------+
+------------------------+
| ACME Insurance Company |
+------------------------+
```

The fields in the above record are all related since they apply to one person.

To create a list of records you first must create a workpad to contain the list. Next you need to decide what fields, or entries, will make up one record. After you decide what fields are needed, you can build a Data Entry Template. This is a guide, similar to a stencil, that allows you to put data into the various fields.

Create a template to enter the following information:

Company Name
Phone #
City

To begin, from Word processing, we hold down the [COMMAND] key [SHIFT] key and press [Lists]. The labels change to display the following:

**List**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| EditList | | | | New List |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Resume |
| | | | | Exit |

Next, we press [New List]. The Command window displays the following:

```
+-------------------------------------------------------------+
|   Line 1/512     Column 10            Workpad [            ]|
|Lists   | Column title?                                       |
+-------------------------------------------------------------+
```

To this we type the name of our first field, which is Company Name and press [RETURN]. The Command window next displays the following:

```
+-------------------------------------------------------------+
|   Line 1/512     Column 10            Workpad [            ]|
|Lists   | Column width?                                       |
+-------------------------------------------------------------+
```

To this we press 25 and [RETURN]. The following displays at the top of the Editing window:

```
-------------------------------------------------------------

+----------------------
Company Name

-------------------------------------------------------------
```

The Command again displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]|
|Lists   | Column title?                                     |
+-----------------------------------------------------------+
```

To this we type Phone # and press [RETURN]. The Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]|
|Lists   | Column width?                                     |
+-----------------------------------------------------------+
```

To this we type 12 and press [RETURN]. The following displays at the top of the Editing window:

```
-------------------------------------------------------------

+----------------------+----------
Company Name           Phone #

-------------------------------------------------------------
```

We finish by typing City and pressing [RETURN] to the prompt for column title, and by typing 15 for the prompt for column width. The Editing window then displays the following:

```
-------------------------------------------------------------

+----------------------+----------+--------------
Company Name           Phone #    City

-------------------------------------------------------------
```

Information can be entered once the fields for the list are defined.

**Entering Information**

To enter information, press [EditList] while at the Lists level. For example, we have the following fields defined:

```
-------------------------------------------------------------

+---------------------+---------+-------------
Company Name          Phone #    City

-------------------------------------------------------------
```

When we press [EditList] the Editing window changes to display the following:

```
-------------------------------------------------------------

Company Name [                      ]
     Phone # [          ]
        City [             ]

-------------------------------------------------------------
```

Notice that following the field names a retangle the size we specified is displayed. Additionally, the labels change to display the following:

**Edit List**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| FirstRec | Last Rec | | | |
| Prev Rec | Next Rec | Search | | Ins Rec |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | Resume |
| Del Rec | Sort | Print | Word Cap | Exit |

To move from field to field press the [TAB] key. To move to a previous field, hold down the [SHIFT] and press the

[TAB] key.

At times the characters in a field are exactly the size of the field, in which case the cursor advances to the next field automatically when the last letter is typed.

When you have completed an entire record, you can continue to create additional records by pressing the [RETURN] key when you reach the last field or by pressing [Next Rec].

When we finish creating records, we press [Exit] to turn off the template mode which returns the Edit labels and the normal editing window. For example, if we have completed three records, the Editing window would display as follows when we press [Exit]:

```
------------------------------------------------------------

+---------------------+-----------+-------------
Company Name          Phone #     City
Spudkicks Construction 415-967-7210Mountain View
Clem's Bond Co.       408-378-3578Santa Clara
Biff Bros. Insulation 619-285-7734Dulzura

------------------------------------------------------------
```

Notice that the entries for each field are alined with the plus sign separator of the column title.

Lists creates a list in the IPC format. This allows you save the list to a file that can then be used by other applications, such as Lookup or SortFile, or it can used to create a form letter or mailing label.

**Editing A List**

Each time you want to add new records to a list, you must turn on the template mode. To turn on the template mode, hold down the [COMMAND] key, the [SHIFT] key and press [Lists]. Next, press [EditList].

**Moving Through The List.** Upon re-entering the template mode, you can advance, or go back, to different records in your list by using the labels [Prev Rec], [Next Rec], [FirstRec], and [last Rec].

To move to the previous record, press [Prev Rec]. This moves you to the first field in the preceding record. To move to the next record, press [Next Rec]. This moves you to the first field in the next record.

To move to the first record in the list press [FirstRec]. This places the cursor in the first field of the first record. To move to the last record in the list press [Last Rec]. This moves the cursor to the last record in the list. Incidentally, the last record of any list is blank and ready to accept information.

**Adding And Deleting Records.** To edit a record, move to the appropriate field of the record and type the correct information. To add or delete an entire record, move the the appropriate record and use the [Ins Rec] or [Del Rec] label.

To insert a new record between the record at which you are currently located and the previous record, press [Ins Rec]. When you do this, the cursor is positioned in the first field of the new record. You are allowed to insert only blank records into the list.

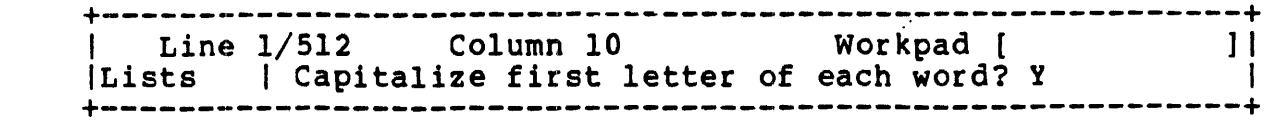
To delete the record in which you are currently located, press [Del Rec]. When you do this, the record is deleted and the cursor is positioned in the first field of the next record. If by some chance this action was not desired, you can press [Exit], and then press [Undo].

We recommend that you alter the information in the records only while in template mode. Though you can use the normal editing functions of EdWord to produce the same effect, you must be sure that you do not alter the format of each record. It is important that the shape of the record be maintained, as it is required to have the information properly aligned in the template.

**Word Capitalization Mode**

This feature automatically capitalizes the first letter of each word as it is typed. The Word Cap mode is active whenever you activate the template mode. It remains active until you turn it off.

To turn Word Cap mode off, press [Word Cap]. When you press [Word Cap] the Command window displays the following:

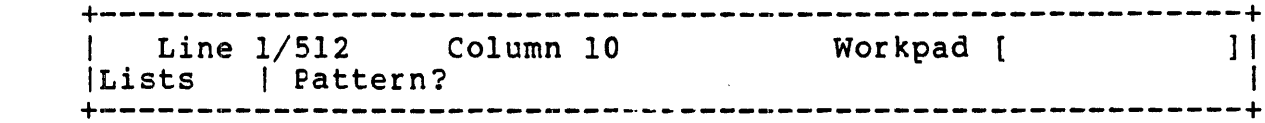



To turn it off, press N. After this the mode will be turned off until you turn it back on by pressing [Word Cap] and responding with Y. It can also be turned on by exiting the template mode and then returning to it.

While in Word Capitalization mode, letters that have been capitalized can be made lower case by typing over them.

**Searching Through A List**

Lists allows you to search forward from your current position for a specified pattern in the list of records. To search for a pattern hold down the [COMMAND] key, the [SHIFT] key and press [Lists]. This activates the template mode. Next, we press [Search]. The Command window displays the following:




To this prompt type the pattern you want to search for and press [RETURN]. This command works the same as the LookFwd command of Search.

**Sorting A List**

There are times when you want to arrange your list of records in an order according to a common field. To do this, we sort the list. Sorting involves comparing a selected field in a record with the same field in a different record, thus determining the order of the records. This procedure continues until all the records of a list are arranged in proper sequence.

The sort function under the List level of Word processing is designed as a convienent sort function for lists created with the Lists command. The other sort commands, i.e. Sort of the Bound level and the SortFile command of the ISYS Dispatcher, are designed to be convienent for other functions.

Sorting a list of records is very straight-forward, since EdWord takes charge of comparing and rearranging the records. You merely specify the field by which EdWord is to sort. For example, in the following list:

```
+----------------------+----------+-------------
Company Name           Phone #     City
Spudkicks Construction 415-967-7210Mountain View
Clem's Bond Co.        408-378-3578Santa Clara
Biff Bros. Insulation  619-285-7734Dulzura
```

To sort this list we hold down the [COMMAND] key, the [SHIFT] key and press [Lists]. This activates the template mode. Next, we press [EditList] followed by [Sort]. The Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10          Workpad [           ]|
|Lists   | Sort list by which field?                        |
+-----------------------------------------------------------+
```

Following this prompt is the name of the field the cursor is currently on. You can press [RETURN] to accept the prompt or type in the name of field you want the list sorted by. For our example we type City and press [RETURN]. The Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10          Workpad [           ]|
|Forms   | Sort in ascending order? Y                       |
+-----------------------------------------------------------+
```

To sort the list in an ascending order, i.e. numbers first from lesser to greater followed by letters from a to z, we press [RETURN]. To sort the list in a descending order, i.e. letters first from z to a followed by numbers from greater to lesser, we press N, for No. After selecting the order, the Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10          Workpad [           ]|
|Forms   | Sorting ...                                      |
+-----------------------------------------------------------+
```

When the sorting is completed, the Command window displays the following:

```
+-------------------------------------------------------------+
|   Line 1/512     Column 10            Workpad [           ]|
|Forms   | End of Sort.                                       |
+-------------------------------------------------------------+
```

The template mode is still active at this point, and our list is sorted appropriately.

**Altering the Column Title Line**

Once the column title line is made, and a list of record made with it, it should not be altered. If you alter the column title line after you have entered information for various records, the information will not be recognized correctly by any application using the list.

If you must alter the template by rearranging the fields or adding fields to the template, you must make the change in each record before turning on the template mode. For example, look at the following list:

```
-------------------------------------------------------------

+---------------------+-----------+-------------
Company Name          Phone #     City
Spudkicks Construction 415-967-7210Mountain View
Clem's Bond Co.       408-378-3578Santa Clara
Biff Bros. Insulation 619-285-7734Dulzura

-------------------------------------------------------------
```

If we want to add a field to the column title line, it would be easier to add it at the end, so as not to upset the sequence of the fields. For our example, we will add a field for the state. We type a plus sign at the end of the column title line, followed by 4 dashes. Underneath the plus sign we type Zip. This would look as follows:

```
+----------------------+----------+-------------+----
Company Name           Phone #     City          Zip
Spudkicks Construction 415-967-7210Mountain View
Clem's Bond Co.        408-378-3578Santa Clara
Biff Bros. Insulation  619-285-7734Dulzura
```

Now, we can edit the list again and everything will be in order.

## MAKING A FORM

The Lists command of Word processing allows you to not only create a list, but also to create for letter or mail label from the list. Creating a pattern and merging it with a list is similar to the procedure used with Forms under EdWord.

### The Pattern for a Form

To create a form letter you need: 1) a list of records, and 2) a pattern to merge it with. The pattern is contained in a different workpad than the workpad that contains the list of records. Create a workpad and name it whatever you like. For example, we name this name this workpad PRODINFO.

To create a pattern for a form, you enter the information that makes up the pattern as well as specifying areas where information from your list of records is to be inserted. These areas are to contain text appropriate to each reader. For example, look at the folowing:

Dear <M?> <FIRST> <LAST>,

It was so nice to speak with you. Your discussion with Ms. Rodneger about <PRODUCT> was very much appreciated.

Special names are used to indicate the insertion of appropriate fields from the list.

### Making a Pattern

Making a pattern is very simple. A list of fields has already been created. These fields are accounted for by the column title name they are under. For example, in the following list:

```
+---+------+--------+--------------------
M?  FIRST  LAST     PRODUCT
```

When you create your pattern, you should keep in mind the places in the pattern where you want the information from your list of records to be inserted. For example, we are writing a letter:

Dear Mrs. Asa Mynar,

Enclosed please find the information on our line of GLOSSY 2000 Office Systems that you requested from our representative at the Pacific Office Conference.

Thank you for your interest in and consideration of our company. If you have any further questions, please do not hesitate to call us at 201-227-0453.

Sincerely yours

WALDO R. FENTS DISTRIBUTORS

Ms. Trisha McMillan, Manager

If we want to send this letter to several persons, we can see that much of the above text can remain unaltered. Only small areas of text such as the addressee information and the specific information requested by the person need to be changed.

Once we have typed the body of the letter, we indicate places for the appropriate fields by typing the name of the field we want to use surrounded by angle brackets.

