

DataPerfect[®]

for IBM Personal Computers
and PC Networks

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DataPerfect Reference Manual

Authorized International Affiliates	v
Authorized International Distributors	vii

Introduction	Welcome to DataPerfect	3
	The Template	6
	Getting Help	8
	Manual and Keystroke Conventions	10

Installation	Package Contents	15
	Installing DataPerfect	16
	Installing DataPerfect Under Shell	30
	Startup Options	32
	Starting and Exiting DataPerfect	33

Reference	Reference Table of Contents	39
	Introduction	43
	Database Fundamentals	47
	Panels	65
	Fields	85
	Formulas and Functions	125
	Field Lists and Indexes	169
	Links	191
	Records	221
	Data Entry Keystrokes and Features	231
	Reports	253
	Export and Import Data	339
	Screen	355
	Search	363
	Shell	379
	System Operations	387

Appendix	Backup	409
	Convert	410
	Description Language	413
	Error Messages	442
	Using DataPerfect on a Network	450
	Program Capacity	451
	Program Files	453
	Runtime Package	456

Glossary/Index	459
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Welcome to DataPerfect

DataPerfect is a database definition and management program that can be used by both new and experienced database users to organize, store, and sort information.

DataPerfect is a menu-driven program that does not require a programming language. From the menus, you can design a database on your screen that will fit your exact needs.

Using DataPerfect, you can link related data from different files. The program supports one-to-one, one-to-many, many-to-one, and many-to-many relationships.

One of the strongest features of DataPerfect is the Reports feature. Using a number of different options, you can easily customize the reports you need. Additionally, you can use the Reports feature to modify database records (create, edit, delete), mark database records for printing or deleting, or search and replace data in records.

DataPerfect is fully compatible with WordPerfect, WordPerfect Library, and WordPerfect Office. For example, you can use the Reports feature to create merge files for use with WordPerfect. You can also send data from your database to the Shell Clipboard in WordPerfect Library and WordPerfect Office.

DataPerfect Documentation

The DataPerfect documentation consists of the *DataPerfect Reference Manual* and the softcover *DataPerfect Workbook*. The workbook is primarily a series of lessons that demonstrates specific procedures for defining and/or using a database in DataPerfect. This, the *DataPerfect Reference Manual*, is designed to be used primarily as a reference tool. The following list describes each tabbed section in this manual.

Introduction

Contains a description of the DataPerfect program and the manuals which accompany it. Provides instructions for using the template, getting help, and using important keys. Also contains information about manual conventions. Reading *Introduction* is essential for properly understanding this manual.

Installation

Steps you through the installation procedure for hard disk drive and two disk drive computers, as well as for several other computer system configurations. Gives instructions for installing DataPerfect under WordPerfect Library or Office Shell and gives

startup options for DataPerfect. Also provides instructions for starting and exiting DataPerfect.

Reference

Contains specific information, arranged conceptually, about DataPerfect features and how they are used. Use the index or the Table of Contents at the beginning of *Reference* in this manual to quickly locate the page number of a particular reference heading.

Appendix

Contains miscellaneous information about the DataPerfect program, including Backup and Convert procedures, network information, program capacity, and program files. Also contains information about the Description Language and the Dataperfect Runtime Package.

Glossary/Index

Contains a list of frequently-used database terms and their definitions, and a comprehensive, cross-referenced index with corresponding page numbers of all topics in the manual.

README Files

The README.TXT file is included on the DataPerfect Learning diskette (or the DataPerfect Program/Learning diskette). Be sure to read this file. It contains additional important information not in this manual (corrections to the manual, program changes, etc.). You may want to print this file for future reference. For instructions about printing README.TXT, see *DataPerfect Diskettes* under *Installing DataPerfect* in *Installation*.

Where to Start

Your approach to the DataPerfect documentation depends on what you want to do and how much you already know.

If you are a new DataPerfect user, begin with *Introduction* and *Installation* in this manual. Then move on to the *DataPerfect Workbook* to become familiar with specific applications of DataPerfect. After you have completed the lessons in the workbook, use the *Reference* section in this manual to find more in-depth information about specific DataPerfect features.

If you are an experienced DataPerfect user, begin with *Introduction* in this manual. If necessary, follow the steps outlined in *Installation*. Use *Reference* in this manual and the lessons in the *DataPerfect Workbook* to learn about features and procedures with which you are unfamiliar.

**Customer
Feedback**

WordPerfect Corporation is constantly trying to improve its software and documentation. Please send your suggestions concerning either the software or documentation to:

WordPerfect Corporation
Product Enhancements
1555 N. Technology Way
Orem, UT 84057

Please include the product name, software version number and date, manual version and printing date (see back of title page), and the name of the computer or system on which you are running DataPerfect software.

The Template

The keyboard template is the DataPerfect menu of options. In your template package, you have received two templates: one for the standard IBM keyboard (function keys to the left) and one for the enhanced IBM keyboard (function keys at the top). Place the correct template on your keyboard as shown in the photographs below.



If neither template fits your keyboard, return both templates along with the name (and a photocopy or rough sketch) of the keyboard you are using, to:

WordPerfect Corporation
Templates
1555 N. Technology Way
Orem, UT 84057

WordPerfect Corporation may be able to create a template or provide a template that fits your keyboard.

Colors

The templates and Quick Reference card are color coded. Listed below are the colors associated with various functions and the keystrokes used to access those functions.

Black

Press only the required key.

Blue

Hold down Alt and press the required key.

Green

Hold down Shift and press the required key.

Red

Hold down Ctrl and press the required key.

Keycals

Keycals are plastic decals which have been included in your package. They can be placed on the Alt, Shift, and Ctrl keys to remind you which key corresponds to which template color. To use the keycals, peel them from the backing paper, and place them on the appropriate function keys (see *Colors* above).

Function Keys

DataPerfect uses various keys on your keyboard to perform its many functions (see your DataPerfect Quick Reference card). These function keys work in several ways. For example, some function keys display a menu of options when they are pressed (e.g., Import, Remove, ♦Search), and some function keys perform the function immediately after they are pressed (e.g., Exit, Lookup, Save).

**Cursor
Movement**

The cursor movement section on the DataPerfect template lists keystrokes not associated with a function key. These keystrokes outline helpful ways of moving the cursor and editing text. For more information, see *Cursor Movement* under *Data Entry Keystrokes and Features in Reference*.

Getting Help

Should problems arise as you work with DataPerfect, help is available from several sources.

Help Key

Pressing Help (F3) displays on-screen information about a specific DataPerfect feature. Pressing Help twice displays the DataPerfect template. Pressing Help three times displays a list of DataPerfect features (similar to the Quick Reference).

Quick Reference

The Quick Reference is a card which lists the DataPerfect features and the keystrokes used to access those features. While the Quick Reference does not provide detailed information about DataPerfect features, it is helpful when you have forgotten or do not know the location or keystroke of a particular feature.

Reference Section

The *Reference* section in the *DataPerfect Reference Manual* is a collection of DataPerfect features, arranged in logical order. Under each heading in *Reference* is a detailed description of how each feature functions. For quick access to an individual heading, turn to the *Table of Contents* at the beginning of *Reference*. A comprehensive index at the back of the manual also directs you to the information you need.

Customer Support

DataPerfect is backed by a customer support system designed to offer you fast, courteous service. If you need assistance beyond what the Help files, Quick Reference, *DataPerfect Reference Manual*, *DataPerfect Workbook*, and your dealer can provide, follow these steps:

- Try to duplicate the problem, keystroke by keystroke, to see exactly what was done.
- Be at the computer when you call Customer Support.

If you are in the United States, Puerto Rico, or the U.S. Virgin Islands, toll-free support for DataPerfect is available by dialing:

(800) 321-3249

If you are in an area where the phone system does not handle toll-free numbers, you can access Customer Support by dialing:

(801) 225-5700

Important: *You will be charged by the phone company for the call if you use the 801 number.*

The Customer Support department takes calls from 7 a.m. to 6 p.m. Mountain time, Monday through Friday.

Customer Support representatives are prepared to answer questions about the installation and functions of DataPerfect; however, they are unable to offer help in designing specific applications.

If you purchased this product within the U.S. and would like to update it outside the U.S., and thereby receive free customer support and update notices locally, you will be charged a maximum of \$150 (U.S.) or 25% of the local list price, whichever is greater.

Third-Party Manuals

A number of third-party manuals are available, including *The Theory and Practice of DataPerfect*. You can order this book by calling (800) 222-9409.

Manual and Keystroke Conventions

This section explains various procedures you should use when following instructions provided in the *DataPerfect Reference Manual*.

Words with Specific Meanings

The following words have specific meanings in this manual:

Move

Use the cursor keys to position the cursor at the desired location.

Enter

Type the bolded characters, then press Enter.

Press

Press Enter, Insert, Delete, etc., or particular function key(s).

Select

Type the number which corresponds to the name of a particular option on a menu.

Type

Type the bolded characters exactly as they are shown, but do not press Enter.

Key Name

In this guide, the name of a function key often appears bolded. It may also be followed by its key name in parentheses.

Example:

Press **Lookup** (F8).

If a key name occurs by itself, press the key. If key names are separated by a hyphen (e.g., Ctrl-F7), hold down the first key while you press the second key.

After selecting a feature, a menu of options may be displayed on your screen. In the manual, numbers for menu options are often provided in parentheses next to the option name. Option names are capitalized, but not bolded.

Example:

Select Display Search Conditions (4).

Important Keys

Backspace (←)

Backspace erases characters to the left of the cursor.

Cancel (F1)

Use Cancel to leave any menu or to cancel the execution of a function (e.g., ♦Search, ♦Search, Import, Report, etc.). You can also press Cancel to restore the previously displayed record when you are performing a lookup.

Delete (Del)

Delete erases characters at the cursor.

End

End is used to move the cursor to the end of data in a reverse-video bar (when editing field format, panel name, etc.).

Enter (↵)

Enter moves the cursor forward from one field to the next. However, in a text field, pressing Enter inserts a carriage return. Enter is also used to enter a database, panel, or report menu.

Escape (Esc)

In Browse mode, Escape may be used in place of Shift-Tab to move the cursor to the previous field.

Exit (F7)

Press Exit to return to the source panel from a destination panel. Continue pressing Exit to return to the panel list. Press Exit again to exit a database and return to the list of databases. This key can also be used to exit any menu.

Help (F3)

Help is used to display a help message for a specific field. Press Help once to receive help for the current field. Press Help a second time to see the template on the screen. Pressing Help twice also gives the release date for your version of DataPerfect and the Customer Support telephone numbers. Press Help three times to see a list of features and function keys. Press Enter to exit Help.

Tab/Shift-Tab

These keys move the cursor forward/backward through the fields in a panel.

**Discontinuation
of Doors and
Doorways**

If you used DataPerfect prior to version 2.1, you may be familiar with the terms *door* and *doorway*. These terms were used when referring to links between panels. DataPerfect 2.1 uses the term *panel link* instead of door (■), and *data link* instead of doorway (◆). The terms *door* and *doorway* have been discontinued.

**Top Line
Display Keys**

DataPerfect uses the top line of the screen to display a message if any of the following keys have been pressed.