For example, look at the column titles in the following list:

```
+---+-----+------+---------------
M?  first last    product
Mr. Randy Weller  DB Workstations
Mrs.Sarah Warnes  Arista Tape
Ms. Wilma Pent    SX-14C Connectors
```

With this list we can type our pattern as follows:

```
Dear <M?> <FIRST> <LAST>,

     Enclosed please find the information on our line of
<PRODUCT> you requested from our representative at the
Pacific Office Conference.

     Thank you for your interest in and consideration of
our company.  If you have any further questions, please do
not hesitate to call us at 201-227-0453.

                              Sincerely yours

                              WALDO R. FENTS DISTRIBUTORS


                              Mrs. Trisha McMillan, Manager
```

Placement of the fields is important. If we want two spaces between field the curtousey title and the first name, then we place it two spaces apart as follows. Additionally, we can place punctuation or other characters following the fields, as was done in our example.

Once we have completed the pattern, we add a few Dot commands to make it complete. Since the information of each field varies in size and length, we will not be able to control the text so that it fits properly in the allotted space. To control this, we use the Dot commands that control the fill mode and margins. We also set the page length. After placing the appropriate commands, our pattern looks as follows:

```
.LM 1
.RM 55
.PL 58

.FI
Dear <M?> <FIRST> <LAST>,


.JT
     Enclosed please find the information on our line of
<PRODUCT> you requested from our representative at the
Pacific Office Conference.

     Thank you for your interest in and consideration of
our company.  If you have any further questions, please do
not hesitate to call us at 201-227-0453.
.NJ
.NF

                                Sincerely yours

                                WALDO R. FENTS DISTRIBUTORS


                                Mrs. Trisha McMillan, Manager

.PG/
```

Placing a .PG/ at the last line of our pattern indicates the end of it.

This is a typical example of the placement of Dot commands for a letter of this sort. You can use additional Dot commands to produce different formats.

Our next step is to merge the list of records with the pattern.

**MERGING A LIST WITH A PATTERN**

Merging a list with a pattern is the simplest step in producing a Form. When ready we can enter the workpad containing our list. When in the that workpad, we hold down the [COMMAND] key, the [SHIFT] key and press [Lists]. Next, we press [EditList].

The template mode is activated. Making sure that the cursor is in the first record, we press [Print]. The Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]|
|Lists   | Which workpad has printing instructions?         |
+-----------------------------------------------------------+
```

To this question, we answer with the name of the workpad that contains the pattern. For example, We type PRODUCTS and press [RETURN]. The Command window displays the following:

```
+-----------------------------------------------------------+
|   Line 1/512     Column 10           Workpad [           ]|
|Lists   | Selection criteria (e.g. "NAME=JONES")? ALL      |
+-----------------------------------------------------------+
```

If we wanted to print just a specific record, we could answer this prompt with the name of the column and the specific name. For example we could type FIRST=WILMA and press [RETURN]. This would print the record containing Wilma in the FIRST column. However, we want to print all of the records, so we press [RETURN] to the prompt for ALL.

After we answer the prompt for the selection, the labels change to display the following:

**Print**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | Index |
| Pause | Continue | | SglSheet | PageRnge |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| Spooler | | | | |
| Display | Printer | File | Layout | Exit |

This is the Print level of labels. This allows you to select from the same set of options as you would when printing a document.

The number of documents that are printed depends on how many records follow the record the cursor was located when you press [Print]. In our example, the cursor was located in the first record, so when printed our list produced the following:

Dear Mr. Randy Weller,

Enclosed please find the information on our line of DB Workstations you requested from our representative at the Pacific Office Conference.

Thank you for your interest in and consideration of our company. If you have any further questions, please do not hesitate to call us at 201-227-0453.

Sincerely yours

WALDO R. FENTS DISTRIBUTORS

Mrs. Trisha McMillan, Manager

Dear Mrs. Sarah Warnes,

Enclosed please find the information on our line of Arista Tape you requested from our representative at the Pacific Office Conference.

Thank you for your interest in and consideration of our company. If you have any further questions, please do not hesitate to call us at 201-227-0453.

Sincerely yours

WALDO R. FENTS DISTRIBUTORS

Mrs. Trisha McMillan, Manager

Dear Ms. Wilma Pent,

Enclosed please find the information on our line of SX-14C Connectors you requested from our representative at the Pacific Office Conference.

Thank you for your interest in and consideration of our company. If you have any further questions, please do not hesitate to call us at 201-227-0453.

Sincerely yours

WALDO R. FENTS DISTRIBUTORS

Mrs. Trisha McMillan, Manager

**USING A LIST FOR MAILING LABELS**

In addition to creating Form letters, you can also use a list to create mailing labels. You can make the mailing labels, in most cases, without modifying or creating a new list of records.

To demonstrate this, we use the following list:

```
+---+---------+------------------+---------+--+----
m?  last      address            city      st zip
Mr. Emo       2501 Cabot Blvd.   Hayward   Ca.94545
Ms. Gillie    1302 S. Fifth St.  San Jose  Ca.95112
Mr. Coors     11280 Saddleback Dr.Flint    Ca.95129
```

First, we create a workpad to contain our pattern. We name the workpad LABEL.

After deciding on the fields to be used, we begin to create our pattern. Generally, the layout for a mailing label is as follows:

```
Mr. Cletus J. Johnston
1643 Washington Drive
Kansas City, KS  66102
```

Using the fields available, our pattern looks as follows:

```
<m?> <last>
<address>
<city>, <st>  <zip>
```

In addition to the pattern itself, we use Dot commands:

```
.LM 1
.RM 30
.PL 18
<m?> <last>
<address>
<city>, <st>  <zip>

.PG/
```

The values next to the Dot commands in the example above will vary according to the length and width of your mailing label. In addition to setting these values, keep in mind that most printers have a mechanism that determines the length of your paper. You must indicate this length to both EdWord and your printer. Consult the reference manuals for your particular printer.

We can next merge our completed pattern with our list. We enter the workpad containing the list of records. Once in the workpad, we hold down the [COMMAND] key and [SHIFT] key and press [EditList].

The template mode is activated. Making sure that the cursor is in the first record, we press [Print]. The Command window displays the following:

```
+-------------------------------------------------------+
|   Line 1/512     Column 10          Workpad [         ]|
|Lists   | Which workpad has printing instructions?     |
+-------------------------------------------------------+
```

To this question, we answer with the name of the workpad that contains the pattern. For example, We type MAILINGS and press [RETURN]. The Command window displays the following:

```
+-------------------------------------------------------+
|   Line 1/512     Column 10          Workpad [         ]|
|Lists   | Selection criteria (e.g. "NAME=JONES")? ALL  |
+-------------------------------------------------------+
```

If we wanted to print just a specific record, we could answer this prompt with the name of the column and the specific name. For example we could type LAST=EMO and press [RETURN]. This would print the record containing Wilma in the FIRST column. However, we want to print all of the records, so we press [RETURN] to the prompt for ALL.

After we answer the prompt for the selection, the labels change to display the following:

**Print**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | Index |
| Pause | Continue | | SglSheet | PageRnge |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| Spooler | | | | |
| Display | Printer | File | Layout | Exit |

This is the Print level of labels. This allows you to select from the same set of options as you would when printing a document.

The number of labels that are printed depends on how many records follow the record the cursor was located when you press [Print]. In our example, the cursor was located in the first record, so when printed our list produced the following:

```
 ----------------------------
|                            |
|  Mr. Emo                   |
|  2501 Cabot Blvd.          |
|  Hayward, Ca.  94545       |
|                            |
 ----------------------------

 ----------------------------
|                            |
|  Ms. Gillie                |
|  1302 S. Fifth St.         |
|  San Jose, Ca.  95112      |
|                            |
 ----------------------------
```

Mr. Coors
11280 Saddleback Dr.
Flint, Ca. 95129

## USING THE LOOKUP FUNCTION

### General Description

Lookup is a fast search program that uses standard IPC files as miniature data bases. The user selects fields and specifies a search pattern. Case of text characters is ignored during searches. The entire IPC file can be displayed, or records which match the search pattern. Different IPC files can be loaded and searched. Additionally, records selected with a search can be saved to an IPC file.

The IPC record file must exist to used with Lookup. Refer to the section on IPC files for more information about creating IPC files. Field size and field names are determined when the IPC file is created.

Lookup can handle an IPC file containing up to 100.000 characters. For example, that is approximately 1,000 records containing 100 characters each, or 2,000 records of 50 characters each. Long records are wrapped on the screen, so the entire record is visible.

### Lookup Labels

The following labels appear in the Lookup program:

**Lookup labels**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| Select | Showall | | | |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | |
| LoadFile | SaveFile | | | Exit |

[Select] Interrupts the listing of records for the prior search to allow a new selection to be made.

[Showall] Shows all records in the IPC file in the current order.

[LoadFile] Loads a new IPC file into Lookup.

[SaveFile] Saves the displayed set of selected records to the specified IPC file.

[Exit] Leaves Lookup and returns to the ISYS Dispatcher labels.

**How To Use Lookup**

Lookup can only use IPC files that currently exist. A sample IPC file called EMPLOYEE.TEXT might look like this:

| Employee Name | Employee Number | Hire Date |
|---|---|---|
| John Smith | 4523 | 4-8-75 |
| Susan Roe | 4567 | 12-1-82 |
| Nancy Young | 4444 | 3-11-72 |
| Arthur O'Toole | 1363 | 2-10-68 |

Start from the ISYS Dispatcher level.

Press [Lookup]

The current window on the screen is cleared, the Lookup labels display, and the Command window prompts for the IPC file, with IPC.[TEXT] as the default:

```
+-------------------------------------------------------------+
|                                                             |
|Lookup   Name of file? IPC                                   |
+-------------------------------------------------------------+
```

The IPC file must be loaded before Lookup can be used, or the program stops and the main level of ISYS labels displays.

Now, enter the IPC file, which is in volume CURRENT:

Type /CURRENT/EMPLOYEE

Press [RETURN]

A messagae indicating that the file is loading briefly flashes in the Command window. When the IPC file has been loaded, the field names for records (the second line in the IPC file) displays at the top of the current window on the screen. A reverse video cursor marks the first field, and the Command window shows:

```
+-------------------------------------------------------------+
|                                                             |
|Lookup   Selection? _                                        |
+-------------------------------------------------------------+
```

The cursor movement keys are used to choose a field to be searched. For example, to find the employee record containing employee number 4444:

Move the cursor to the Employee Number field.

Type 4444
Press [RETURN]

The screen displays all records that match this search key, which in this case is just one record.

Partial search keys can be used. To find all employee records with employee numbers between 4500 to 4599, position the cursor in the Employee Number field, and enter the first two digits:

Type 45
Press [RETURN]

All records found to match this partial key display on the screen.

When no records are found that match a search key, this message displays on the screen:

```
+-------------------------------------------------------------+
|                                                             |
|(Selection not found)                                        |
+-------------------------------------------------------------+
```

Select is used to interrupt the listing of records, and start a new search. A string of asterisks displays at the point the listing is halted, and the computer bell sounds.

The listing of records found for a search can be saved to an IPC file with SaveFile, in this manner:

Enter the search key. The records matching the key display on the screen.

Press [SaveFile]

The prompt for the file name appears in the Command window:

```
+-----------------------------------------------------------+
|                                                           |
|Lookup   Save to which file? IPC                           |
+-----------------------------------------------------------+
```

Enter the file name. The .TEXT suffix is automatically added. This file name will be displayed as the default prompt until a new file name is used.

LoadFile is used to load a new IPC file into the Lookup program. A prompt displays in the Command window for the name of the new IPC file to be loaded. If the file cannot be found, this displays:

```
+-----------------------------------------------------------+
|                                                           |
|Lookup   Unable to find file "XXXXX/XXX.TEXT"              |
+-----------------------------------------------------------+
```

Lookup is terminated with Exit, and the ISYS labels display.

## USING SORTFILE

ISYS provides a quick sort program that allows you to sort any IPC file by any field in it. This command is very useful because it is fast and allows you to sort even large IPC files.

Examine the folliwing list:

```
LAST            FIRST           DEPT.#
Kong            Sun             3120
Seeber          Pam             5100
Zabuska         Steve           8610
Antrim          Ruth            4100
Arora           Sid             4400
Babcock         Lieta           3390
Amarandos       Linda           4100
Cermak          Milo            6000
Ly              Hoa             4700
Thomas          John            4700
Barron          Steven          3360
Boyer           Richard         7660
Brenner         Rich            7010
Cao             Duc             3120
Doerflein       Don             8650
Elmendorf       Pat             7010
Funk            Barbara         4400
Good            Delaine         4400
Hardt           Eric            5710
```

For our example, this list was saved to a file named DEPTLIST.TEXT. To sort this list we press [SortFile], from the ISYS Dispatcher. The Command window displays the following:

```
|SortFile| Enter name of IPC file to sort: IPC
```

Type the name of the IPC file to sort. For example, we type DEPTLIST and press [RETURN]. The Command window displays the following:

```
|SortFile| Name of field to sort on:
```

Additionally, the System window displays all of the valid fields in the IPC file. For example, the System window displays the following for our file:

```
-------------------------------------------------------------

Legal fields for IPC file "/ONE/DEPTLIST":

LAST
FIRST
DEPT.#

-------------------------------------------------------------
```

To this prompt, type the name of the desired field to sort by. We type LAST and press [RETURN]. The Command window displays the following:

```
+-----------------------------------------------------------+
|                                                           |
|SortFile| A(sending or D(escending?                        |
+-----------------------------------------------------------+
```

To this prompt answer with the order in which you want the list sorted; ascending, numbers first from lesser to greater followed by letters from a to z, or descending, letters first from z to a followed by numbers from greater to lesser. We press A. for A(scending. After specifying the order, the Command window displays the following:

```
+-----------------------------------------------------------+
|                                                           |
|SortFile| Ignore blanks in sort field: N                   |
+-----------------------------------------------------------+
```

This allows you to account for right justified entries. If you press N. for No, SortFile will sort and group together all the fields that are blank and have leading blank characters. If you press Y, for Yes, SortFile will sort each field as if there was no blank character. We will press [RETURN] to accept the default for No. The Command window displays the following:

```
+-----------------------------------------------------------+
|                                                           |
|SortFile| Enter name for sorted file: /ONE/DEPTLIST        |
+-----------------------------------------------------------+
```

This prompt allows you to save the sorted contents to a different file. The prompt defaults to the orginal file name, however, you can type a different file name. We press [RETURN] to accept the default.

Sorting begins once you press [RETURN]. The System window displays how long each procedure of the sort takes, and

finishes by diplaying the total time elapsed. For example, our sort displays the following:

```
-------------------------------------------------------------

Input file name is "/ONE/DEPTLIST"
Output file name is "/ONE/DEPTLIST"


00:00.0 Reading data . . .  19 records read.

00:00.4 Sorting . . .

00:00.4 Saving data . . .

00:01.8 Total elapsed time to sort 19 records.

-------------------------------------------------------------
```

You can verify that the file was sorted correctly by listing it with the ListFile command of the FileMgr. For example, our file would list as follows:

```
-------------------------------------------------------------

+--------------+--------------+------
LAST            FIRST          DEPT.#
Amarandos       Linda          4100
Antrim          Ruth           4100
Arora           Sid            4400
Babcock         Lieta          3390
Barron          Steven         3360
Boyer           Richard        7660
Brenner         Rich           7010
Cao             Duc            3120
Cermak          Milo           6000
Doerflein       Don            8650
Elmendorf       Pat            7010
Funk            Barbara        4400
Good            Delaine        4400
Hardt           Eric           5710
Kong            Sun            3120
Ly              Hoa            4700
Seeber          Pam            5100
Thomas          John           4700
Zabuska         Steve          8610

-------------------------------------------------------------
```

**SAVING A PICTURE**

The Concept's unique windowing and display capabilities allow you to create and display different pictures. Under ISYS, the WndSave command is provided to allow you save these pictures for later use. This command allows you to save any portion of the System window to a file.

Display your picture before you use the WndSave command. This picture can be text, as from listing a file, or or graphics from the Graphics program.

Once the appropriate picture is displayed, hold down the [COMMAND] key and press [WndSave]. The Command window displays the following:

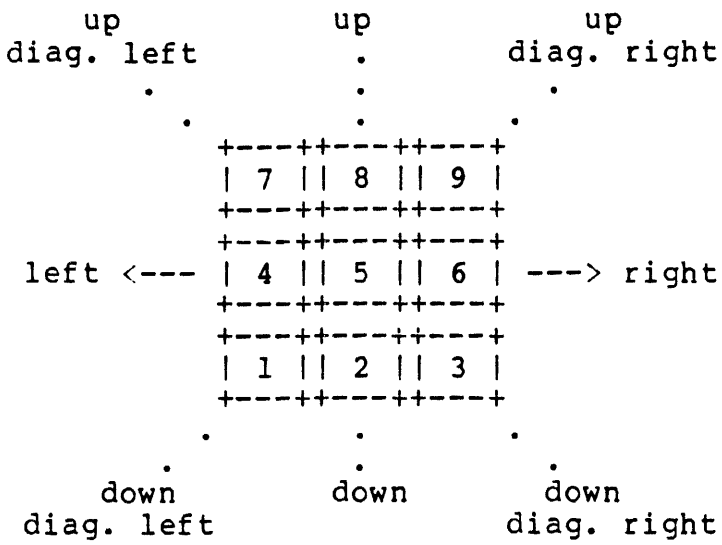
```
+-----------------------------------------------------------+
|                                                           |
|WndSave | Enter picture file name:                         |
+-----------------------------------------------------------+
```

To this prompt, enter the name of the file you want the picture saved under. This name can be up to ten characters. For example, we type IMAGE and press [RETURN]. The Command window displays the following:

```
+-----------------------------------------------------------+
|          Press <arrow> keys or 1..9 to move cursor        |
|WndSave | Press RETURN to mark upper left corner of picture |
+-----------------------------------------------------------+
```

In the upper left section of the display, two lines meet. These lines make up the WndSave Framer that allows you to position of the top left corner of your picture. You can move the Framer anywhere inside the System window.

To move the Framer, you can use the numeric pad and the cursor keys. The keys 1 through 9 on the numeric pad, excluding 5. allow you to move the Framer in large increments. The directions the numeric pad allows you to move the framer are as follows:




The cursor keys allow you to move the Framer in smaller increments for fine tuning. The cursor keys allow you move the Framer left, right, up and down.

Once you position the Framer in the upper left corner of the picture, press [RETURN]. The Command window displays the following:

```
+-----------------------------------------------------------+
|          Press <arrow> keys or 1..9 to adjust size        |
|WndSave | Press RETURN to mark lower right corner of picture|
+-----------------------------------------------------------+
```

You next mark the lower right corner of your picture. You move the Framer the same as before, the only difference being that the Framer forms a box to surround the picture. When the Framer is the appropriate size for your picture, press [RETURN]. The Command window displays the following:

```
+-----------------------------------------------------------+
|          Saving picture to disk ...                       |
|                                                           |
+-----------------------------------------------------------+
```

This indicates that the picture is being saved to the disk under the file name specified at the start. When finished, the ISYS Dispatcher level appears.

Picture files are distinguished from other files by the letters .HPIC being appended to the file name. For example, our file IMAGE is listed as IMAGE.HPIC.

Once a picture file is saved, we can then use it with WndEdit program to have it redisplayed.

**EDITING A PICTURE**

Once a picture is saved to a file with the .HPIC appendix, it can redisplayed with the WndEdit command. This command allows you redisplay pictures, reposition them in the System window, and create "slide show" using a series of pictures.

To display a picture, hold down the [COMMAND] key and press [WndEdit]. The Command window displays the following:

```
+-----------------------------------------------------------+
|                                                           |
|WndEdit | Enter play output file name (RETURN for none):   |
+-----------------------------------------------------------+
```

To this prompt can enter the name of the "play" file you want the events saved under. A play file is used by the Window play command, that allows you to create a slide show. Creating a play file is discussed under the heading "CREATING A PLAY FILE." We will press [RETURN]. The Command window next displays the following:

```
+-----------------------------------------------------------+
|                                                           |
|WndEdit | Enter picture file name:                         |
+-----------------------------------------------------------+
```

To this enter the name of the picture file you want to display. For example we type IMAGE and press [RETURN]. The Command window displays the following:

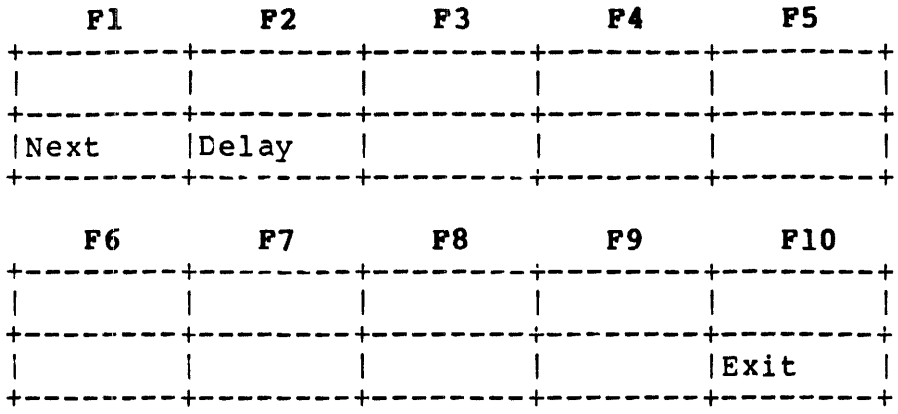
```
+-----------------------------------------------------------+
|                                                           |
|WndEdit | Reading picture from disk ...                    |
+-----------------------------------------------------------+
```

Once the picture is read from disk it is displayed in the lower left hand corner of the current window. The Command window displays the following:

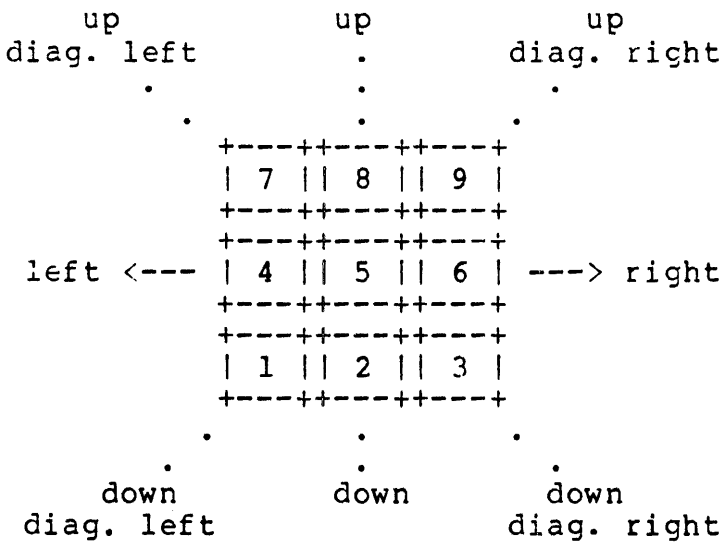
```
+-----------------------------------------------------------+
|                                                           |
|WndSave | Press <arrow> keys or 1..9 to move cursor        |
+-----------------------------------------------------------+
```

The labels change to display the following:

**Window Edit**



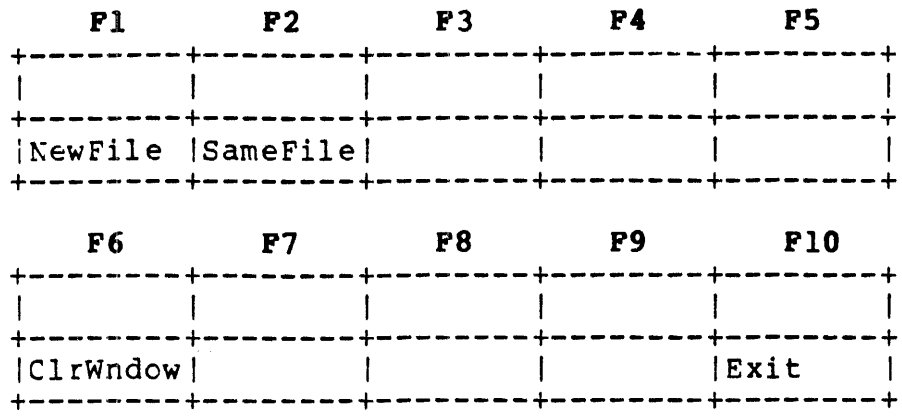

You can move the picture around the screen with the numeric pad and the cursor keys. The keys 1 through 9 on the numeric pad, excluding 5, allow you to move the picture in large increments. The directions the numeric pad allows you to move the picture are as follows:




The cursor keys move the picture in smaller increments for fine tuning. The cursor keys allow you move the picture left, right, up and down.

The Next label allows you to read in a different picture file. When you press [Next] the labels change to display the following:

**Next File**




To read in a different picture file, press [NewFile]. The Command window displays the following:

```
+-------------------------------------------------------------+
|                                                             |
|WndEdit | Enter picture file name:                           |
+-------------------------------------------------------------+
```

To this enter the name of the new picture file. Unless you press [ClrWndow] new picture will be displayed over the previous picture.

To read the same picture file again, press [SameFile]. Immediately the same picture is loaded at the lower left corner of the display.

After reading in a different file or the same file, the labels change back to display the Window Edit level again.

To exit and return to the ISYS Dispatcher, press [Exit].

The Delay command is discussed under the heading "CREATING A PLAY FILE."

## CREATING A PLAY FILE

In addition to displaying and repositioning picture files, WndEdit allows you to create play files. Play files are files that contain instructions to produce a computerized slide show. These instructions are used by the Play option of the WNDUTIL program.

To create a play file, hold down the [COMMAND] key and press [WndEdit]. The Command window displays the following:

```
+-----------------------------------------------------------+
|                                                           |
|WndEdit | Enter play output file name (RETURN for none):   |
+-----------------------------------------------------------+
```

To this prompt can enter the name of the "play" file you want the events saved under. This name can be up to seven characters in length. For example, we type SLIDE and press [RETURN]. The Command window next displays the following:

```
+-----------------------------------------------------------+
|                                                           |
|WndEdit | Enter picture file name:                         |
+-----------------------------------------------------------+
```

To this enter the name of the first picture file you want to display. From this point on, all the pictures read in and their final positions will be recorded for later play back. For example, we type IMAGE and press [RETURN]. The Command window displays the following:

```
+-----------------------------------------------------------+
|                                                           |
|WndEdit | Reading picture from disk ...                    |
+-----------------------------------------------------------+
```

Once the picture is read from disk it is displayed in the lower left hand corner of the current window. The Command window displays the following:

```
+-----------------------------------------------------------+
|                                                           |
|WndEdit | Press <arrow> keys or 1..9 to move cursor        |
+-----------------------------------------------------------+
```

The labels change to display the Window Edit level.

You can move the picture around the screen with the numeric pad and the cursor keys. When the picture is positioned at the appropriate spot in the display you can select a new picture with [Next] or you can set the delay for the current picture.

Delay allows you to specify how long the picture will display before advancing to the next instruction. When you press [Delay] the Command window displays the following:

```
+-------------------------------------------------------------+
|                                                             |
|WndEdit | Enter delay time:                                  |
+-------------------------------------------------------------+
```

To this prompt enter the length of time you want the current picture to display. The length of time is specified by a number between 1 and 60,000. One second is approximately equal to 100. After specifying the length of time, press [RETURN]. The Command window displays the following:

```
+-------------------------------------------------------------+
|                                                             |
|WndEdit | Press <arrow> keys or 1..9 to move cursor          |
+-------------------------------------------------------------+
```

The labels change to display the Next File level.

If you select a different or the same picture file it will be overlay the previous picture. To clear the display between each picture, press [ClrWndow].

You continue as you did with the first picture until your play file is complete. When complete, press [Exit]. This returns you to the ISYS Dispatcher. Play files can be executed by the Play option of the WNDUTIL program. This function is discussed under the heading "EXECUTING A PLAY FILE."

Picture files are distinguished from other files by the letters .HP.TEXT being appended to the file name. For example, if our file SLIDE would be listed as SLIDE.HP.TEXT.

**EXECUTING A PLAY FILE**

To execute a play you use the Play option of the WNDUTIL program.

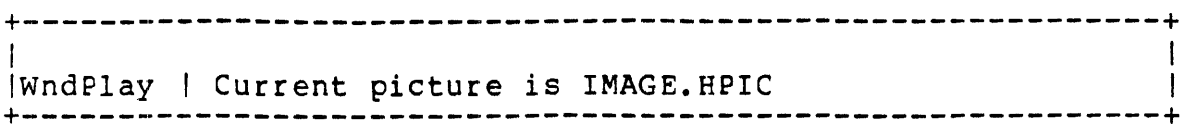
Type WNDUTIL PLAY
Press [RETURN]

The Command window displays the following:

```
+-------------------------------------------------------------+
|                                                             |
|WndPlay | Enter play file name:                              |
+-------------------------------------------------------------+
```

To this prompt type the name of the play file you have created. For example, we type the name SLIDE and press

[RETURN]. After pressing [RETURN] the System window displays the pictures we have recorded. As each picture file read in, its name will display in the Command window. For example, if the current file displayed was IMAGE the following would display:




To temporarily stop the play file, press the space bar. To resume, press the space bar again. To terminate the play file, press the [BREAK] key.

When using the Play option, you must make sure that all of the picture files used by the play are found in the current volume. If not the file will not execute properly.

# TELECOMMUNICATIONS | 6

This Chapter covers telecommunications using the DComm program in ISYS.

## INTRODUCTION

DComm is designed to complement remote computer services such as the Source (tm), Compuserve (tm), Dow Jones Information Service (tm) and other electronic mail and reference data base systems. It supports a wide variety of file transfer protocols which allow you to transfer files to and from large mainframe computers or other Personal Computers. When used with an autodialing modem, DComm also becomes a sophisticated phone dialer for services such as MCI (tm) and Sprint (tm). Although designed to take advantage of the autodialing features of newer modems such as the Hayes Smartmodem (tm), it can also be used with an ordinary acoustic coupler.

Features:

- o Record a session for transfer to disk file or printer
- o Transmit text and data files to remote computers
- o Receive files from remote computers
- o XMODEM, or Christensen, file transfer protocol for error-free transmission
- o "Pacing" method of file transmission for older mainframes which prompt for each line of text
- o Autodialer and phone directory
- o Semi-automatic logon and password entry
- o Automatic setting of communication parameters when dialing

- Redial last number
- XON/XOFF protocol which prevents remote computer from being overloaded when uploading text or data files
- "Throttling" feature which lets you control transmission speed while sending text or data files to remote computers without XON/XOFF capability.
- VT100 terminal emulation for communicating with mainframes
- Default options adjustable to suit user preferences

DComm has several featuress which make data transfers much easier to do. For example, DComm displays all messages in reverse background so that you can distinguish between communications from your own computer and the remote computer.

Another DComm feature tells you when you interrupt transmissions from the remote computer by requesting a non-trivial function. DComm displays the message "Communications On Hold" and suspends communications. At that point. you are no longer receiving transmissions from the remote computer. and are talking directly to DComm. Using the Dialer would be an example of a non-trivial function. while asking for the elasped time or status are trivial functions.

You can cancel most DComm functions by pressing the [ESC] key or the [EXIT] function key. If you accidently press the wrong function key, using these keys can save you time and effort.

Unless you hit one of the function keys to perform some action, everything you type is transmitted to the remote line. When you use any of the functions. the program stops monitoring the incoming line while it handles your request. You may lose some data if you use any of the functions keys while receiving communications.

**Getting Started**

DComm automatically loads the datacomm driver. Connect your modem to port 1. Port 1 is the port closest to the power supply.

The first time you start DComm it will create a file called DComm.OPTIONS which contains default settings for communication parameters and other options.

Initially, you should determine the communications parameters to be used with remote computers. The settings may vary depending on the remote computer, but the typical settings used by service networks, Bulletin Boards and electronic mail systems are:

- o 300 Baud
- o 7 Data bits
- o 1 Stop bit
- o Even parity

You can use these settings as a guideline to set up communication parameters using the Options function. Later you can set specific communications parameters for any of the entries in the phone directory by using the Change function in the Dialer.

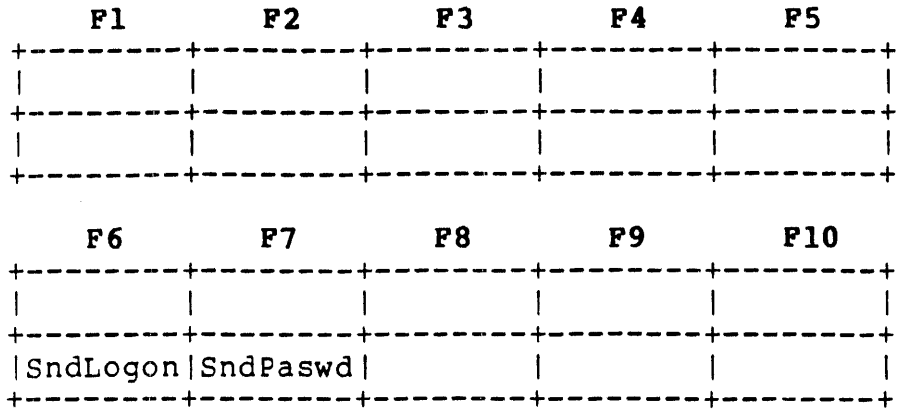
Below is a diagram of the DComm function key labels, and brief descriptions of each command.

**DComm**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| RcordOff | PrintOff | NewFile | RecvFile | Options |
| RcordOn | PrintOn | SaveFile | SendFile | Dialer |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| TermType | Echo | HangUp | | Exit |
| ClrWndow | Status | Timer | | Suspend |

**DComm with [COMMAND] held down**




DComm Functions:

[ClrWndow] clears everything from the current window.

[Dialer] enters the Dialer function. The Dialer maintains a phone directory and automatically dials any of the numbers listed. It can add different prefixes to numbers to allow dialing out through a PBX, or entering an MCI, SPRINT or other access code.

[Echo] displays what you type on the screen when turned on. The Echo works like a toggle switch - each time you press it. it turns Echo on or off depending on the previous setting. Use Echo on to see what you type. The default setting if off.

[Exit] returns you to the ISYS Dispatcher level. Exit automatically saves any open disk files before returning to the ISYS Dispatcher.

[HangUp] disconnects the communication line for the Hayes Smartmodem or turns off the Data Terminal Ready (DTR) signal if that option is selected.

[NewFile] opens a new disk file to save current communications. If a disk file is already open, NewFile closes the existing file before opening the new file.

[Options] allows you to review and change any of the default option settings.

[PrintOn] sends current communications to a local printer.

[PrintOff] discontinues current communications to a local printer.

[RcordOn] initiates recording so that whatever you send to or receive from the remote computer is recorded. The recording is saved directly to a disk file. Any output to the screen by the DComm program itself, such as the menu, or text files you transmit to a remote computer are NOT be recorded.

[RcordOff] discontinues recording.

[RecvFile] receives a file sent from a remote computer.

[SaveFile] allows you to save current communications to disk.

[SendFile] allows you to send files with the following options:

- o Simple text file transfer where the file file is transmitted exactly as it is read.
- o Simple text file transfer with "pacing" character. Allows you to specify a pacing character which the receiving computer must send before the next line of text is transmitted.
- o Simple binary file transfer where the file is transmitted exactly as it is read.
- o Transmits a file using the XMODEM protocol. Allows error-free transmission.

[SndLogon] sends first part of Logon sequence.

[SndPaswd] sends second part of Logon sequence.

[Status] displays a status report which describes the the communication parameters, whether the recording is on or off, and the last number dialed.

[Suspend] places communications on hold. and calls the ISYS Dispatcher level. To continue communications, press [RESUME] from the ISYS Dispatcher level.

[TermType] emulates a VT100 terminal so that you can communicate with mainframe computers that require a VT100 terminal. The VT100 emulator does not support the smooth scroll, and double character width and height functions.

[Timer] shows the elasped time in minutes and tenths of minutes since the current number was dialed.

Several features are discussed in more detail in the following sections.

**Status Window**

DComm has a status window that displays current communications information. The status information is located in the Command window, and appears as follows:

```
+-------------------------------------------------------------+
|Name:            |Rcord:      |Port:    |Baud:    |Parity: |
|Number:          |Print:      |Term:    |Bits:    |Compro: |
+-------------------------------------------------------------+
```

The window displays the following current information:

- o The name and number of the phone directory entry in use.
- o The name of the disk file saving the current communications session.
- o Which port the modem is connectd to.
- o Terminal type.
- o Settings for baud rates, data bits and partity.
- o Communication protocol selected.

**Options**

You can customize your communications by setting the default options used by DComm. To change the settings, use the Options function. The options you select are stored in a file called DComm.OPTIONS. A new copy of this file is created whenever DComm starts up and cannot find the file on the default disk volume.

To enter the Options level, press [Option]. The following menu appears in the System window:

```
-------------------------------------------------------------

     Option Name                Default    Current

a - Auto DIR on/off.......... False      False
b - Echo locally............. False      False
c - Quiet Mode (no beeps)... False      False
d - XON/XOFF enabled........ True       True
e - Terminal Type........... Concept    Concept
f - DComm default volume....
g - Autodialing command..... ATDT       ATDT
h - "throttle" setting...... 1          1
i - Baud rate............... 300        300
j - Parity.................. None       None
k - Data bits............... 8          7
l - Stop bits............... 1          2
m - Datacomm Port 1 or 2.... 1          1
n - Pacing delay (1/10 sec). 3          0
o - ASCII val of pacing chr. 0          0
p - Value of prefix  +......
q - Value of prefix  &......
r - Value of prefix  #......
s - Value of prefix  $......

-------------------------------------------------------------
```

After you have selected option settings, press the [RETURN] key to record the options in the DComm.OPTIONS file, and to exit the Options menu. Pressing the [ESC] key exits the menu without changing the original option settings.

The following are descriptions of each option setting:

a. Auto DIR on/off

This option controls the Data Terminal Ready (DTR) signal which is sent to the modem or remote computer. If true,

then DTR is turned off as DComm ends communications or when you press [HangUp]. It re-sets when you dial a new number. If false, DTR always remains true and Hayes Smartmodem commands send the modem hangup.

b. Echo locally

This option tells you the initial setting of the Echo feature. To change the setting, use the [Echo] function key.

c. Quiet Mode (no beeps)

When Quiet Mode is true, no warning beeps are issued by the DComm program. The remote computer may still send warning beeps.

d. XON/XOFF enabled

When XON/XOFF is true, the remote computer can send DComm the XOFF (transmit off) character when it has received its maximum amount of data during file transfers and needs time to catch up. The remote computer sends XON when it is ready to receive again. DComm waits a few second for the remote computer to send XON, and then attempts to transmit again. The XON/XOFF protocol is used by the SendFile feature.

e. Terminal type

This option tells you if the terminal type is set for the Concept or the VT100. Use the VT100 terminal type to communicate with mainframe computers that require a VT100 terminal.

f. DComm default volume

The default volume contains the file DCOMM.PHONEDIR. If this entry is left blank, the current volume is assumed.

g. Auto dialing command

To use the Smartmodem with pulse dialing, set this option to "ATDP".

h. "throttle" setting

Sets the "throttle" of the disk file transmitting routine. The default setting is 1, which means that the program does 1 check of the incoming line for each character transmitted. It can be set for any integer value from 0 up.

The throttle decreases the transmit rate if the remote computer receives data at a slower rate and lacks XON/XOFF protocol. Many Bulletin Board Services have this problem when you send files. Note that a setting of 0 is fast, while a setting of 20 or more is slower.

i. Baud rate

This option tells you the default baud rate. You can also use the Dialer to set the Baud rate if a particular phone entry requires a new setting.

j. Parity

This option sets the default parity setting.

k. Data bits

This option sets the default number of data bits. Data bits are also sometimes referred to as the character size.

l. Stop bits

This option sets the default number of stop bits.

m. Datacomm Port 1 or 2

This option lets you select Port 1 or 2 of the Concept. For better operation, select Port 1.

n. Pacing delay (1/10 sec)

This option sets the delay. in 10ths of seconds, between the time the pacing character is received and the next line of text is transmitted. This option is useful for transferring data to older computers which operate in half-duplex mode and may need time to prepare to receive the next line.

o. ASCII val of pacing chr

Sets the decimal ASCII value of the character used as the pacing character. For example, if you wanted to wait until the receiving computer sends a carriage return before transmitting each succeeding line of text, set this option to 13 which is the decimal ASCII code for carriage return. A value of zero disables the pacing system, but still allows you to use the pacing delay.

p --> s. These options are the prefixes which can be added to the front of a phone number in the directory. The four prefixes are:

+ & # $

For services such as Sprint or MCI, you can use prefixes to add your local access number and code to an entry in the directory.

For example, you might set "+" to "234-5678..,123456". Any number in the directory preceded by a + would have these numbers added to the beginning when it is dialed. The entry "+714-555-1212" would result in the following command being sent to a Hayes Smartmodem: "ATDT234-5678.,,123456-714-555-1212". This sequence dials the local access number for your long distance service, waits for the second dial tone, enters your access code, and then dials the phone number.

You can use each prefix for a different service or to dial out of a local PBX. An entry in the Dialer directory can only use one prefix, and the prefix must be the first character of the number.

**Recording**

The RcordOn and RcordOff functions allow you to record a session with a remote computer to a disk file. You can use this feature to record a partial or an entire session. You can then edit what you have recorded and save or print only the pertinent portions.

To record a session, press [RcordOn]. You are prompted for the name of the disk file in which to save the session. If you do not want to save the sessin to disk, press [RETURN]. Otherwise, enter a file name. Unless you specify another suffix, ".TEXT" is automatically appended to the file name. If you give a filename which already exists, you will be asked to confirm whether the existing file should be overwritten with the new data.

To stop recording, press [RcordOff]. The [RcordOff] function discontinues recording, but does not save the disk file. To save the file, press [SaveFile].

**SendFile**

Use [SendFile] to transfer files to a remote computer. After pressing [SendFile], the following function labels appear

**SendFile**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| Text | Pacing | Binary | XMODEM | |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | | |
| | | | | Exit |

SendFile Functions

[Text] This function is a "dumb" transfer routine - it simply sends your file to the remote line as if it was being typed. This tranfer function has no error-checking procedure, and does not a require a similiar program on the remote computer. This

function continues to work if the remote computer implements XON/XOFF protocol to control transmissions.

[Pacing] This function is also a "dumb" transfer routine with the additional feature of a pacing character. This function sends one line of text. waits for the remote computer to send the pacing character. and then sends the next line.

Some older computer system operate in half duplex and need a further delay before receiving the next line of text. You can cause a further delay before more data is sent using the Options feature.

[Binary] This function transfers any type of file: text. data. code. etc. It is intended to be general purpose and requires no special software on the receiving end. The function reads bytes of data from the file you specify and transmits them. The only message that appears on the screen during transfer is a dot after each 512 bytes tranmitted.

Use this method of transmission only if XMODEM is not available. since it does no error checking on the receiving end. DCOMM automatically switches to NO parity and 8 databits for Binary file transmission since these settings are required to transmit straight binary data. Upon completion. your original settings are reset.

[XMODEM] This function transfers textfiles with error-checking. The remote computer must also have an XMODEM or Christensen protocol for you to use this method.

This protocol breaks each file into 128 byte blocks which are transmitted along with a checksum and blocknumber. The receiving comptuer calculates a checksum and requests that any bad blocks are transmitted again. This protocol also survives breaks in the transmission which would ordinarily cause lost data.

DCOMM automatically switches to NO parity and 8 databits for XMODEM file transmission since these settings are required by the protocol. Upon completion, your original settings are reset.

**RecvFile**

Use the RecvFile function to receives files from a remote computer. You are prompted for the name of the file to be received. If the remote computer is sending the file using the XMODEM protocol, you must also use XMODEM. Set XMODEM by pressing the [XMODEM] key.

**The Dialer**

The Dialer allows you to maintain an on-line telephone directory which contains the following information for each entry:

- Name
- Phone number
- First part of Logon sequence (logon or network access)
- Second part of Logon sequence (password or logon and password)
- Baud Rate
- Parity setting
- Number of data bits
- Number of stop bits

You can also add, delete, change or move entries in the directory. If you have an autodialing modem, the Dialer also dials numbers for you. Once a number has been dialed and you are back in the communications mode, the [SndLogon] key transmits the first part of the Logon sequence and the [SndPaswd] key transmits the second part.

The Dialer directory displays fifteen entries at a time. The [PageUp] and [PageDown] keys move you up and down in the directory. The [PageTop] key returns you to the beginning entries in the directory.

When you use the Dialer feature for the first time, it creates a file called "DCOMM.PHONEDIR" which contains the names and numbers entered into the dialing directory. DCOMM.PHONEDIR is created on the default volume.

The number of entries in the directory is limited only by the amount of space on your disk. This file is initially set up to contain up to 100 entries, however, the file can grow in size to allow more entries. If you think your directory will expand to more than 100 entries, be sure the PHONEDIR.DATA is not placed at the end of the volume, or between two files. PHONEDIR.DATA is a random access file which can expand.

After you press [Dialer], the following function key labels appear

**Dialer**

| F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|
| | | | | |
| Redial | Manual | PageUp | PageDown | PageTop |

| F6 | F7 | F8 | F9 | F10 |
|---|---|---|---|---|
| | | | UnDelete | |
| Change | Add | Move | Delete | Exit |

Dialer Functions:

[Add] adds a new entry to the Dialer directory. Each new entry is added at the end of the directory. You are prompted for a Name and Telephone number, but not for the Logon sequences or communications parameters. Use Change to add additional information to an entry.

[Change] modifies the name, phone number, logon sequence or communications parameters of an entry. Use this function to add logon sequences and communication paramters to an entry.

[Delete] deletes an entry from the Dialer directory.

[Exit] returns you to main level of DCOMM.

[Manual] allows you to manually type in a number to be dialed. It then dials the number, and returns you to the main level of DCOMM without entering the number in the directory.

[Move] moves an entry in the directory to another location.

[PageDown] displays the next fifteen entries in the directory.

[PageUp] displays the previous fifteen entries in the directory.

[PageTop] displays the first fifteen entries in the directory.

[Redial] redials the last number dialed.

[Undelete] Replaces any deleted entries in the directory.

**The Change Function.** Use this function to add a logon sequence or communication parameters to an entry. Use Add to create the entry, then use Change to add the additional information.

Change prompts you for the following information:

- o Name
- o Telephone number
- o Logon sequence
- o Password sequence
- o Baud rate
- o Word Length
- o Parity (odd,even.none)

You can either respond to the prompt, or press [RETURN] to keep the current information.

Although the logon sequence is intended for the initial logon, and the password sequence for the password, you can place the entire sequence in either part of the logon sequence.

To indicate that the carriage return character (ASCII 13) should be included in the logon sequence, use the backslash (/) character. Use the form "^C" to generate a [COMMAND]-C. Any legitimate control character can be generated this way. To include the character "^" in the logon sequence, enter it twice - "^^".

When you select an entry, the Dialer sets the communications parameters for that particular entry. If the baud rate parameter is set to zero (which is the value used for all new entries until you change them), then the default communications parameters are used.

**Hayes Smartmodem**

Although DCOMM can be used with a variety of modems, it was designed for the capabilities of the Hayes Smartmodem. To maximize use of your Hayes modem with this program, set the configuration switches in the following positions:

| Pin | Position |
|---|---|
| 1 | Up |
| 2 | Up |
| 3 | Down |
| 4 | Up |
| 5 | Down |
| 6 | Up |
| 7 | Either |
| 8 | Down |

**Possible Problem Areas**

Problems are likely to fall into three broad categories:

- o System problems: hardware, software, disk files, etc.
- o Communications: difficulties connecting, determining correct communications parameters to set, etc.
- o Phone directory: errors while updating, power loss while updating, etc.

To prevent communication problems, follow a few cautionary steps. First, you should ensure that the communications parameters are set as prescribed by your remote computer service. DCOMM acts like a full-duplex computer terminal which can communicate through the Corvus Concept's asynchronous (serial) communications adapter. Note that this adapter does not support HDLC, SDLC or bisync protocols which are used by some mainframe computers.

Your modem should usually be set for full duplex, and for originate mode. If it does not offer you the option to set these modes explicitly, you can assume those are the "built-in" modes.

The cable connecting your modem and your Concept should have pins 1-8 and pin 20 connected. You can make everything work with fewer leads connected, but you may have to jumper some pins one to another to do so.

If you are connecting directly to another personal computer, you will need a "modem eliminator" cable. This type of cable crosses the signals between the two connectors so that each computer thinks the other is a modem. Use the following chart to wire a cable:

| Connector 1: | Connector 2: |
|---|---|
| 1 | 1 |
| 2 | 3 |
| 3 | 2 |
| 4 | 5 |
| 5 | 4 |
| 6 | 20 |
| 7 | 7 |
| 8 | 8 |
| 20 | 6 |

Finally. wire pin 8 to pin 20 on each connector. Note that either connector can go to either computer.

DCOMM checks to see if the modem is working properly. Therefore. you will be warned if the modem is not ready. As soon as it becomes ready. DCOMM lets you know. If communications are lost during a session, DCOMM will notice and let you know with the message "No carrier". Note that some modems, such as the Hayes Smartmodem always appears to be ready. This is because they simulate a ready condition so that you can send setup data and commands to them even when they are not connected to a remote computer.

If you are having problems communicating with the Hayes Smartmodem (or your remote computer) try using the following settings (regardless of what is recommended):

- o 300 baud
- o Even parity
- o 7 bit word
- o 1 stop bit

When you are set for 8 databits and no parity. the Hayes Smartmodem result codes may look like garbage. This is because the eighth bit is set and the characters are being interpreted as coming from an extended character set.

PHONEDIR.DATA file, which contains the phone directory, could be damaged if a power surge occurs while it is being updated. If the contents of the file is damaged, DCOMM prints a message warning of possible damage the next time you use the Dialer.