Key	Message	Meaning
Insert	Typeover	Types over existing text rather than inserting text.
Caps Lock	Caps	All letters entered appear in uppercase.
Num Lock	Num	Allows only numbers to be entered from the ten-key number pad.
Scroll Lock	Scroll	During a report, one screen of text will be displayed at a time. Press any key to show the next screen.

Press the same key again to return to the original mode.

The Caps Lock, Num Lock, and Scroll Lock messages are displayed *only* if Top Line Display is on (see *Top Line Display* under *Screen* in *Reference*).

Italics

If you see an italicized word when the manual asks you to enter a command, you are being asked to respond to a context-sensitive prompt. For example, if you see the prompt *database name*, you should respond by typing the name of a database. Do not type the italicized word.

Package Contents

The DataPerfect package contains the following materials:

- *DataPerfect Reference Manual*
- *DataPerfect Workbook*
- Quick Reference card
- Template package
- DataPerfect Program diskette (5 1/4")
- DataPerfect Learning diskette (5 1/4")
- DataPerfect Program/Learning diskette (3 1/2")
- Registration card
- Miscellaneous enclosures

You will need to supply two 5 1/4" (or one 3 1/2") blank diskettes to make copies of the DataPerfect diskettes.

Before you send in the registration card, copy the license number from the card onto your diskettes in case the number is requested by Customer Support.

Installing DataPerfect

This section includes general installation information and specific information for installing DataPerfect on both hard disk drive systems, two disk drive systems, and other system configurations. Before continuing, be sure you know which kind of system you have.

DataPerfect Diskettes

Contents of each diskette in the DataPerfect package are listed below.

Program Diskette (5 1/4")

The DataPerfect Program diskette contains the program files which are needed to run DataPerfect. Also found on the Program diskette are DPIMP.COM, DPEXP.COM, DPPRINT.COM, and the files which contain the printer drivers for the DataPerfect Printer Program. For more information about these files, see *Program Files* in the *Appendix*.

Learning Diskette (5 1/4")

The DataPerfect Learning diskette contains all of the files needed to complete the lessons in the *DataPerfect Workbook*. For more information about database files and data files, see *Program Files* in the *Appendix*.

README File

The README.TXT file is also included on the DataPerfect Learning diskette. This file should be read or printed because it contains additional important information not in this manual (corrections to the manual, program changes, etc.). README.TXT can be read with any text editor or by using the Type command available in DOS. You may want to print this file for future reference.

To print the database documentation contained in README.TXT,

- 1** Be sure your computer and printer are on, with the DOS prompt on your screen.
- 2** Insert the DataPerfect Learning diskette into drive A.
- 3** Type **copy a:readme.txt prn** and press **Enter**.

The file will then be printed out at your printer.

Program/Learning Diskette (3 1/2")

The DataPerfect Program/Learning diskette contains all of the data referred to under *Program Diskette*, *Learning Diskette*, and *README File* above.

Installation Instructions

If you have a hard disk, follow the directions under *Hard Disk Drive System* in each section of these instructions. If you have a two disk drive system (no hard disk), follow the directions under *Two Disk Drive System*. If you have another type of computer system (network, one disk drive, etc.), follow the directions under *Other System Configurations*. Be sure to read the instructions carefully because different characters mean different things to your computer. For example, your computer treats a forward slash (/) differently than a backslash (\) in most situations. Also, if there is a space between words or characters in an instruction, be sure to type a space.

In the following instructions, the 3 1/2" diskette name is listed in parentheses.

Format a Blank Diskette

Regardless of the type of computer system you have, you must first format blank diskettes. Formatting a diskette prepares the diskette so that files can be copied onto it from another diskette or from a hard disk. You must format any newly purchased blank diskette before you can use it.

You need to format two 5 1/4" (or one 3 1/2") blank diskettes. These will be used to copy the data from the original DataPerfect diskettes (see *Install DataPerfect* below). Label the 5 1/4" blank diskettes *DataPerfect Program* and *DataPerfect Learning* (or label the 3 1/2" diskette *DataPerfect Program/Learning*). Once the data is copied, store the original diskettes in a safe place.

Hard Disk Drive System

To format the blank diskette you labeled *DataPerfect Program* (or *DataPerfect Program/Learning*),

- 1** Turn on the computer. Be sure the DOS prompt is on your screen (e.g., C:\).

If the DOS prompt does not appear on the screen, refer to your DOS documentation for instructions.

If your hard disk requires a Startup diskette, you need to insert that diskette into drive A before starting the computer. You may need a Startup diskette if only authorized personnel can use your computer. If you are not sure whether you need a Startup diskette, consult your dealer or your DOS documentation.

If you do not know which drive is drive A, refer to your DOS or computer system documentation.

If prompted, type the date and press Enter, then type the time and press Enter. If you are using a Startup diskette, remove it from the drive now.

- 2** Insert the blank diskette you labeled DataPerfect Program (or DataPerfect Program/Learning) into drive A.
- 3** At the DOS prompt, type **format a:** to format the diskette.
- 4** Press **Enter** twice.

When the diskette is formatted, a "Formatting Complete" message appears on the screen along with a "Format another (Y/N)?" prompt.

If you receive the message "Bad command or filename," you need to change to an appropriate directory (one that contains the command/file FORMAT.COM), then repeat steps 1 through 4.

- 5** Remove the diskette from drive A.

If you are using a 3 1/2" diskette, type **n** at the "Format another (Y/N)?" prompt, then press **Enter**. Proceed with the instructions under *Copy DataPerfect to Formatted Diskettes*.

- 6** Type **y** at the "Format another (Y/N)?" prompt, then press **Enter**.

Now you are ready to format the diskette you labeled DataPerfect Learning.

- 7** Insert the blank diskette you labeled DataPerfect Learning into drive A.
- 8** Press **Enter**.
- 9** After the "Formatting Complete" message appears, type **n** at the prompt, then press **Enter**.
- 10** Remove the diskette from drive A.

Two Disk Drive System

Be sure you have a DOS diskette (version 2.1 or later) or a Startup diskette. These diskettes are included in the DOS package which came with your computer.

To format the blank diskette you labeled DataPerfect Program (or DataPerfect Program/Learning),

- 1** Insert the DOS diskette or the Startup diskette into drive A.

If you are uncertain whether to use the DOS diskette or the Startup diskette, insert the Startup diskette.

If you do not know which drive is drive A, refer to your DOS or computer system documentation.

2 Turn on your computer. Be sure the DOS prompt is on the screen (e.g., A>).

If the DOS prompt does not appear on the screen, refer to your DOS documentation for instructions.

If prompted, type the date and press Enter, then type the time and press Enter.

If your Startup diskette does not include DOS, you need to insert the DOS diskette in drive A now.

3 Insert the blank diskette you labeled DataPerfect Program (or DataPerfect Program/Learning) into drive B.

4 At the DOS prompt, type **format b:** to format the diskette.

5 Press **Enter** twice.

When the diskette is formatted, a "Formatting Complete" message appears on the screen along with a "Format another (Y/N)?" prompt.

If you are using a 3 1/2" diskette, type **n** and press **Enter**. Proceed with the instructions under *Copy DataPerfect to Formatted Diskettes*.

6 Type **y** and press **Enter**.

7 Remove the newly formatted DataPerfect Program diskette from drive B.

To format the blank diskette you labeled DataPerfect Learning,

8 Insert the blank diskette you labeled DataPerfect Learning into drive B.

9 Press **Enter**.

10 After the "Formatting Complete" message appears, type **n** at the prompt and press **Enter**.

11 Remove the newly formatted DataPerfect Learning diskette from drive B.

Copy DataPerfect to Formatted Diskettes

It is important that you make copies of your original DataPerfect diskettes, and then store the original diskettes in a safe place and use only the copies. The original diskettes should be used only to copy DataPerfect to blank diskettes. Be sure you use formatted blank diskettes. If you have not yet formatted your blank diskettes, see *Format a Blank Diskette* above.

To copy the original DataPerfect diskettes to formatted blank diskettes,

- 1 If necessary, insert the Startup diskette into drive A.
- 2 Turn on the computer. Be sure the DOS prompt is on the screen.

If the DOS prompt is not on your screen, refer to your DOS documentation for instructions.

If prompted, type the date and press Enter, then type the time and press Enter.

- 3 If you used a Startup diskette, remove it from drive A.
- 4 Insert the original DataPerfect Program (or DataPerfect Program/Learning) diskette into drive A.
- 5 Insert the formatted blank diskette you labeled DataPerfect Program (or DataPerfect Program/Learning) into drive B.
- 6 Type **copy a:*. * b:** and press **Enter**.

An asterisk represents a wildcard (i.e., *copy a:*. * b:* instructs the computer to copy all files from the diskette in drive A to the diskette in drive B, preserving the same filenames).

- 7 If you are using 5 1/4" diskettes, follow steps 4 through 6 again, this time using the original DataPerfect Learning diskette in drive A (instead of the DataPerfect Program diskette), and using the formatted blank diskette you labeled DataPerfect Learning in drive B.

Store the original DataPerfect diskettes in a safe place and use only the copies you have made.

Install DataPerfect

Before you install DataPerfect, be sure you have followed the instructions under *Format a Blank Diskette* and *Copy DataPerfect to Formatted Diskettes* above.

Hard Disk Drive System

To install DataPerfect on your hard disk, use the formatted blank diskettes which contain copies of DataPerfect (not the original diskettes). You can copy DataPerfect to any new or existing directory on your hard disk. If you want to start DataPerfect without having to specify a directory, the directory containing the program files should be in your path (a path is a series of directory names, separated by semicolons, that are commonly found in your AUTOEXEC.BAT file. See *Modify the AUTOEXEC.BAT File* below).

The examples in this manual assume that the program files and files from the Learning diskette are stored in the C:\DATA directory (C: is the name of the hard drive).

To create a directory entitled C:\DATA on your hard disk and copy the DataPerfect files into it,

- 1 If necessary, insert the Startup diskette into drive A.
- 2 Turn on the computer. Be sure the DOS prompt is on the screen.

If prompted, type the date and press Enter, then type the time and press Enter.

- 3 If you used a Startup diskette, remove it from drive A.
- 4 Type **c:** and press **Enter** to change to the C drive.
- 5 At the prompt (C:\), type **md\data** and press **Enter** to make a directory called DATA.
- 6 Type **cd\data** and press **Enter** to change to the newly created DATA directory.
- 7 Insert the diskette you labeled DataPerfect Program (or DataPerfect Program/Learning) into drive A.
- 8 Type **copy a:*.*** and press **Enter** to copy all of the files on the DataPerfect Program diskette to the DATA directory on the hard disk. If you are using 3 1/2" diskettes, this command copies all of the files from the DataPerfect Program/Learning diskette to the DATA directory.

C:\DATA is the full pathname of the DataPerfect directory you have created. When you see "(n) files copied," copying is complete and you can continue.

- 9 Remove the diskette from drive A.

If you are using a 3 1/2" diskette, skip steps 10 through 12 and proceed with the instructions under *Set the CONFIG.SYS File*.

- 10 Insert the diskette you labeled DataPerfect Learning into drive A.
- 11 Type **copy a:*.*** and press **Enter** to copy all of the files on the DataPerfect Learning diskette to the DATA directory on the hard disk.
- 12 Remove the diskette from drive A.

Two Disk Drive System

If you followed the directions under *Copy DataPerfect to Formatted Diskettes*, you have completed the installation procedure for a two disk drive system.

Set the CONFIG.SYS File

The CONFIG.SYS file is a file which lets you change your system default settings. DOS searches for this file in your root directory each time you start your computer. Your computer does not require this file, so you may not even have one at this point.

However, in order to run DataPerfect properly, you must have a CONFIG.SYS file that contains the following commands:

```
FILES=40  
BUFFERS=6
```

The FILES= command represents the maximum number of files that DOS allows to be open at the same time. The BUFFERS= command represents the number of buffers DOS allocates in memory.

In the following instructions, you first will check to see if your computer has a CONFIG.SYS file that has the correct commands. You then will go through the process of creating or modifying your CONFIG.SYS file. Additional information about the CONFIG.SYS file can be found in your DOS documentation.

Hard Disk Drive System

If you have a hard disk, these instructions assume that the hard disk is formatted and the necessary DOS files have been copied to the disk. If this is not the case, you can find information on these procedures in your DOS documentation.

***Important:** Do not reformat your hard disk if it has already been formatted. Doing so will cause you to lose all of the information on the hard disk.*

To set the CONFIG.SYS file,

- 1 If necessary, insert the Startup diskette into drive A.

- 2 Turn on the computer. Be sure the DOS prompt is on the screen.

If prompted, type the date and press Enter, then type the time and press Enter again.

- 3 At the DOS prompt, type **cd** and press **Enter** to change to the root directory.

If you get an error message, be sure you typed a backslash (\).

*If your hard disk requires a Startup diskette, type **a:** and press Enter instead (the Startup diskette should still be in drive A).*

- 4 Type **type config.sys** and press **Enter**.

If "File Not Found" appears, or if a listing appears that does not include a number equal to or greater than 40 next to the FILES= command (e.g., FILES=40) and a number equal to or greater than 6 next to the BUFFERS= command (e.g., BUFFERS=6), then proceed to step 5. If a listing appears that does include a number equal to or greater than 40 next to the FILES= command, and a number equal to or greater than 6 next to the BUFFERS= command, then your CONFIG.SYS file is set to run DataPerfect. You can skip to *Modify the AUTOEXEC.BAT File* below. If more than one FILES= or BUFFERS= command exists in the CONFIG.SYS file, the one nearest the end of the file is used.

- 5 Type **copy config.sys+con config.sys** and press **Enter** to append to the existing CONFIG.SYS file, or to create a new one.

Be sure that spaces appear in the proper places.

If the file already exists, the words CONFIG.SYS and CON should appear on the screen. If the file does not already exist, only the word CON should appear on the screen.

- 6 Type **files=40** and press **Enter** to add the command.

- 7 Type **buffers=6** and press **Enter** to add the command.

- 8 Press **F6** to include the code which ends the CONFIG.SYS file (^Z).

- 9 Press **Enter**.

Proceed to the section below entitled *Modify the AUTOEXEC.BAT File*.

Two Disk Drive System

If you have a two disk drive system, you will use your DOS diskette or Startup diskette to set the CONFIG.SYS file.

To set the CONFIG.SYS file,

- 1 Insert the DOS diskette or the Startup diskette (whichever you usually use) into drive A.
- 2 Turn on the computer. Be sure the DOS A> prompt is on the screen.
- 3 At the DOS prompt, type **a:** and press **Enter** to change to the root directory.
- 4 Type **type config.sys** and press **Enter**.

If "File Not Found" appears, or if a listing appears that does not include a number equal to or greater than 40 next to the FILES= command (e.g., FILES=40) and a number equal to or greater than 6 next to the BUFFERS= command (e.g., BUFFERS=6), then proceed to step 5. If a listing appears that does include a number equal to or greater than 40 next to the FILES= command and a number equal to or greater than 6 next to the BUFFERS= command, then your CONFIG.SYS file is set to run DataPerfect. You can skip to *Modify the AUTOEXEC.BAT File* below. If more than one FILES= or BUFFERS= command exists in the CONFIG.SYS file, the one nearest the end of the file is used.

- 5 Type **copy config.sys+con config.sys** and press **Enter** to append to an existing CONFIG.SYS file, or to create a new one.

Be sure that spaces appear in the proper places.

If the file already exists, the words CONFIG.SYS and CON should appear on the screen. If the file does not already exist, only the word CON should appear on the screen.

- 6 Type **files=40** and press **Enter** to add the command.
- 7 Type **buffers=6** and press **Enter** to add the command.
- 8 Press **F6** to include the code which ends the CONFIG.SYS file (^Z).
- 9 Press **Enter**.
- 10 Remove the diskette from the drive.

Proceed to the section below entitled *Modify the AUTOEXEC.BAT File*.

**Modify the
AUTOEXEC.BAT
File**

It is not necessary to modify the AUTOEXEC.BAT file. However, you can create a path while in the AUTOEXEC.BAT file (a path is a series of directory names, separated by semicolons). A sample path command may look like this:

```
PATH=C:\;C:\DOS;C:\DATA;C:\WP50
```

You may also want to add the *verify on* command to the AUTOEXEC.BAT file to verify that the data is saved successfully each time it is written to the disk. If the data is not saved successfully, the screen displays an error message.

Verify on may slow down the execution of DataPerfect functions.

If you don't want to change your path or add *verify on* to the AUTOEXEC.BAT file, you need to turn off your computer at this point, then turn it on again, for the new or edited CONFIG.SYS to take effect.

Hard Disk Drive System

If you are not using WordPerfect Library/Office Shell, follow the steps below to include a path or to add *verify on* to the AUTOEXEC.BAT file.

- 1 Be sure your computer is on and the DOS prompt is on the screen.
- 2 Type **cd** at the DOS prompt and press **Enter** to change to the root directory.
- 3 Type **copy autoexec.bat+con autoexec.bat** and press **Enter** to append to the existing AUTOEXEC.BAT file.
- 4 Type **path=** and the directory names you want in your path. Be sure each path statement is separated by a semicolon (see the example above).

and/or

Type **verify on** to add the command to the AUTOEXEC.BAT file.

- 5 Press **F6** to include the code which ends the AUTOEXEC.BAT file (^Z).
- 6 Press **Enter**.
- 7 Turn off the computer, then turn it on again.

You must turn off the computer, then turn it on again for the edited AUTOEXEC.BAT to take effect.

If you are using WordPerfect Library/Office Shell, follow the steps below to include a path or to add *verify on* to the AUTOEXEC.BAT file.

- 1 Be sure the computer is on and the DOS prompt is on your screen.
- 2 Type **cd** at the DOS prompt and press **Enter** to change to the root directory.

You must use a text editor (e.g. WordPerfect Program Editor) to modify the AUTOEXEC.BAT file.

- 3 Access the text editor. Be sure the screen is blank.
- 4 Retrieve the AUTOEXEC.BAT file into the text editor.
- 5 Be sure the cursor is positioned on the top line of the file.
- 6 If a path is not already included in your file, type **path=** and the directory names you want in your path. Be sure each path statement is separated by a semicolon (see the example above).

and/or

Type **verify on** to add the command to the AUTOEXEC.BAT file.

- 7 Press **Enter** to give each command a separate line in the file.
- 8 Press **Exit** (F7) to save the document.
- 9 When prompted, type **y** and press **Enter** to confirm the replacement of the old AUTOEXEC.BAT file.

The cursor returns to the Shell menu.

You must turn off the computer then turn it on again for the edited AUTOEXEC.BAT to take effect.

Two Disk Drive System

To change your path or to add *verify on* to the AUTOEXEC.BAT file,

- 1 Be sure your computer is on and the DOS A> prompt is on the screen.
- 2 Type **copy autoexec.bat+con autoexec.bat** and press **Enter** to append to the existing AUTOEXEC.BAT file.

- 3 Type **path=** and the directory names you want in your path. Be sure each path statement is separated by a semicolon (see the example above).

and/or

Type **verify on** and press **Enter** to add the command.

- 4 Press **F6** to include the code which ends the AUTOEXEC.BAT file (^Z).
- 5 Press **Enter**.
- 6 Remove the diskette from the drive.
- 7 Turn off the computer, then turn it on again.

You must turn off your computer, then turn it on again for the edited AUTOEXEC.BAT file to take effect.

Other System Configurations

If you do not have a hard disk drive system or a two disk drive system, this section may provide instructions for installing DataPerfect on your particular system.

If you do not find installation instructions for your computer's configuration in this section, call WordPerfect Corporation's toll-free Customer Support number for assistance (see *Getting Help* in *Introduction*).

Network

DataPerfect is designed to run on a network. No special network version of DataPerfect is needed. DataPerfect requires DOS 3.0 or higher in order to run on a network. As long as the sharing and locking commands of DOS 3.0 are supported on the network, there are no other special requirements to run DataPerfect.

The DataPerfect program files (DP.COM, DP.SYS, and DP.OVL) should be flagged as shareable (more than one user can use the file at the same time). They also should be flagged as read-only (users can access the file, but cannot alter it). If you need information on how to flag files, consult your network supervisor or your network manual.

In addition, each database should be stored in a different subdirectory. The network supervisor should use network commands to limit access to each database.

During network operation, DataPerfect allows up to 99 users to access a database at one time (if each database is in a different subdirectory). Several users can browse, edit, and create records simultaneously.

One Disk Drive System

It is possible to use DataPerfect with a one disk drive system if the DataPerfect program files, database files, and data files are all on the same diskette. However, this does not leave much space for data.

To install DataPerfect on a one disk drive system, follow the two disk drive system instructions for formatting blank diskettes, setting the CONFIG.SYS file, and modifying the AUTOEXEC.BAT file. Follow the instructions below to copy DataPerfect to a blank formatted diskette. Your computer will prompt you when you need to switch diskettes in the drive.

Important: *Be sure to follow your computer's prompts very carefully so that you do not delete data from the original DataPerfect diskette(s) by mistake.*

Copy DataPerfect to Formatted Diskette

It is important that you make a copy of your original DataPerfect diskettes, and then store the original diskettes in a safe place and use only the copy. The original diskettes should be used only to copy DataPerfect to a blank diskette. Be sure you use a formatted blank diskette that you have labeled *DataPerfect*.

You should not copy all of the data on the DataPerfect Program diskette to your diskette, since you would have little remaining disk space. You should copy only the files beginning with dp (dp.*) from the original DataPerfect Program diskette. You should copy all of the files from the original DataPerfect Learning diskette (client*.*) . These are the files you will use to do the lessons in the *DataPerfect Workbook*.

To copy the appropriate DataPerfect files to a formatted diskette,

- 1 Insert the DOS diskette or the Startup diskette (whichever you usually use) into the drive.
- 2 Turn on the computer. Be sure the DOS prompt is on the screen.

If the DOS prompt does not appear on the screen, refer to your DOS documentation for instructions.

If prompted, type the date and press Enter, then type the time and press Enter.

- 3 Remove the DOS diskette or Startup diskette from the drive.