# APPENDIX A

This appendix is a glossary of all function key labels in ISYS. It includes all functions in Word processing, Spreadsheet, DataComm, etc., but does not include the labels from the Graph program. They are in a Glossary in "The Corvus Concept Graph User Guide."

## DataComm Labels

DComm allows you to perform modem control and terminal emulation functions. This command is found under the ISYS level.

[Add] adds a new entry to the Dialer directory. Each new entry is added at the end of the directory. When you press [Add] you are prompted for a Name and Telephone number, but not for the Logon sequences or communications parameters.

[Binary] transfers any type of file: text, data, code, etc. It is intended to be general purpose and requires no special software on the receiving end. Binary reads bytes of data from the specified file and then transmits them.

[Change] modifies the name, phone number, logon sequence or communications parameters of an entry in the Dialer directory. Change can also be used to add logon sequences and communication paramters to an entry.

[ClrWndow] clears everything from the current window.

[Delete] deletes an entry from the Dialer directory.

[Dialer] enters the Dialer function. The Dialer maintains a phone directory and automatically dials any of the numbers listed. It can add different prefixes to numbers to allow dialing out through a PBX, or entering an MCI. SPRINT or other access code. Dialer has eleven commands. See [Add], [Change], [Delete], [Manual], [Move], [PageDown], [PageUp], [PageTop], [Redial], [Undelete].

[Echo] displays what you type on the screen when turned on. The Echo works like a toggle switch - each time you press it, it turns Echo on or off depending on the previous setting. Use Echo on to see what you type. The default setting if off.

[Exit] returns you to the ISYS Dispatcher level. Exit automatically saves any open disk files before returning to the ISYS Dispatcher.

[HangUp] disconnects the communication line for the Hayes Smartmodem or turns off the Data Terminal Ready (DTR) signal if that option is selected.

[Manual] allows you to manually type in a number to be dialed. It then dials the number, and returns you to the main level of DataComm without entering the number in the directory.

[Move] allows you to move an entry in the Dialer directory to another location.

[NewFile] opens a new file to save current communications. If a file is already open, NewFile closes the existing file before opening a new one.

[Options] displays a menu that allows you to review and change any of the default option settings.

[Pacing] sends one line of text. waits for the remote computer to send the pacing character. and then sends the next line. Pacing is also a "dumb" transfer routine with the additional feature of a pacing character.

[PageDown] allows you to display the next fifteen entries in the Dialer directory.

[PageUp] allows you to display the previous fifteen entries in the Dialer directory.

[PageTop] allows you tp display the first fifteen entries in the Dialer directory.

[PrintOn] sends current communications to a local printer.

[PrintOff] discontinues current communications to a local printer.

[RcordOn] initiates recording to record whatever is sent or received from the remote computer. The recording is saved directly to a file. Any output to the screen by the DataComm program itself. such as the menu, or text files transmited to the remote computer are NOT recorded.

[RcordOff] discontinues recording.

[RecvFile] receives a file sent from the remote computer.

[Redial] redials the last number dialed.

[SaveFile] allows you to save current communications to a file.

[SendFile] allows you to send files to the remote computer using four data transfer protocols. This label has four commands. See [Binary], [Pacing], [Text], [XMODEM].

[SndLogon] sends the first part of a Logon sequence.

[SndPaswd] sends the second part of a Logon sequence.

[Status] displays a status report describing the communication parameters, whether recording is on or off, and the last number dialed.

[Suspend] places communications on hold, and calls the ISYS Dispatcher level. To continue communications, press [Resume] from the ISYS Dispatcher level.

[TermType] emulates a VT100 terminal to allow communication with mainframe computers requiring DEC VT100 terminal. The VT100 emulator does not support the smooth scroll, double character width or height functions.

[Text] sends your file to the remote line as if it was being typed. Text is a "dumb" transfer routine with no error-checking procedure. This command does not a require similar program running on the remote computer.

[Timer] shows the elasped time in minutes and tenths of seconds during communications.

[Undelete] restores any deleted entries in the Dialer directory.

**DeskTool Labels**

Pressing [DeskTool] enters the Desk uitility level. DeskTool has four commands. See [Calc], [Calendar] and [Clock]. This command is found in the Word processing level and in the ISYS Dispatcher under the DeskTool level.

[Calc] displays a 15 function standard infix calculator. This label is found under the DeskTool level.

[Calendar] displays a Calendar displays a one month calendar for the year and month of your choice. This command is found under the DeskTool level.

[Clock] displays a clock with international time zones. The clock also has stop watch and lap functions. This label is found under the DeskTool level of labels.

**Calc Labels**

The Calc label is found in the DeskTool level.

[Atan] calculates arctangent of value entered in radians.

[Cos] calculates cosine of value entered in radians.

[Fix] adjusts number of digits to the right of the decimal place.

[Exit] returns you to the ISYS Dispatcher level or the Main level of Word processing, depending on which version of DeskTool was used.

[Exp] calculates exponential with base for the current entry.

[Ln] calculates natural logarithm of the current entry.

[Mem +] adds current entry to the current value in memory.

[Mem -] subtracts current entry from the current value in memory.

[Resume] returns you to the previous task of Word processing. This label is only found in Word processing.

[Sin] calculates sine of value entered in radians.

[Sqrt] calculates square root of current entry.

[Tan] calculates tangent of value entered in radians.

[=] totals current operation.

**Calendar Labels**

The Calendar label is found in the DeskTool level.

[Exit] returns you to the ISYS Dispatcher level or the Main level of Word processing, depending on which version of DeskTool was used.

[Month] allows you to select a specific month to display.

[NextMnth] displays the next month of the same year.

[NextYear] allows you to set the calendar to the next year from the current year displayed.

[PrevMnth] displays the previous month of the same year.

[PrevYear] allows you to set the calendar to the previous year from the current year displayed.

[Year] allows you to set the calendar to a specific year.

**Clock Labels**

The Clock label is found in the DeskTool level.

[Exit] returns you to the ISYS Dispatcher level or the Main level of Word processing, depending on which version of DeskTool was used.

[Lap] records the time at the moment you press [Lap]. Pressing [Lap] after pressing [StopWtch] for the second time, clears the stopwatch counter.

[PrevMenu] allows you return to the previous task performed. This label is found only in Word processing.

[Set Time] sets the time for the Clock.

[StopWtch] starts the stopwatch function. Pressing it again stops it.

[TimeZone] allows you to select one of the 24 time zones for the current time.

**Lookup Labels**

Lookup allows you to quickly search IPC files for specific entries in a specified column. This command is found under the ISYS level of labels.

[Select] interrupts the listing of records during a prior search and allows you make a new selection.

[Showall] shows all the records in the current IPC file. The records or displayed in the current order.

[LoadFile] allows you to load a new IPC file into Lookup.

[SaveFile] saves the displayed set of records to a specified IPC file.

[Exit] returns you to the ISYS Dispatcher level.

**SprSheet Labels**

SprSheet allows you to create different spreadsheet models. This command is found under the ISYS level.

[All] allows the function selected to operate on the values for entire Workspace. This label is found under the Delete level. where under is deletes all data from the spreadsheet. Undo will not reverse this command. All is also found under the Protect level, where it turns on or off cell protection for the entire spreadsheet. It is also found under the Recalc level, where it recalculates the formulas and numeric values for the entire spreadsheet.

[Advance] turns on or off the automatic advance mode of the cursor. The default setting is on, with the cursor advancing to the next cell automatically after each data entry. This label is found under the Defaults level.

[AutoCalc] turns on or off the automatic recalculation mode of the the spreadsheet. This occurs after each entry is made. The default setting is off. This label is found under the Defaults level.

[AutoForm] starts the automatic forms template of the Forms mode. Data is cleared from cells in the template, and the cursor positioned at the first cell. This label is found under the main level.

[Both] allows you to lock both rows and columns, from location A1 to the cursor location. Locked rows and columns are marked with an asterisk. This block can be unlocked with Both. or with both Row and Column commands. This label is found under the Lock level.

[Bound] creates an IPC file by defining the bottom right corner of the spreadsheet area in the file. This label is found under the main level.

[Cell] allows the function selected to operate on the current cell. It is found under the following levels:

Delete level, where it allows you to delete the contents of the current cell.

Precision level, where it allows you to set the decimal precision for the current cell.

Protect level, where it allows you to turn on or off cell protection for the current cell location.

Recalc level, where it allows you to recompute the formula for a specific cell location.

Round level, where it allows you to turn on or off rounding for the current cell.

[Center] inserts a "/C" at the beginning of the cell entry on the Entry/Edit line, which centers the entry. This label is found under the Edit level.

[CellType] changes the cell data type. Numeric cells are changed to text, and text cells to numeric. The same function is accomplished by pressing the ^ key. This label is found under the Edit and main level.

[ColDisp] allows you turns on or off the display of columns. Non-displayed columns are not shown on the spreadsheet. nor printed in reports. Data in non-displayed columns can be referenced elsewhere in the spreadsheet. or transferred with the Copy or Rplicate functions. This label is found under the main level.

[Column] allows the function selected to be performed in the current column. It is found under the following levels:

Delete level, where it allows you to delete a specified number of columns, starting at the current cursor location. Protected cells cannot be deleted until the protection is removed.

Insert level, where it inserts a blank column at the current cursor location. The remaining columns are shifted and relabeled.

Lock level, where it allows you to lock columns on the screen, from Column A to the cursor location. Locked columns are marked with an asterisk. Columns are unlocked with the same command.

Precision level, where it allows you to set the decimal precision for the current column.

Protect level, where it allows you turn on or off cell protection for the current column.

Round level, where it allows you to turn on or off rounding for the current column.

[Copy] allows you to transfer a copy of a cell, row, column or block of cells to another location on the spreadsheet. The formulas in the copied cells can transferred with no change, relative to the new location, or according to specified changes. This label is found under the main level.

[Close] closes the Entry/Edit line after Open command has been used, thus eliminating extra space in the cell entry. This label is found under the Edit level.

[ColWidth] allows you to change the width of the current column. The width can be between three and 63 characters. This label is found under the main level. It is also found under the Defaults level, where it allows you to set the standard column width of all columns for the entire spreadsheet.

[Defaults] allows you to set the default settings for the entire sheet. This label has seven commands. Defaults is found under the main level.

[DefForm] sets the Forms mode for the current cell on or off. The Forms mode allows you to create a forms template which is later activated by the AutoForm label. This label is found under the main level.

[Del Cell] deletes the contents of the current cell. This label is found under the main level.

[Delete] is found under two levels. The levels are as follows:

Edit level, where it deletes the character at the current cursor position on the Entry/Edit line. The Down-Arrow key performs the same operation.

Main level, where it allows you to delete data from a cell, column, row, or unprotected cell. The cursor is used to indicate the cell, row(s), or column(s) to be deleted. Cells that are referenced elsewhere in the spreadsheet cannot be deleted with the row or column option. After cells are deleted, the spreadsheet is re-drawn to show the new display. This label has five commands. See [All], [Cell], [Column], [Row], and [UnProt].

[Dump] allows you to a dump listing of the contents of the spreadsheet, including formulas. Cells are listed sequentially, with the data type shown, and stored precision for numeric data. This label is found under the main level.

[Edit] allows you to edit the contents of the current cell. This label has nine commands. See [CellType], [Center], [Close], [Delete], [Insert], [Insert], [Left Jst], [Open], [RightJst], and [Title]. Edit is found under the main level.

[Exit] this label returns you to the ISYS Dispatcher. EXIT is found under the Main level.

[GoTo] allows you to move to a different location in your spreadsheet. This label has four commands. See [NextCell], [NextCol], [NextRow], and [NextUnPr]. The [TAB] key can also be used to call the GoTo commands. This label is found under the main level.

[Help] suspends the spreadsheet. and displays the Help text file. Pressing [ESC] resumes spreadsheet operations.

[Insert] is found under two levels. The levels are as follows:

Edit level, where it inserts a blank space at the current cursor postion on the Entry/Edit line. The Up-Arrow key performs the same operation.

Main level, where allows you to insert a row or column at the current cursor location, and automatically shift all cell contents for the entire spreadsheet. This label has two commands. See [Column] and [Row].

[Left Jst] inserts a "/L" at the beginning of the cell entry on the Entry/Edit line, which left-justifies the entry. This label is found under the Edit level.

[ListVol] allows you to displays a listing of all files or just spreadsheet files for the specified volume. A file can be selected for loading into the spreadsheet using the cursor movement keys. This label has two commands. See [NewVol] and [SetFile]. ListVol is found under the main level.