- 4 Insert the original DataPerfect Program (or DataPerfect Program/Learning) diskette into the drive.
- 5 At the DOS prompt, type **copy a:dp.* b:** and press **Enter**.
- 6 When you are prompted, remove the original diskette from the drive and insert the blank formatted diskette you labeled DataPerfect. Then press **Enter**.
- 7 When the computer has finished copying to the diskette you labeled DataPerfect, remove the diskette from the drive.
- 8 Insert the original DataPerfect Learning (or DataPerfect Program/Learning) diskette into the drive.
- 9 At the DOS prompt, type **copy a:client*.* b:** and press **Enter**.
- 10 When you are prompted, remove the original diskette from the drive and insert the diskette you labeled DataPerfect. Then press **Enter**.
- 11 When the computer has finished copying to the diskette you labeled DataPerfect, remove the diskette from the drive.

The essential DataPerfect files now are copied onto the diskette you labeled DataPerfect. Store the original diskette(s) in a safe place and use only the copy you have made.

Once you complete the lessons in the *DataPerfect Workbook*, you may want to delete all of the lesson files from your diskette (at the DOS prompt, type **del client*.***) to increase available diskette space.

RAM Drive

A RAM drive is a Random Access Memory drive which lets you store data temporarily. For information about creating a RAM drive, refer to your DOS documentation.

If you use a RAM drive, you should store the DP.COM file on the hard disk. You may copy the DP.OVL and DP.SYS files, as well as the database files and/or data files to the RAM drive. If you copy the database and/or data files into the RAM drive, be sure you copy them back to the hard disk or diskette(s) when you are finished.

***Important:** Once you have turned off your computer, there is no way to retrieve the information stored in a RAM drive.*

Installing DataPerfect Under Shell

Shell is a program included in the WordPerfect Library and WordPerfect Office programs. Shell is not included with DataPerfect. However, DataPerfect supports Shell and the Shell Clipboard. To run DataPerfect under the Shell, you must have a Shell version 1.1 or later.

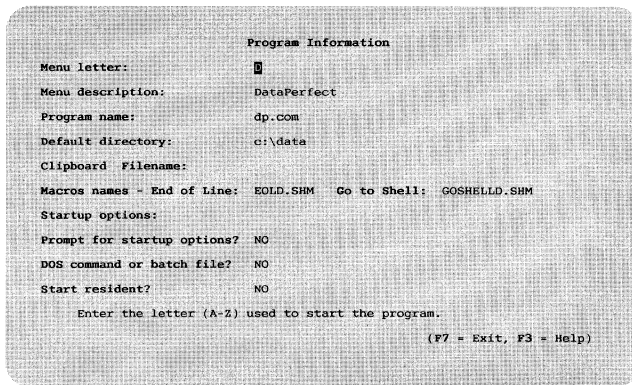
If you have Shell, you will probably want to add an option for the DataPerfect program so you can start it easily.

The following example showing how to add DataPerfect to Shell assumes that the DataPerfect files are in the C:\DATA directory.

Once you have started Shell,

- 1 Select Setup (4) from the main menu.
- 2 Use the arrow keys to select a letter for DataPerfect.
- 3 Select Edit Program Information (1).

You can use Enter or the arrow keys to move through the options.



- 4 Enter the menu letter you want to assign to DataPerfect.
- 5 Move to the menu description, then enter a description for DataPerfect (e.g., DataPerfect in DATA directory).
- 6 Move to the program name, then enter **c:\data\dp.com** as the name of the program.
- 7 Move to the default directory line, then enter the name of the default directory (e.g., C:\DATA).

If you have WordPerfect Library version 2.0 or later, move to step 8 below.

If you have a version of WordPerfect Library prior to version 2.0, you need to press Down Arrow (↓) to move to the "WordPerfect Corp. Program?" question, then type y. Move to step 8 below.

8 Press **Exit** (F7) twice to save the setup changes.

When you want to enter DataPerfect from the Shell menu, simply type the appropriate letter.

Startup Options

DataPerfect has two startup options: */R* and *WPC=/D-directory*.

To use the */R* startup option, enter the following at the DOS prompt: *dp/r*. This loads DataPerfect overlay files (DP.OVL) into RAM (see *Program Files* in the *Appendix*), which increases the speed of DataPerfect executions.

If you are running the WordPerfect Office Shell, 176 Kilobytes (K) are loaded if */R* is used, and 112K are loaded if */R* is not used.

If you are not running the WordPerfect Office Shell, all available memory is consumed if */R* is used, and 112K are loaded if */R* is not used.

Use the *WPC=/D-directory* startup option to redirect DataPerfect temporary files to a specified directory. This option is used with the DOS *Set* command (see your DOS manual for more information about *Set*). To use this option, enter the following at the DOS prompt: *set wpc=/d-directory* (where *directory* represents the name of the directory to which you want to redirect the temporary files). Then enter *dp* at the DOS prompt to start DataPerfect. To use this option each time you turn on your computer, add the (*set wpc=/d-directory*) to your AUTOEXEC.BAT file.

Starting and Exiting DataPerfect

Once you have completed the instructions in *Installation*, and you have a template on your keyboard, you are ready to begin using DataPerfect.

Starting DataPerfect

When starting DataPerfect, follow the directions for your system configuration.

Hard Disk Drive System

To start DataPerfect on a hard disk drive system,

- 1 If you usually use a Startup diskette, insert the diskette into drive A.
- 2 Turn on your computer and be sure the DOS prompt is on the screen.

If the DOS prompt does not appear on the screen, refer to your DOS documentation for instructions.

- 3 At the DOS prompt, type `cd\` and the name of the subdirectory that contains your database files (e.g., `cd\data`).

If you followed the directions under *Install DataPerfect in Installation*, you should enter DATA as the name of the directory.

- 4 Press **Enter**.
- 5 Enter **dp** to start DataPerfect.

To enter *dp* from a subdirectory that does not contain the DataPerfect program files, you need to include the subdirectory in the path or include a full pathname (e.g., `C:\DATA\NDP`) when executing the program.

Two Disk Drive System

To start DataPerfect on a two disk drive system,

- 1 Insert the DOS diskette or the Startup diskette (whichever you usually use) into drive A.
- 2 Turn on your computer and be sure the DOS prompt is on the screen.

If the DOS prompt does not appear on the screen, refer to your DOS documentation for instructions.

- 3 Remove the DOS diskette or the Startup diskette from drive A.

- 4 If you are going to work on the the lessons in the *DataPerfect Workbook*, insert the diskette you labeled DataPerfect Program (or DataPerfect Program/Learning) into drive A, and insert the diskette you labeled DataPerfect Learning into drive B. If you are using the DataPerfect Program/Learning diskette, you do not need to insert a diskette in drive B.

or

If you are going to work in a database that is on a diskette other than the Learning diskette, insert the DataPerfect Program (or DataPerfect Program/Learning) diskette into drive A, and insert the diskette which contains the desired database into drive B.

- 5 Enter **b:** to change the default drive to drive B.

The B> prompt appears.

- 6 Enter **a:dp** to start DataPerfect from drive A and to use the database files from drive B.

One Disk Drive System

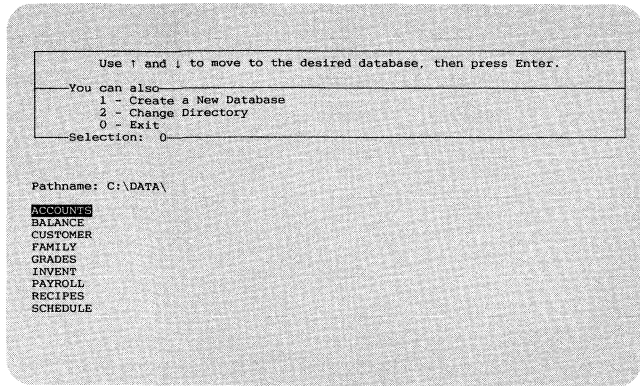
To start DataPerfect on a one disk drive system,

- 1 Insert the DOS diskette or the Startup diskette (whichever you usually use) into the drive.
- 2 Turn on your computer and be sure the DOS prompt is on the screen.

If the DOS prompt does not appear on the screen, refer to your DOS documentation for instructions.

- 3 Remove the DOS diskette or the Startup diskette from the drive.
- 4 Insert the diskette you labeled DataPerfect into the drive.
- 5 Type **dp** and then press **Enter** to begin the program.

Enter a Database When you start DataPerfect, the database list for the default or specified drive or directory is displayed.



Three options appear in the instruction box:

Create a New Database

Use this option to create a new database.

Change Directory

Use this option to change directories (or drives) if you want to access a database which is located in a different directory or drive than the one displayed on the screen.

Exit

Use this option to exit the database list.

To access a database listed on the screen,

1 Use the arrow keys to move the cursor to the desired database.

The databases are listed in alphabetical order.

2 Press **Enter** to enter the database.

**Exiting
DataPerfect**

Press Exit (F7) to exit DataPerfect. Depending on where your cursor is in the program, you may have to press Exit more than once.

Reference Table of Contents

Introduction	43
<hr/>		
Database Fundamentals	Database Concepts	47
	Designing a Database	52
	Defining a Database	57
	Copying a Database	58
	Selecting a Database	60
	Deleting a Database	60
<hr/>		
Panels	Introduction	65
	Designing a Panel	66
	Defining a Panel	67
	Panel Text	70
	Editing a Panel	71
	Panel Modes	72
	Panel Options	74
	Edit Filename	74
	Change Color	75
	Auto-Save	76
	Auto-Display Record	77
	Change Edit Order	77
	Edit Panel Name	79
	Recompute Field Offset	79
	Auto-Edit/Auto-Create/Menu	80
	Selecting a Panel	81
	Deleting a Panel	82
<hr/>		
Fields	Introduction	85
	Defining a Field	86
	Field Formats	88
	Editing a Field Format	100
	Field Options	101
	Lookup Field List	102
	Initial Formula	102
	Initial Value	103
	Initialize at Create/Save/Any Change	103
	Range Check	105
	Validation Time (Edit/Save)	105
	Define Search Field List	106
	Keep a Total	106

Remove a Total	107
Set Value for Next Created Record	107
Display Mode Indicators in a Field Format	111
Print Mode Indicators in a Field Format	114
Defining a Help Screen Using Edit Help	118
Using Reveal to Display Information About Fields/Panels . .	120
Deleting a Field	121

Formulas and Functions

Introduction	125
Using Formulas	126
Functions Used in Formulas	157

Field Lists and Indexes

Introduction	169
Defining a Field List	170
Understanding Indexes	172
Index Options	176
Create Index	176
Edit Index Field List	177
Create/Edit Exception List	177
Delete Index	179
Lookup Field Lists	180
Search Field Lists	186

Links

Introduction	191
Links	192
Data Links	199
Panel Links	207

Records

Introduction	221
Creating a Record	222
Editing a Record	225
Deleting One or More Records	227

Data Entry Keystrokes and Features

Introduction	231
Block	232
Bold	233
Cancel	235
Copy	236
Cursor Movement	236
Delete	240
Down Panel	241
Enter	241
Escape	242

Exit	242
Help	242
Lookup	245
Move	247
Save	248
Select	248
Tab	249
Underline	249

Reports	Introduction	253
	Common Uses of Reports	254
	DataPerfect Printer Program	255
	Built-In Short Reports	260
	Custom Reports	269
	Report Form	275
	Report Options	278
	Report Variables	287
	Report Attributes	294
	Parallel Text Fields in a Report	295
	Subreports	298
	Two-Level Reports	309
	Printing a Single Record	312
	Exporting and Importing Reports	313
	Sample Reports	314
	Deleting a Report	335

Export and Import Data	Introduction	339
	Exporting Data from a Database to a Disk File	340
	Importing Data into a Database	345

Screen	Introduction	355
	Auto-Help	356
	Select Colors for Menus and Report Editing	357
	Map Alt and Ctrl Keys	358
	Top Line Display	359
	Display Date as MDY or DMY	360
	Mapping the Printer to Include International Characters	361

Search	Introduction	365
	Performing a Search	366
	Record Selection in a Search	367
	Specify Range	368
	Specify Template	369
	Specify Formula	370

Display Conditions	372
Reset Conditions	373
Match Any/All Records	374
Do Trial Search on Panel	375

Shell	Introduction	379
	Using the Shell Options Menu	380
	Put Field/Record/Panel into Clipboard	382
	Get Field/Record from Clipboard	383
	Defining Macros	384

System Operations	Introduction	387
	Using Index Recovery to Regenerate an Index	388
	Format Defaults	389
	Modifying a Character's Sort Order in an Index	391
	Mapping Uppercase Letters	393
	Defining Passwords	394
	Starting Transaction Log	399
	Stopping Transaction Log	403
	Importing Transaction Log	404
	Definer Banner	405

Introduction

The tabbed *Reference* section of the *DataPerfect Reference Manual* is organized in conceptual order. The most essential information is presented first and is found under general headings entitled Database Fundamentals, Panels, Fields, Formulas and Functions, Field Lists and Indexes, Links, Records, Data Entry Keystrokes and Features, and Reports.

The later sections of *Reference* (Export and Import Data, Screen, Search, Shell, and System Operations) contain information that will help you polish and enhance a database once it is created.

Each of the general headings mentioned above is designated by a green vertical line at the extreme right of the page. The material under the majority of these headings is organized conceptually with the most essential information appearing first.

For quick access, information under Data Entry Keystrokes and Features is listed in alphabetical order. The Screen, Search, and System Operations sections are organized according to topical order on the main menu.



Database Concepts

A *database* is a collection of data. Databases come in many forms. Common databases include mailing lists, encyclopedias, and card files. These examples may not seem to have much in common, but they all share one common feature—they contain information that can be stored and retrieved.

A card file containing customer addresses and telephone numbers is an example of a database. Usually, the cards are sorted alphabetically and are separated by tabs so you can find basic information (e.g., a customer's address) quickly. If the cards were simply scattered in a shoebox, this process would take much longer.

In the card file, the alphabetized tabs act as an *index* that can direct you to the needed information. However, finding related information (e.g., all the customers on file who live in Colorado) is much more difficult because the cards are not cross-referenced. Updating the card file is also difficult because it must be performed manually, and the file space often is limited.

A file cabinet is a more organized database. Information can be grouped into labeled drawers, with each drawer divided into sections by tabbed folders. Each folder can then be sorted alphabetically. This type of organization (or indexing) lets you classify information into groups and subgroups, and then locate specific information easily. You can also cross-reference information by filing copies of the same material in different tabbed folders.

A file cabinet may take more time to maintain, but accessing information is much faster than a card file system. Unfortunately, outdated information stored in additional file cabinets may take up a great deal of space.

Using a Computer Database

A computer database applies many of the principles of organization discussed above. With its many indexing capabilities, a computer database can locate a particular piece of information much more quickly than a person using a card file or file cabinet.

Also, information stored on a computer disk takes up much less space than the same amount of information stored in a file cabinet. Information can be retrieved more easily, and a printed report can be generated when needed. Considering all available methods, a

computer database provides the easiest and fastest way to store and retrieve large amounts of information.

Information stored in a DataPerfect database is organized into manageable units called fields, records, and files. An explanation of each of these terms is given below.

Field

A *field* is the smallest unit of information in DataPerfect. For example, a customer's first, middle, and last names could be three separate fields in a record. One or more fields make a record. A record may contain as many as 80 fields.

▲ FIELD

▲ FIELD

▲ FIELD

The screenshot shows a terminal window with a menu at the top: "BROWSING RECORD", "Exit-F7", "Create-F9", "Edit-F6", "Lookup-F", and "Help-F3". Below the menu is a header "CUSTOMER.PER-30" and "CUSTOMER INFORMATION". The record data is as follows:

Customer ID	00001	First Name	Jane	Middle M.	
Last Name	Gurnett	City	Pueblo	ST	CO
Address	378 Garden Park Drive	Zip	81002-0000	Hm Phone	(719)555-9000
Comments		WK Phone	(719)555-8370	Last Inv Date	
		Balance Due			\$0.00

At the bottom of the record, there are two options: "Payments" and "Invoices", each followed by a double asterisk symbol (⌘).

Record

A *record* is a group of fields that contain related information. For example, records that contain customer information may contain fields for the customer's name, address, phone number(s), and balance due. One or more records make a file.

All of the fields in the illustration below make a record.

BROWSING RECORD						Exit-F7	Create-F9	Edit-F6	Lookup-F1	Help-F3
CUSTOMER.PER-30						CUSTOMER INFORMATION				
Customer ID	00001	First Name	Jane	Middle M.						
Last Name	Surnett									
Address	378 Garden Park Drive	City	Pueblo	ST	CO	Zip	81002-0000			
		Home Phone	(719)555-9000	Work Phone	(719)555-8370					
Comments						Last Inv Date				
						Balance Due				\$0.00
						Payments	⌘	Invoices	⌘	

File

A *file* is the largest unit of data in a database. A file stores the records that contain similar information. For example, a database for a small business may include the following files:

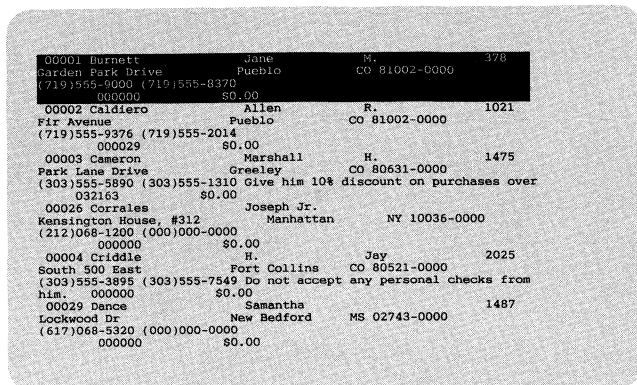
- CUSTOMER.PER (Customer Information)
- CUSTOMER.INV (Invoices)
- CUSTOMER.PUR (Items Purchased)
- CUSTOMER.ITM (Items in Stock)
- CUSTOMER.PAY (Payments)

Panel

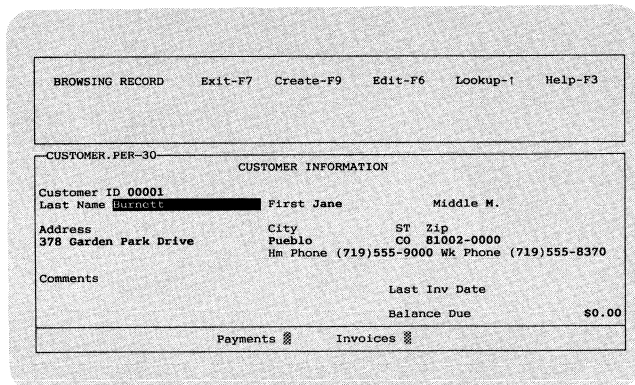
In DataPerfect, the records in a file are displayed through a *panel*, a viewing area on the screen which makes the file more readable. Each file in each database has its own panel. Panels define where the fields in each record appear on the screen. Records are viewed one at a time in the panel.

For example, if the customer information for a small business is simply jotted down on blank slips of paper, it is not as readable as if the the information were recorded on some kind of form. The illustration below shows data in a file that is displayed with no

form. One record is highlighted. Notice that the information is difficult to read.



Below is a panel which contains the highlighted record from the file in the above illustration. Notice that the information is easier to read than in the example above.



You can create as many as 80 panels in a database, each representing a different type of record. Depending on the size of the panel, more than one panel may be displayed on the screen at the same time, if the panels are linked together.

Link

DataPerfect uses the terms *data link* and *panel link* to describe the links that form relationships between panels. Data links and panel links both allow you to move to other panels without having to

exit the current panel. However, they differ in their ability to check data values in other files and their ability to display related records from other files.

Data Link

A data link can be used to check for certain data values in another panel. For example, if you enter data in a field that contains a data link, DataPerfect can check to see if identical data exists in the linked panel and can allow only data that is common between panels to be entered. This is referred to as data checking.

Panel Link

A panel link cannot be used to check for certain data values in another panel. However, a panel link does let you access related records from a linked panel. A panel link can also use a window to let you view related records without moving the cursor to the linked panel.

Index

An *index* in a database is similar to an index in a book. A book's index is a sorted list of key words that refer you to a specific page to find more information on a particular subject.

In DataPerfect, an index is a sorted list, comprised of selected fields, that is used to locate records. You can define several indexes in your database so that records can be cross-referenced in many ways.

Designing a Database

Before you can define a database in DataPerfect, you must first design it. For example, if you build a house, you first decide how big you want the house to be and how many rooms you want it to have. After that, you draw the plans which show where each room will be, the size of each room, and how each room will be furnished. Once these planning steps are completed, then the physical work of building the house can begin.

Designing a database is similar to building a house. Before you can begin, you need to know what you want the database to do for you, and what data you want it to contain. Then you draw the plans which show where you want certain data, and how the database will operate when you are finished. Once these planning steps are completed, then the physical work of building (defining) the database can begin.

The amount of time you spend creating the database on the computer can be significantly reduced by spending extra time designing it first on paper.

Use the ten general steps listed below when creating database applications. The steps use a small retail business to illustrate the process.

STEP 1

Decide What Your Database Needs To Accomplish

First, outline what your present system does, and what the new system must be capable of doing. For example, if you have a file drawer which contains the names and addresses of your customers, you might periodically mail letters to them to advertise certain products. What if you need to send letters to only those customers who have purchased one specific item within the last six months? The current record keeping system would not allow you to perform such a mailing, so you would want to design the new database to do this.

To decide what your database needs to accomplish, it is helpful to understand the difference between a flat file database and a relational database. A flat file does not have a relationship to any other panel in a database. It stands alone and contains no links to other panels. A simple mailing list is an example of a flat file.

A relational database allows for four types of relationships between panels. You can construct all of these relationships using DataPerfect. These four relationships are named and defined below.

One-to-One

A one-to-one relationship is established when one record in a panel is related to only one record in a linked panel.

One-to-Many

A one-to-many relationship is established when one record in a panel is related to many records in a linked panel.

Many-to-One

A many-to-one relationship is established when many records in one panel are related to only one record in a linked panel.

Many-to-Many

A many-to-many relationship is established using three panels. These panels form a one-to-many relationship and a many-to-one relationship using an intermediary panel.

Decide what types of relationships your database will use before you move on to step 2. For more information about relationships between panels see *Links in Reference*.