[Load] allows you to load the spreadsheet with a specified data file (which must be a .LC-type file). This command clears the current spreadsheet before loading a new one. The position of the file can be changed from its original location. The password must be used if the file was saved with a password. This label is found under the main level.

[Lock] allows you to lock a specified row. column, or both (a row/column block) on the screen display. This allows you to view two parts of a spreadsheet at the same time. This label has three commands. See [Both], [Column], and [Row]. Lock is found under the main level.

[Main] returns you to the Main level of Spreadsheet. This label is found at every level of Spreadsheet. with the exception of the main level.

[Mark] sets the top left corner marker for the IPC file. If Mark is not used, cell A1 is the default mark position. This label is found under the main level.

[Merge] allows you to merge a specified data file (.LC-type) into the existing spreadsheet at the specified location. Options are displayed values only, or cell contents. This label found under the main level.

[MoveDisp] moves the displayed portion of the spreadsheet so that the current cell is positioned at the top left corner of the spread sheet display.

[NewVol] allows you to select a new volume directory to list. This label is found under the ListVol level.

[NextCell] moves the cursor up or down to the next cell, depending on the default ordering. This label is found under the GoTo level.

[NextCol] moves the cursor to the top cell of the next column. This label is found under the GoTo level.

[NextRow] moves the cursor to the first cell of the next row. This label is found under the GoTo level.

[NextUnPr] moves the cursor up or down to the next unprotected cell, depending on the default ordering. This label is found under the GoTo level.

[Open] opens the current cell contents on the Entry/Edit line at the edit cursor location. This allows you to insert additional data into the opened space. This label is found under the Edit level.

[Order] allows you to switch the order of movement and computation of formulas for the spreadsheet. Normal order is left-to-right; alternate order is top-to-bottom. This label is found under the Defaults level.

[Precsion] is found under two levels. The levels are as follows:

Defaults level, where it allows you to set the default decimal precision displayed for the entire spreadsheet. The default setting is 2 digits after the decimal point for numeric data.

Main level, where it allows you to set the displayed decimal precision for the current cell or the current column. This label has two commands. See [Cell] and [Column].

[Protect] enables or disables cell protection for the entire spreadsheet. The default setting is for cell protection enabled. If disabled, the ProtCell and Protect functions have no effect. This label is found under the Defaults level.

[Print] allows you to output a copy of the displayed spreadsheet. with optional titles, as a text file. All or part of the spreadsheet can be printed, and output width, form length and page halt specified. This label is found under the main level.

[ProtCell] allows you to turns on or off cell protection for the current cell. ProtCell can be used in conjunction with Protect. This label is found under the main level.

[Protect] allows you to turns on of off cell protection for the current cell, column, or the entire spreadsheet. Protection prevents cells from being accidently erased or changed. This label is found under the main level.

[Recalc] allows you to recompute the formulas and numeric values of a spreadsheet for a single cell or for the entire spreadsheet. This label has two commands. See [Cell] and [All]. Recalc is found under the main level.

[RightJst] inserts a "/R" at the beginning of the cell entry on the Entry/Edit line, which right-justifies the entry. This label is found under the Edit level.

[Round] turns on or off the the rounding mode for entire entire spreadsheet. The default settin is on, with each numeric entry rounded to the specified decimal precision. When Round is off, numeric data is truncated. This label is found under the Defaults level.

[Round] allows you to turns rounding on or off for the current cell or column. Numeric values are truncated to the set decimal precision when rounding is turned off. This label is found under the main level.

[RoundCel] allows you to turns on or off rounding for the current cell. RoundCel can be used in conjunction with Round. This label is found under the main level.

[Row] allows the function selected to operate on the current row. This label is found under the following levels:

Delete level, where it allows you to delete a specified number of rows, starting at the current cursor location. Protected cells cannot be deleted until the protection is removed.

Insert level, where it inserts a blank row at the current cursor location.

Lock level, where it allows you to lock rows on the screen, from Row 1 to the cursor location. Locked rows are marked with an asterisk. Rows are unlocked with the same command.

[Rplicate] allows you to transfer multiple copies of a cell, row or column to specified spreadsheet locations. It allows you transfer cell with no change to the data, changes to the data relative to column location or changes to the data according to a specified change. This label is found under the main level.

[Save] allows you to saves the contents of the spreadsheet as a data file (.LC-type). All or part of the spreadsheet can be saved, and password protection is optional. This label is found under the main level.

[SetFile] allows you to set the file marked by the cursor as the current file. This label is found under the ListVol level.

[Title] inserts a "/T" at the beginning of the cell entry on the Entry/Edit line. This allows you to define the data as a title. This label is found under the Edit level.

[Transfer] allows you to transfers data from an IPC file to the spreadsheet display. at the location specified. Only text and numeric data can be transferred. This label is found under the main level.

[2D-Graph] allows you to quickly display a two dimensional graph of a range of data from your spreadsheet. 2D Graph also allows you to display a graph for two ranges for comparison. It allows you to display the graph in a bar, line or dot form. This label is found under the main level.

[Undo] undoes the previous data entry operation performed. This label is found under the main level.

[UnProt] allows you to delete data from all unprotected cells in the spreadsheet. This label is found under the Delete level.

**WordProc Labels**

WordProc allows you to create or enter a Word processing Workspace. Once in a Workspace you can create and edit documents. This command is found under the ISYS level.

[Adjust] allows you to adjust blocks of text into one of four different paragraph formats. This label has ten commands. See [Block], [hyphenat], [Indented], [Item], [Justify], [NextPara], [ParaFrmt], [PrevPara], [Qoute], and [Standard].

[Ascii] allows you to place in your current document special escape codes for your printer. These are only active when printing to a local printer. This label is found under the Print level.

[Block] allows you to produce a block paragraph, where the first line is not indented. This label is found under the Adjust level.

[Bold] allows you make a character bold so it appears darker and thicker. This lablel is found under the Enhance level.

[Bound] allows you to delineate the bottom of a Bounded area. When you press [Bound] the screen reverses in the area you delineated. Bound has 13 commands that act upon the Bounded area. This label is found under the Main level.

[Cancel] allows you to return to the original position in a document before the current command was used. This label is found under the [Goto] [LookFwd], and [ShowAll] levels.

[Center] centers the current line of text between the left and right margin settings. When used in a Bound area, it centers the text between the left and right boundaries. This label is found under the Bound and MoveText level. It is also found under the PrintFmt level, where it used to place the Dot commands to center text.

[Change] exchanges the current search pattern with the specified replacement pattern. This label is found under the Replace level.

[Comment] allows you to place the non-printing comment Dot command along with a 70 character comment. This label is found under the PrintFmt level.

[Continue] allows you to resume printing after it has been halted by the Pause command, or after viewing the PRINT workpad. This label is found under the Print level.

[CopyLine] copies the current line of text from the cursor position onward. The text is copied into the COPY workpad. This label is found under the Main level.

[CopyText] copies the contents of a Bounded area into the COPY workpad. This label is found under the Bound level.

[ClearPad] allows you to clear the contents of the current workpad. This command is not undoable. ClearPad is found under the Document level.

[Clr Mar] allows you to clear the current margin settings. This label is found under the Settings level.

[Clr Tabs] allows you to clear the current tab settings. This label is found under the Settings level.

[CursrPat] allows you to the pattern on which the cursor rests as the active search pattern. This label is found under the [Search] level.

[Cut Line] cuts the current line of text from the cursor position onward. The text is copied into the COPY workpad. This label is found under the Main and MoveText level.

[Cut Sent] cuts text from the current cursor position to the next period. This label is found under the MoveText level.

[Cut Text] cuts the contents of a Bounded area into the COPY workpad. This label is found under the Bound level.

[Del Char] allows you to delete the character on which the cursor rests. When you delete a character, the character is removed and the characters to the right of the cursor move one position to the left. This label is found under the Main level.

[Del Col] deletes the characters and the space within a Bounded area. This label is found under the Bound level.

[Del Line] allows you to the entire line of text on which the cursor rests. When you delete a line, the entire line is removed, and the lines below it move up to fill the gap. This label is found under the Main and Bound level.

[Del Pad] deletes the workpad the cursor on which the cursor is positioned. This command can only be used while you are in the directory. Del Pad is found under the Document level.

[Del Rec] deletes the current record of a list. This label is found under the EditList level.

[Del Word] deletes the characters from the current cursor position to the next blank character. This label is found under the Main level.

[Display] allows you to have your document formatted printed to the display so you can view it before printing. This label is found under the Print level.

[Document] allows you to perform different workpad management functions. Document has 10 commands. See [ClearPad], [Del-Pad], [Ins-File], [List-Vol], [LoadFile], [Make-Dir], [Make-Pad], [SaveFile], [ViewDir], and [View-Pad]. This label found under the Main level.

[DblUline] allows you to double underline a character. This label is found under the Enhance level.

[EditList] allows you enter, change and delete the fields of a list. EditList has nine commands. See [Del Rec], [FirstRec], [Ins Rec], [Last Rec], [Next Rec], [Prev Rec], [Print], [Sort], and [Word Cap]. This label is found under the Lists level.

[Enhance] allows you to add embellishments to characters. Embellishiments are things such as bolding, superscriping, underlining, etc. All enhancements are displayed on the screen. This label has ten commands. See [Bold], [DblUline], [Enh Off], [Enh On], [Insert], [OverSrtk], [StrkOut], [Sub], [Super], and [Uline]. Enhance is found under the Main level.

[Enh Off] allows you to turn off all active enhancements. If this label is pressed while the cursor is resting on an enhanced character, the current enhancements are turned off. This label is found under the Enhance level.

[Enh On] allows you to do two things: 1) turn on enhancements once they have been turned off, and 2) add enhancements to previously typed characters. This label is found under the Enhance level.

[Erase] allows you to erase the character on a line of text from the current cursor position all the way out to column 250. After the text is erased, the cursor remains in the same column and drops to the next line. When text is erased within a Bounded area, the characters are deleted, but the space remains. This label is found under the Main and Bound level.

[EXIT] this label returns you to the ISYS Dispatcher. EXIT is found under the Main level.

[FigSpace] allows you to place the Dot commands to account for an illustration of table. This label is found under the PrintFmt level.

[File] allows you to print your current document to a file in specified volume. This label is found under the Print level.

[Fill] allows you to place the Dot commands to turn on or turn off fill mode. This label is found under PrintFmt level.

[First] moves you to the first occurrence of the active search pattern. This label is found under the Seach level.

[FirstRec] moves you to the first record of your current list. This label is found under the EditList level.

[Flush L] aligns the text of the current line with the left margin setting. In a Bounded area this label aligns the text with the left boundary. Flush L is found under the Bound and MoveText level.

[Flush R] aligns the text of the current line with the right margin setting. In a Bounded area. this label aligns the text with the right boundary. Flush R is found under the Bound and MoveText level.

[Footer] allows you to place the Dot commands to produce normal or alternating page footers. This label is found under the PrintFmt level.

[FrstLine] moves you to line number one of your current workpad. This command is found under the Goto level.

[Goto] allows you to quickly move to different places in your document. Goto has nine commands. See [Cancel], [FrstLine], [GotoLine], [GotoMark] [LastLine], [NextPage], [NextScrn], [PrevPage], and [PrevScrn]. When you press [Goto] the display splits to display a separate Goto window. This window allows editing. Goto is found under the Main level.

[GotoLine] allows you to move to a specific line in your current workpad. This command is found under the Goto level.

[GotoMark] allows you to move to a marked line in your current workpad. This command uses the Mark command to place the mark. This command is found under the Goto level.

[Header] allows you to place the Dot commands to produce normal or alternating page headers. This label is found under the PrintFmt level.

[Hyphenat] activates the hyphenation mechanism of Adjust when a format label is selected. Hyphenat is found under the Adjust level.

[Indent] inserts blank spaces the width of the Bounded area to move text to the right. This label is found under the Bound level.

[Indented] allows you produce an indented paragraph, where the main body of the paragraph is indented further than the first line. This label is found under the Adjust level.

[Index] allows you to create an index with page references of subjects in a document. This label is found under the Print level. Index uses the Dot commands .IX and .IXP.

[Ins Char] allows you to insert characters between the character on which you placed the cursor and the character immediately to the its left. This puts you into insert mode. To return to Typeover mode. press [InsChr], any cursor key, or any function key. This label is found under the Main level.