STEP 2

Decide What Data Is Needed To Perform These Functions

In addition to the customer's name and address, you would also need invoice information detailing the purchases of each customer. You should list each separate piece of data that will be needed (they will each become the fields in the database). For a small business, you might list such things as customer number, first name, last name, address, city, state, ZIP code, phone number, invoice numbers, invoice dates, items purchased, and purchase amounts.

STEP 3

Examine the List of Fields and Divide It into Groups

Next, divide the list of fields into distinct categories. For example, customer number, first name, last name, address, city, state, ZIP code, and phone number are all related to each other and should be grouped together. Elements such as invoice numbers, invoice dates, items purchased, and purchase amounts are related to each other and should be grouped together. This process of dividing the data into groups is called *normalization*. Properly normalized fields are what give databases their tremendous flexibility. In this case, since all of the customer information is contained in one file, it may be sorted by the Customer Number field, Last Name field, State field, etc. Because all of the invoice information is contained in one file, it can be sorted by the Invoice Number field, Invoice Date field, Items Purchased field, etc.

At this point, sketch the database on paper to help visualize the files. Because you designed two files, you need to sketch two panels (a Customer Information panel and an Invoices panel) containing the fields in their associated groups.

STEP 4

Decide Which Fields Will Be Common Between Panels and Used for Linking

The next step is to decide how these two panels will relate to each other. DataPerfect must have some way to know which invoices are for which customer. This is done by using a field which is common to both panels. The best candidate in the small business example is the Customer Number field. The Customer Number field would be located in the Customer Information panel, and would also be located in the Invoices panel to link invoices to their customers.

Listed below are the contents of the two panels:

CUSTOMER INFORMATION PANEL

Customer Number, First Name, Last Name, Address, City, State, ZIP Code, Phone Number

INVOICES PANEL

Customer Number, Invoice Number, Invoice Date, Items Purchased, Total Amount

When these panels are linked together, the Customer Number field will be the field which creates the relationship between customers and their invoices. The linking fields must be common fields between two panels. These fields should contain data that a user will not ordinarily change. For example, a Social Security Number field would work well for a common field between panels because it would not ordinarily change in either panel. A field containing a total would not work well because each time the total changes, all fields that were previously linked to this field would be lost.

STEP 5

Build a Panel for Each "Group" of Fields

The next step is to build (define) the panels using DataPerfect (see *Defining a Database* under *Database Fundamentals* in *Reference*). Each panel will contain a "group" of fields. The panels should be designed to look like the sketch you drew in step 3.

STEP 6

Build Indexes and Lookup Lists for Each Panel

Each panel must contain at least one index. An index sorts the records found in the database. For example, if you need to search for records by customers' last names, you should build an index which sorts by the Last Name field (the Last Name field is the

first field selected in the index). If you need to search for records by State, you should build an index that sorts by state (the State field is the first field selected in the index).

DataPerfect imposes no limit on the number of indexes a database has. However, EACH INDEX MUST BE UNIQUE. Consider the following case. You have an index with only one field—the Last Name field. If you tried to enter the names of two separate customers with the same last name, DataPerfect would give you an error message telling you that the second record is not unique. If the only field in the index is the Last Name field, then that field is the only field DataPerfect checks to locate records, and so the two records appear to be duplicates.

This can be fixed easily. You can either modify the index so it includes other fields (e.g., the First Name field and the Address field), or you can include some field which will always be unique, such as the Customer Number field. Using either of these options, DataPerfect will consider each record unique, and will be able to index it.

Next, define a lookup list for each field. Lookup lists determine which *fields* are displayed at the top of the screen when you perform a lookup (see *Lookup Field Lists* under *Field Lists and Indexes* in *Reference*).

STEP 7**Link Panels with Panel Links or Data Links**

The panels should next be linked through the use of panel links or data links. During this linking process, DataPerfect asks you to define the index and the link field list (the common field(s) between the two panels—in this case, the Customer Number field) that will be used. The index and the link field list are different, but work together to form the link. The rule is that THE LINK FIELD LIST MUST FIRST CONTAIN THE FIELDS THAT ARE COMMON BETWEEN THE TWO LINKED PANELS (see *Links* in *Reference*).

STEP 8**Enter Sample Data**

The next step is to enter sample data, and then move around in the new database to see if all of the links are set up and functioning properly.

STEP 9**Build Reports and Run Tests**

Now that you have tested the database with sample data, you can define reports and test them (see *Reports* in *Reference*). You should check your reports very carefully to make sure they are

defined correctly. This is especially important when reports deal with financial figures or with a large number of report variables.

STEP 10

Delete the Sample Data and Begin Using the Database Application

With the completion of step 9, you are ready to delete the sample data and begin using the database application for its intended purpose.

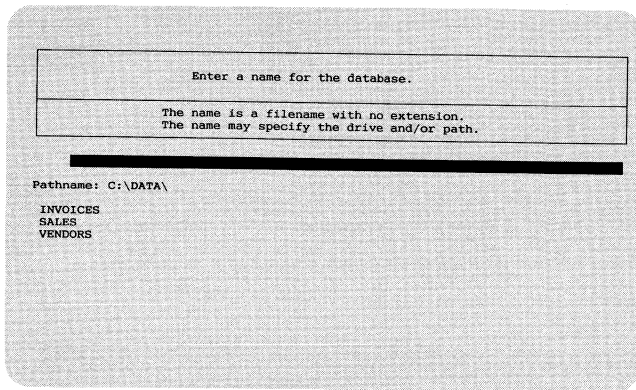
DataPerfect is a tool which allows you to solve many information management problems. It makes *defining* (or building) your database easy; however, the work of *designing* the database is up to you. Time taken in the design stage is time well spent.

Defining a Database

To define a database,

- 1 Be sure the database list is on your screen (this is the first screen you see after you start DataPerfect).
- 2 Select Create a New Database (1) from the menu in the instruction box.

A new screen appears, prompting you to enter a name for the database.



- 3 Enter the desired database name (up to eight characters). You cannot use a three-letter extension in this name.

After entering the database name, DataPerfect creates three files that are used by this particular database. These filenames begin with the name you assigned to the database, and they end with .STR, .TXX, and .IND. For example, if you named your database *Customer*, the three files generated would be CUSTOMER.STR, CUSTOMER.TXX, and CUSTOMER.IND. For more information about these generated files, see *Program Files* in the *Appendix*.

The Define Panel menu appears on the screen after you enter the database name. You now are ready to define the first panel of your database (see *Panels* in *Reference*).

Copying a Database

You can copy an existing database structure to another database. When you perform the following steps, only the structure of the database is copied, not the actual data in the panels.

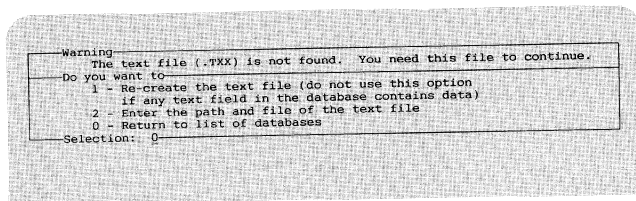
To copy a database structure,

- 1 Place your cursor at the DOS prompt. You should not be in DataPerfect.
- 2 Change to the drive or directory containing your database files (e.g., C:\DATA).
- 3 Type **copy filename1.str filename2.str** and press **Enter**.

Filename1 represents the name of the database from which you are copying. *Filename2* represents the name of the database to which you are copying. *Filename1* and *Filename2* must be different filenames.

- 4 Start DataPerfect (see *Starting and Exiting DataPerfect in Installation*).
- 5 From the database list, move the cursor to the name of the database you just copied (*Filename2*), then press **Enter**.

A message is displayed telling you that the .TXX file is not found.



- 6 Select Re-create the Text File (1).

A message is displayed telling you that no .IND file exists for the database.

```
Note
The index file (*.IND) for this database is not found.
You cannot use the database without this file.
Do you want to-----
1 - Create a new index file with new indexes for all data files
2 - Enter the path and filename of the index file
0 - Return to list of databases
Selection: 0
```

7 Select Create a New Index File With New Indexes for All Data Files (1).

A message is displayed telling you that there is no index for this panel.

```
Warning
There is no index for this panel, but a file exists which contains data.
Press 0 to Exit to DOS and Move or Rename files, or-----
1 - Change the Filename (for example, CLASS.DAT to B:CLASS.DAT)
2 - Re-create the indexes for this file.
3 - Re-create the indexes for all files.
4 - Export data without using index.
Selection: 0
```

Now give each panel in the database a new panel name.

Important: *If you do not rename each panel, DataPerfect uses the data files from the old .STR file, and the new database will not work properly.*

8 Select Change the Filename (1), and give the file a name other than the current one.

The cursor returns to the panel.

9 Press Exit (F7) to return to the panel list, then move the cursor to the next panel in the list.

10 Repeat steps 8 and 9 for each panel in the panel list until all panel filenames have been changed.

You now have created a new database with a structure that is identical to the previously created one (*Filename1*). You can modify the new database to fit your needs.

Selecting a Database

To select a database,

- 1 Be sure the database list is on the screen (this is the first screen you see after you start DataPerfect).

The database list contains all of the databases found in the drive or directory (listed alphabetically).

- 2 Use the arrow keys to highlight the desired database, then press **Enter** to enter the database.

If the database you want to use does not appear on the database list,

- 1 Select Change Default Directory (2) from the menu in the instruction box.
- 2 Enter the name of the directory or drive which contains the desired database.

A list of databases contained in that directory is displayed.

- 3 Use the arrow keys to highlight the desired database, then press **Enter** to enter the database.

Deleting a Database

To delete a database,

- 1 Press **Exit** (F7) until you exit DataPerfect and the DOS prompt is on your screen.
- 2 If you are not in the directory where the database is located, change to the correct directory (enter **cd\directory name** at the DOS prompt).
- 3 Enter **del filename.*** (*filename* is the name of the database you want to delete).

If the files in the database have the same name as the database (except for different three-letter extensions), they will also be deleted. If they have different filenames, they must be deleted separately.

Introduction

A panel is the viewing area (i.e., box, window, form) on your monitor where records are individually displayed.

▲ PANEL

The screenshot shows a terminal window with a menu bar at the top: BROWSING RECORD, Exit-F7, Create-F9, Edit-F6, Lookup-F1, Help-F3. Below the menu bar is a title bar: CUSTOMER.PER-30. The main content area is titled CUSTOMER INFORMATION and contains the following data:

Customer ID	00001				
Last Name	Burnett	First	Jane	Middle	M.
Address	378 Garden Park Drive	City	Pueblo	ST	CO 81002-0000
Comments		Hm Phone	(719)555-9000	Wk Phone	(719)555-8370
		Last Inv Date		Balance Due	\$0.00
		Payments	⊗	Invoices	⊗

After defining the database, you need to define each panel for the database. Decide how large the panel should be, what information you want to display, and how the information will look when it is displayed. This section provides information about the options available when defining a panel.

Designing a Panel

Before you can define a panel, you must first design it. Begin by deciding what fields to include in the panel, what type of format each field should have, and what size each field should be (see *Fields in Reference*).

You can eliminate many problems by designing each panel on paper before you define (create) it using DataPerfect (see *Database Fundamentals in Reference*).