[Ins File] allows you to insert the contents of a file into your current workpad. Files are inserted from the current cursor position onward. This label is found under the Document level.

[Ins Line] inserts a blank line at the current cursor location. When you insert a blank line, the text below it is moved down, while the cursor remains on the same line. Also, when you insert a line, the cursor changes to the insert mode cursor. This label is found under the Main level.

[Ins-Rec] inserts a blank record between the current record and the previous record of your current list. This label is found under the EditList level.

[Insert] allows you to insert enhanced characters between the character on which the cursor is resting and the character immediately to its left. This label is found under the Enhance level.

[Item] allows you to produce an itemized paragraph, where there is a space between the first word of the first line and the rest of the paragraph. This label is found under the Adjust level.

[JoinLine] appends the next line of text with the current line. This label is found under the Main level.

[Justify] activates the on screen full character justification when one the paragraph format labels are selected. Justify is found under the Adjust level. This label is also found under the PrintFmt level where it allows you to place the Dot command to produce justified text.

[Last] moves you to the last occurrence of the active search pattern. This label is found under the Search level.

[Last Rec] moves you to last record of your current list. This label is found under the EditList level.

[LastLine] allows you to move to the last line of you current workpad. This command is found under Goto level.

[Layout] allows you to display the layout for 24 pages of your current document. This command prints a dot for each character. Layout is found under Print level.

[Left Mar] allows you to set the left margin for your current Workspace. This label is found under the Settings level.

[LinSpcng] allows you place the Dot command to change the line spacing of your current document. This command is found under the PrintFmt level.

[List Vol] allows you to list the text files in a specified volume. This label is found under the Document level.

[Lists] allows you create multiple subject lists in an IPC format. IPC lists can be sorted later by the SortFile program or used by the Lookup program. Lists has two commands. See [EditList] and [NewList]. This label is found under the Main level.

[LoadFile] allows you to load the load a file into your current workpad. This command clears the contents of your current workpad to make room for the new contents. This label is found under the Document level.

[LoadTabs] allows you to load tab settings that are saved with the SaveTabs command. This label is found under the Setting level.

[LookFwd] displays all occurrences of the active search pattern located from the current cursor position on. This label has two commands. See [Next] and [Prev]. LookFwd is found under the Search level.

[Main] returns you to the Main level of Word processing. This label is found at every level of Word processing, with the exception of Main.

[Make Dir] allows you to create additional sub-directories within your current workpad. This label is found under the Document level.

[Make Pad] allows you to create additional workpads within your current Workspace. This label is found under the Document level.

[Margins] allows you place the Dot commands to set your margins. These margin settings are used by other Dot commands. This label is found under the PrintFmt level.

[Mark] allows you to delineate the beginning of your Bound area and to place a marker for the Goto command to return to. This label is found under the Main level.

[MoveText] allows you to move text in different ways. This label has 13 commands. See [Center], [CopyLine], [Cut Line], [Cut Sent], [Flush L], [Flush R], [PasteChr], [PasteCol], [PasteLin], [PasteOvr], [Shift L], [Shift R], and [ShiftLen]. This label is found under the Main level.

[NeedLins] allows you to place the Dot command for the conditional page test Dot command. This Dot command allows you to hold blocks of text together so it is printed on the same page. This label is found under the PrintFmt level.

[New List] allows you to create a new list. This label is found under the Lists level.

[Next] moves you to the next occurrence of the current search pattern. This label is found under the LookFwd, Replace, Search, and ShowAll levels.

[Next Rec] moves you to the next record in your current list. This label is found under the EditList level.

[NextPage] moves the cursor to the next page break in your document. This command looks for the .PG/ Dot command. NextPage is found under the Goto level.

[NextPara] moves the cursor to first character of the next paragraph. This label found under the Adjust and Goto levels.

[NextScrn] moves the cursor down the height of the Editing window. This label is found under the Goto level.

[NextWord] moves the cursor to the next word from the current cursor position. This label is found under the Main level.

[Order] allows you to set the order a Bounded will be sorted. You can selet ascending, which sorts numbers first from lesser to greater followed by letters from a to z. or descending, which sorts letters from z to a followed by numbers from greater to lesser. This label is found under the Sort level.

[OverStrk] allows you to overstrike the character to the left of the current cursor position with a different character. This label is found under the Enhance level.

[Page Len] allows you to place the Dot command to set the printing length of your pages. This command is found under the PrintFmt level. Page Len is also found under the Settings level, where it is used to set the length of the Page Length indicator

[Page Off] allows you to place the Dot command to set the page offset for a document when it is printed. This label is found under the PrintFmt level.

[PageBrk] allows you to place the page break Dot command. This command is found under the PrintFmt level.

[PageRng] allows you to print a specified range of pages. This label is found under the Print level.

[ParaFrmt] allows you to alter the indentation and margin settings of any the format labels. This label is found under the Adjust level.

[PasteChr] pastes the text from the COPY workpad in a string fashion. Text is inserted from the cursor position onward. This label is found under the MoveText level.

[PasteCol] pastes the text from the COPY workpad in a horizontal fashion. Text is inserted column by column from the cursor position onward. This label is found under the MoveText level.

[PasteLin] pastes the text from the COPY workpad in a vertical fashion. Text is inserted line by line from the current line down. This label is found under the Main and MoveText levels.

[PasteOvr] pastes the text from the COPY workpad over existing text. This label is found under the MoveText level.

[Pattern] allows you to record one search pattern in each of the four Pattern labels. This allows you to quickly recall frequently used patterns. These labels are found under the Search level.

[Pause] allows you to momentarily stop the printer from printing. To resume printing, you press [Continue]. This label is found under the Print level.

[Prev] moves you to the previous occurrence of the current search pattern. This label is found under the LookFwd, Replace, Search and ShowAll levels.

[Prev Rec] moves you to the previous record in your current list. This label is found under the EditList level.

[PrevMenu] returns you to the menu of the task previously used. This label is found under every level of Word processing.

[PrevPage] moves the cursor to the previous page break in your document. This command looks for the .PG/ Dot command. NextPage is found under the Goto level.

[PrevPara] moves the cursor to the first character of the previous paragraph. This label is found under the Adjust and Goto levels.

[PrevScrn] moves the cursor up the height of the Editing window. This label is found under the Goto level.

[PrevWord] moves the cursor to the previous word from the current cursor position. This command is found under the Main level.

[Print] allows you print the contents of your current workpad. When used in a Bound area, it prints the whole line of text from the top to the bottom of the Bounded area. When used in the EditList level, it merges the current list with a pattern, and allows you to print a form letter or mailing label. Print has 10 commands. See [Continue], [Display], [File], [Index], [Layout], [PageRng], [Pause], [Printer], [SglSheet], and [Spooler]. This label is found under the Bound, EditList and Main level.

[Printer] allows you to print your current document to a local printer. A local printer is the one connected to your Concept. This label is found under the Print level.

[PrintFmt] places into your current workpad the appropriate Dot command for selected functions. This label has 15 commands. PrintFmt is found under the Main level.

[Quote] allows you to produce a quote paragraph, where the paragraph is indented from the main body of text. This label is found under the Adjust level.

[Redo] allows you to undo the Undo command. Redo causes the most current event undone by [Undo] to be restored. If you repeatedly press [Redo], you will eventually be returned to the most current event performed. This label is found under the Main level.

[Replace] allows you to replace a specified search pattern with a different pattern. This label has three commands. See [Change], [Next], and [Prev]. Replace is found under the Search level of labels.

[RightMar] allows you to set the right margin in your current Workspace. This label is found under the Settings level.

[Save] allows you to save the contents of a Bounded area to a file. This command is found under the Bound level.

[SaveFile] allows you to save your current workpad to a file in a specified volume. This label is found under the Document level.

[SaveTabs] allows you to save the current tab settings to what is called a "tab rack." To save the current tab settings press [SaveTabs]. The label is found under the Settings level.

[Search] allows you to scan a document for occurrences of a specified pattern and allows you to exchange the pattern for a different pattern. This label has 10 commands. See [CursrPat], [First], [Last], [LookFwd], [Next], [Pattern], [Prev], [Replace], [ShowAll], and [WordSrch]. Search is found under the Main level.

[SelfTest] allows you to test the integrity of your current workpad or your entire Workspace. Selftest has two commands. See [TestWkPd] and [TestWkSp]. This label is found under the Main level.

[Set Mar] allows you to set both the left and right margins in your current Workspace. This label is found under the Settings level.

[Set Scrl] allows you to set the number of lines the Editing window moves when you scroll up or down. You can set the number of lines to scroll any where between one and 100 lines. This label is found under the Settings level.

[Set Tabs] allows you to set the tabs, the spacing between each tab, and the tab type for your current Workspace. The tab types are left, right, center and decimal. This label is found under the Settings level.

[Settings] allows you to set the margins, page length display, scrolling height, and tabs for the current Workspace. Settings has 12 commands. See [Clr Mar], [Clr Tabs], [Clr Tab], [Left Mar], [LoadTabs], [Page Len], [RightMar], [SaveTabs], [Set Mar], [Set Scrl], [Set Tabs], and [Tab Clr]. This label is found under the Main level.

[SglSheet] allows you to print each page individually. This command only works when printing to a local printer. SglSheet is found under the Print level.

[Shift L] allows you to move the current line of text a specified number of spaces to the left. The number of spaces the line is moved is set by the ShiftLen label. This command is found under the MoveText level.

[Shift R] allows you to move the current line of text a specified number of spaces to the right. The number of spaces the line is moved is set by the ShiftLen label. This command is found under the MoveText level.

[ShiftLen] allows you to set the number of spaces a line is moved when you press [Shift L] or [Shift R]. This label is found under the MoveText level.

[ShowAll] displays all occurrences, from the beginning to the end of your current document. of the active search pattern. This label is found under the Search level of labels.

[SkipLine] allows you to place the Dot command to insert blank lines. This label is found under the PrintFmt level.

[Sort] allows you to sort the contents of the Bounded. To use this command Mark and Bound a block of text followed by pressing [Sort]. Sort has three commands. See [Order], [Sort Key] and [Start]. This label is found under the Bound level. Sort is also found under the EditList

level, where it allows you to specify which field to sort by and in what order.

[Sort Key] allows you to select by which column a Bounded area will be sorted. This label is found under the Sort level.

[Spooler] allows you to send the formatted contents of your current workpad to a shared network printer. Spooler uses the program Spool and Despool. This label is found under the Print level.

[Standard] allows you to produce a standard paragraph, where the first line is indented. This label is found under the Adjust level.

[Start] starts the sorting process. This label is found under the Sort level.

[StrkOut] allows you overstrike charactes with a hyphen, similar to crossing out a character. This label is found under the Enhance level.

[Sub] allows you to subsript characters. This label is found under the Enhance level.

[Super] allows you to superscript characters. This label is found under the Enhance level.

[Tab Clr] allows you to clear an individual tab setting. This label is found under the Settings level.

[Tab-Set] allows you set an individual tab setting. This label is found under the Settings level.

[TestWkPd] tests the integrity of the current workpad. This label is found under the SelfTest level.

[TestWkSp] tests the integrity of the current Workspace. This label is found under the SelfTest level.

[ULine] allows you to underline characters. This label is found under the Enhance level.

[Undo] allows you to recover from editing actions by undoing previous editing events that have occured during an editing session. Events are undone sequentially from the most current to the least current, at which point there are no more events to undo. This label is found under the Main level.

[View Dir] allows you to view the current directory in your current Workspace. This label is found under the Document level.

[View-Pad] allows you to view any workpad in your current Workspace. To view a workpad that is under a sub-directory you type the name of the diretory followed by colon and the name of your workpad. For example, you can type THISIS:MYPAD. This label is found under the Document level.

[Word Cap] allows you to activate the Word capitalization mode. When active, it capitalizes each word as it is entered into your current list. This label is found under the EditList level.

[WordSrch] allows you to activate the Word Search mode. When active, active search patterns are found even if they are part of a larger word. When inactive, active search patterns are found in the form they were specified. WordSrch is found under the Search level.