Defining a Panel

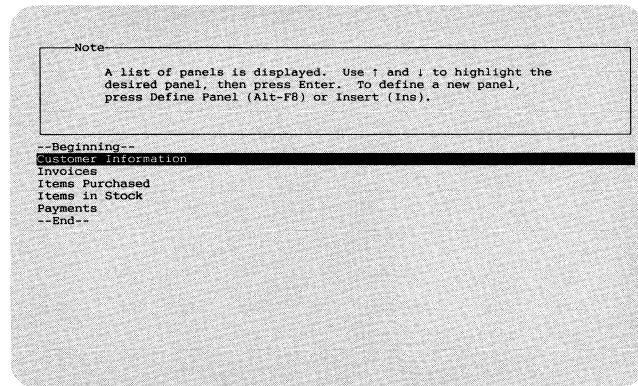
Once you have finished designing a panel on paper, you are ready to define it with DataPerfect.

When you define a panel, you are telling DataPerfect how and where you want the data in a file to appear on the screen.

If you are adding a panel to a previously defined database, follow steps 1 through 5 below.

If you are defining a new database, you are first asked to enter a database name, then you are prompted to enter a panel filename. Begin with the paragraph following step 2 below, then proceed with the instructions through the end of this section. A panel structure can be blocked and copied to a new panel in the same database (see *Block* and *Copy* under *Data Entry Keystrokes and Features in Reference*).

- 1 Be sure your cursor is in the panel list. A sample panel list is shown below.



```
--Note--
A list of panels is displayed. Use ↑ and ↓ to highlight the
desired panel, then press Enter. To define a new panel,
press Define Panel (Alt-F8) or Insert (Ins).

--Beginning--
System Information
Invoices
Items Purchased
Items in Stock
Payments
--End--
```

- 2 Press **Define Panel** (Alt-F8) or **Insert**.

You are prompted to enter a filename. The data from this panel will be stored under this filename at DOS.

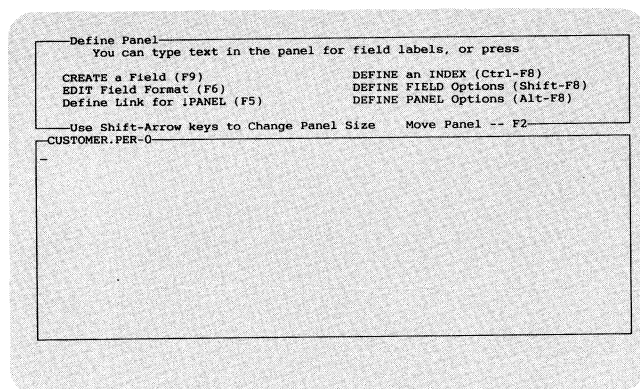
To maintain consistency between the filenames in a database, it is wise to give each data file the same name as the database, but with a unique three-character extension. By making each filename the same, it is easy to back up your database or to transfer the entire database.

For example, a database called *Customer* contains five panels. The files in the panel may be given the following names:

CUSTOMER.PER	(Customer Data)
CUSTOMER.INV	(Invoices)
CUSTOMER.ITM	(Items in Stock)
CUSTOMER.PUR	(Items Purchased)
CUSTOMER.PAY	(Payments)

3 Enter the filename for the panel.

You are placed in Define Panel mode with a blank panel displayed.



The top third of the screen is a box which contains instructions to help you define the panel. The panel occupies the bottom two-thirds of the screen. Your cursor is positioned in the upper left corner of the panel. The panel filename you entered is displayed on the top line of the panel, followed by the number of records in this panel. Because you are creating a new panel, the number of records is zero.

At this point, you can begin to define the panel according to your design by typing the panel text and creating the fields you need.

The panel can be as many as 15 lines long and 78 characters wide (no scrolling is available in a panel). It may contain a maximum of 80 fields. If you need more than 80 fields, you must create a link to another panel (see *Links in Reference*).

4 Add any panel text you want to include in the panel, then define the desired fields (see *Panel Text* under *Panels* and *Defining a Field* under *Fields in Reference*).

When you add a field, a reverse video bar which represents the size of the field is inserted wherever the cursor was positioned. Any other text or fields to the right of the inserted field are moved further to the right. If the field format and panel text are too long to fit on the line, an error message appears. You may need to shorten either the panel text or the field format(s), or you may need to enlarge the panel.

You can separate sections of a panel with a horizontal line across the entire panel. To add a horizontal line, position the cursor at the left margin where you want to add the line. Then type a semicolon (;). When you exit the Define Panel menu, the horizontal line appears across the panel.

- 5** Define at least one index for the panel (see *Field Lists and Indexes* in *Reference*).
- 6** Press **Exit** (F7) to return to the panel list.

Important: *A panel is not complete until at least one field has been defined.*

Panel Text

Any text outside of the actual fields or links in a record is referred to as panel text. Panel text can indicate the contents of a field (e.g., Last Name field, Middle Name field, First Name field). Panel text can also be a title for certain information in the panel.

- A PANEL TEXT
- B PANEL TEXT
- C PANEL TEXT

The screenshot shows a software interface with a menu bar at the top containing: BROWSING RECORD, Exit-F7, Create-F9, Edit-F6, Lookup-F1, and Help-F3. Below the menu bar is a panel titled "CUSTOMER.PER-30" and "CUSTOMER INFORMATION". The panel contains the following text:

Customer ID 00001
Last Name Burnett First Jane Middle M.
Address 378 Garden Park Drive City Pueblo ST CO 81002-0000
Hm Phone (719)555-9000 Wk Phone (719)555-8370
Comments Last Inv Date
Balance Due \$0.00

At the bottom of the panel are two buttons: "Payments" and "Invoices".

Annotations A, B, and C point to the following text in the panel:

- A: Points to "Customer ID 00001"
- B: Points to "378 Garden Park Drive"
- C: Points to "Comments"

To add, edit, or delete panel text,

- 1 Be sure the cursor is in the desired panel.
- 2 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 3 Use Enter, the Space Bar, and the arrow keys to position the cursor where you want to add, edit, or delete panel text.
- 4 Type the desired panel text.

You can now define the field to which you have assigned panel text (see *Defining a Field* under *Fields* in *Reference*) or press Exit (F7) to exit Define Panel mode.

Editing a Panel

You can edit and move the panel text and fields in a panel as many times as needed (see *Block*, *Move*, and *Copy* under *Data Entry Keystrokes and Features in Reference*). The arrow keys, Delete, and Backspace can be used to edit text that has already been entered.

Move or Size a Panel

After you have positioned the panel text and fields in the panel, you can change the size of the panel to make the borders closer to the data, and you can move the panel within the allowable space. You may want to move or size a panel to improve the appearance of the panel on the screen and to have space for more than one panel on the screen at the same time.

The maximum allowable space for a panel (inside of the border) is 15 lines (lines 9 through 25 on the monitor) and 80 columns (columns 1 through 80 on the monitor). If you need an extra line for fields, the border on line 25 can be eliminated by pressing Shift-Down Arrow when the cursor is on line 25.

In Define Panel mode, F2 acts as a function key that toggles between "Move Panel" and "Change Panel Size." The instructions for changing modes are given at the lower right side of the instruction box.

To change the panel size or move the panel,

- 1 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 2 Press **Shift-arrow** (up, down, left, or right). Be sure to use the arrow keys on the numeric keypad. Numlock should be turned off.

The Shift-arrow keys may not work on some keyboards. If you encounter this problem, use the Alt key in combination with 1, 2, 3, and 4 (number keys at the top of the keyboard) to move left, right, up, or down respectively.

If the computer beeps while you are changing the panel size, the panel is unable to reduce or expand any further. Your panel may have blank lines or spaces which seem available, but the computer still beeps when you attempt to reduce the panel size. In this case, you need to delete any blank lines (carriage returns) or spaces before you can further reduce the panel size.

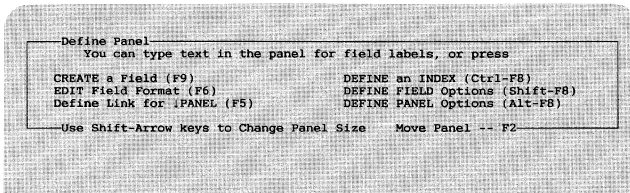
Panel Modes

The four modes available when your cursor is in a panel are Define Panel mode, Browse mode, Create mode, and Edit mode. You can be in only one of these modes at a time.

Define Panel Mode

When you initially define a database, or when you press Define Panel (Alt-F8) in Browse, Create, or Edit mode, you are placed in Define Panel mode. Define Panel mode lets you create or edit the structure of the database.

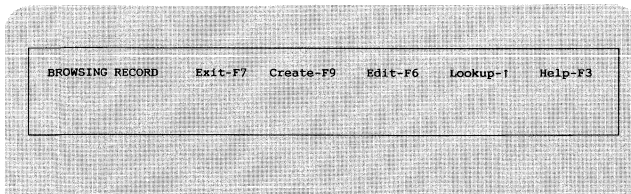
The following illustration shows the instruction box in Define Panel mode.



Browse Mode

When you first enter a panel in DataPerfect, unless you are defining the panel, you are placed in Browse mode. Browse mode lets you look through the records in a panel without making any changes to the records. If you attempt to edit records while in Browse mode, you are placed either in Edit mode or Create mode (see *Panel Options (Auto-Edit/Auto-Create/Menu)* under *Panels in Reference*).

The following illustration shows the instruction box in Browse mode.

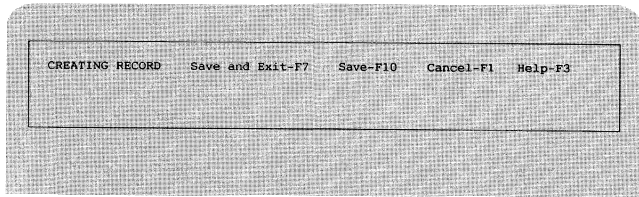


Create Mode

When you press Create (F9) in a panel, you are placed in Create mode. Create mode lets you create a new record in the panel.

See *Creating a Record* under *Records in Reference* for detailed information about creating a record.

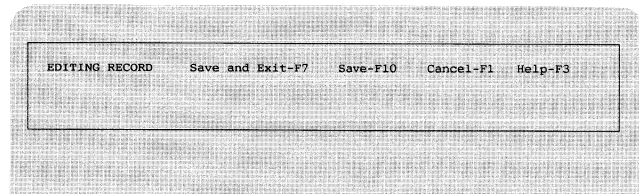
The following illustration shows the instruction box in Create mode.



Edit Mode

When you press Edit (F6) in a panel, you are placed in Edit mode. Edit mode lets you edit existing records in the panel. See *Editing a Record* under *Records in Reference* for detailed information about editing a record.

The following illustration shows the instruction box in Edit mode.



Panel Options

Once you have defined a panel, you can change the default settings for the panel. This can be done from the Panel Options menu.

To change a panel option,

- 1 Be sure your cursor is in the desired panel.
- 2 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 3 Press **Define Panel** (Alt-F8) again.

The Panel Options menu is displayed.

The screenshot shows two windows. The top window is titled "Panel Options" and contains a list of menu items:

1 - Edit Filename	5 - Change Edit Order
2 - Change Color	6 - Edit Panel Name
3 - Auto-Save (Y/N)	7 - Reformat data record
4 - Auto-Display Record (Y/N)	8 - Auto-Edit/Auto-Create/Menu

Below the list are the options: "Browse Change -> Auto-Edit" and "Display each record during Lookup." The "Selection:" field is set to 0.

The bottom window is titled "CUSTOMER INFORMATION" and contains the following fields:

CUSTOMER.PER-30

Customer ID [redacted] First [redacted] Middle [redacted]

Last Name [redacted]

Address [redacted] City [redacted] ST [redacted] Zip [redacted]

Hm Phone [redacted] Wk Phone [redacted]

Comments [redacted] Last Inv Date [redacted]

Balance Due [redacted]

7 Payments [redacted] Invoices [redacted]

- 4 Make the desired change(s).
- 5 Press **Exit** (F7) to exit the Panel Options menu.

Panel Options Menu

The name of each panel option and a description of its function is given below.

Edit Filename

This option lets you change the name of the data file assigned to the current panel.

If the data file contains data, you are not allowed to change the filename. If you need to change the name of a data file which contains data, you must exit DataPerfect and use the DOS Rename (ren) command. When you reenter DataPerfect and attempt to access the panel associated with the old filename, your screen displays a message. The message tells you that the index shows there are records in the file, but the file is not found. Select

Rename the File (1), then enter the new name you assigned to the file when you used the DOS Rename command.

To edit the filename,

- 1 Be sure the Panel Options menu is displayed on your screen.
- 2 Select Edit Filename (1).

The current filename is displayed, and the cursor is positioned at the beginning of the filename.

- 3 Use the arrow keys, **Delete**, and **Backspace** to edit the existing filename.
- 4 Type the new filename, then press **Enter**.

Once the user returns to Define Panel mode, the panel is redisplayed with the new filename at the upper left corner.

Change Color

If you have a color monitor, you can specify the color for the background and the foreground of the panel, the fields in that panel, and the field in which the cursor is positioned. Once you exit the Panel Options menu, the options you set are saved with the panel.

The colors you set are only saved for the current panel. To set all of the panels in a database to the same color formats, you must modify each panel separately.

To change colors in a panel,

- 1 Be sure the Panel Options menu is displayed on your screen.

- 2 Select Change Color (2) to access the Panel Color Selection menu.

Panel Color Selection

	A	B	C	D	E	F	G	H
1 - Panel color:								
2 - Field color:								
3 - Field editing color:								
Selection: 0								

CUSTOMER.PER-30

CUSTOMER INFORMATION

Customer ID	First	Middle
Last Name	City	ST Zip
Address	Hm Phone	Wk Phone
Comments		Last Inv Date
		Balance Due
	Payments	Invoices

Panel Color (1) determines the color of the panel (background) and the color of the border around the panel and of any panel text (foreground).

Field Color (2) determines the color of the fields in the panel.

Field Editing Color (3) determines the color of the field on which the cursor is positioned or the color of the field which is being edited.

- 3 Select the option number (1, 2, or 3) for the item you want to change.

- 4 Type the letter of the desired background color (A-H).

The selected background color is displayed behind the options for foreground colors to help you select a readable color.

- 5 Type the letter of the desired foreground color (A-P).

Remember that the background and foreground colors must be different in order for text to be legible. The currently selected settings for the database you are in are displayed on the screen to the right of the menu.

- 6 Press **Exit** (F7) to exit the Panel Color Selection menu.

If you want to change background or foreground colors after they have been set, repeat the steps above.

Auto-Save (Y/N)

This option toggles between Yes (Y) and No (N). The default setting is No (N). If Auto-Save is on, the record is saved

whenever data is entered in the last field in the record (after you have pressed Tab, Enter, or a Shift-arrow key to move off the field). If you want to create a new record after saving the current record, press Create (F9).

To turn on Auto-Save,

- 1 Be sure the Panel Options menu is on your screen.
- 2 Select Auto-Save (Y/N) (3).

This message appears below the menu to notify you that Auto-Save is on: "Save record when last field is entered."

To turn off Auto-Save, select Auto-Save (Y/N) again, and the message leaves the screen.

Auto-Display Record (Y/N)

This option toggles between Yes (Y) and No (N). The default setting is Yes (Y). If Auto-Display Record is on, each record is displayed in the panel as you scroll through a lookup list (see *Lookup* under *Data Entry Features and Keystrokes* in *Reference*). This message appears below the menu to notify you that Auto-Display Record is on: "Display each record during lookup."

You can turn off Auto-Display Record to improve response time. Sometimes a record has many fields, and scrolling through the lookup list is slowed by the continual updating of the panel. If this option is off when you perform a lookup, the original record remains in the panel while the cursor moves through the lookup list. When you locate the record you want, press Enter to retrieve it into the panel.

To turn off Auto-Display Record,

- 1 Be sure the Panel Options menu is on your screen.
- 2 Select Auto-Display Record (Y/N) (4).

The message "Display each record during lookup" leaves the screen.

Change Edit Order

This option lets you change the current edit order of the cursor in the panel.

The edit order is the order in which the cursor moves from field to field in a panel. While creating or editing records, DataPerfect accesses fields in the same order in which the fields were defined, unless you change the edit order.

To change the edit order,

- 1 Be sure the Panel Options menu is on your screen.
- 2 Select Edit Order (5).

Edit Order
The numbers to the left of each field below show the edit order for the fields in the panel. If you want to change this order, move to the field you want to reorder and enter the new number for that field. The edit order is adjusted automatically.
When finished, press Save or Exit.

CUSTOMER.PER-30 **CUSTOMER INFORMATION**

Customer ID 1	First 3	Middle 4	
Last Name 2			
Address 5	City 6	ST 7	Zip 8
	Hm Phone 9		Wk Phone 10
Comments 11		Last Inv Date 12	
		Balance Due 14	
	Payments 15	Invoices 16	

The current panel is displayed with a number on each field. The number indicates the field's edit order in the panel. The cursor is positioned on the first field in the edit order.

- 3 Use **Tab**, **Shift-Tab**, or the **Shift-arrow** keys (the arrow keys on the numeric keypad) to move the cursor to the field with the edit order you want to change.

- 4 Type the new edit order number, then press **Enter**.

All fields which follow the changed field are renumbered.

When the edit order of the panel meets your specifications,

- 5 Press **Exit** (F7) to return to the Panel Options menu.

Some fields in your panel may contain formulas that need to be calculated in a certain order. The edit order can be used to obtain the correct calculating order.

For example, your database contains a panel with the following fields: Purchase Amount, Sales Tax, and Total. Formulas exist which multiply the amount in the Purchase Amount field by the amount in the Sales Tax field to produce an amount for the Total field. The edit order should list the Purchase Amount field first, the Sales Tax field second, and the Total field last. Using this edit order, the cursor will move through the fields in a way that allows the formulas on the fields to work correctly. If the edit

order listed the Total field first, the formulas will not total correctly because the order of the fields is incorrect.

Edit Panel Name

This option lets you edit the name of the current panel.

The panel name is the name displayed on the panel list. By default, the panel name takes on the panel's filename (the name of the data file) at the time of creation.

To edit the name of a panel,

- 1** Be sure the Panel Options menu is on your screen.
- 2** Select Edit Panel Name (6).

If a panel name has been specified, it appears in the reverse video bar below the Panel Options menu. If a name other than the panel filename has not been specified, the reverse video bar is blank.

- 3** With the cursor in the reverse video bar, enter the desired name. As many as 77 characters may be entered.

Recompute Field Offset

This option repositions the data record in the structure (.STR) file. The data record is the order in which the structure file expects the fields in a panel to be stored. Selecting this option increases the efficiency of your database.

You may want to use this option if you have deleted a field from a panel. To delete a field from a panel, you must first export any data that exists in the panel, then use Multiple Remove (Alt-F5) to remove the original data from the panel (see *Export and Import Data* in *Reference*).

If you select Recompute Field Offset before performing an export (while data still exists in the panel), an error message appears to inform you that this option functions only when the panel contains no data.

To use Recompute Field Offset,

- 1** Be sure the Panel Options menu is on your screen.
- 2** Select Recompute Field Offset (7).

When the repositioning is complete, a message appears which shows you the old byte size of the record and the new byte size of the record.

Use Import (Ctrl-F5) to import all of the exported data back into the panel.

Auto-Edit/Auto-Create/Menu

This option toggles from Auto-Edit to Auto-Create to Menu. The default setting is Auto-Edit.

If you edit a field in Browse mode when Auto-Edit is on, and then press Tab to save the field, you are taken into Edit mode. You remain in Edit mode until you press Save (F10), Exit (F7), or Create (F9).

If you edit a field in Browse mode when Auto-Create is on, and then press Tab to save the field, you are taken into Create mode and a new record is created. The field you just edited becomes part of the new record.

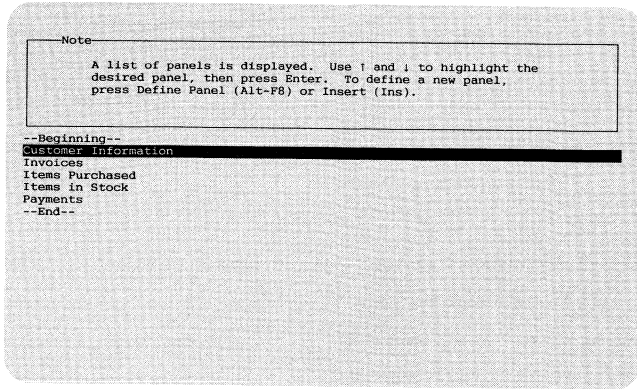
If you edit a field in Browse mode when Menu is on, and then press Tab to save the field, a menu appears from which you can select either Auto-Edit or Auto-Create.

To use Auto-Edit/Auto-Create/Menu,

- 1 Be sure the Panel Options menu is on your screen.
- 2 Select Auto-Edit/Auto-Create/Menu (8) until the desired option appears next to the "Browse Change =>" prompt in the lower part of the instruction box.
- 3 Press **Exit** (F7) to return to the Define Panel menu.

Selecting a Panel

Once you have selected a database from the database list, the panel list is displayed on the screen.



A panel list contains all of the panels found in the database you have selected.

To select a panel from the panel list,

- 1 Use the arrow keys to highlight the desired panel.
- 2 Press **Enter**.

When you are in a panel, you can press Exit (F7) to return to the panel list and select another panel. You can also use ↓Panel (F5) at a link to enter a linked panel (see *Links* in *Reference*).

Deleting a Panel

Once you delete a panel, it cannot be restored. Also, the data contained in that panel cannot be restored unless you have previously exported it (see *Exporting Data From a Database to a Disk File* under *Export and Import Data* in *Reference*).

To delete a panel,

- 1 Be sure the panel list is on the screen.
- 2 Place the cursor on the panel in the panel list you want to delete.
- 3 Press **Delete** (Del) to delete the panel.

or

Press **Remove** (Shift-F5).

After you press Delete or Remove, you are prompted to confirm the deletion.

- 4 Type **y** to confirm the deletion.

If you do not want to delete the panel, type **n** at the confirmation prompt, or press Enter.

After you have deleted the panel, you must go to the DOS prompt to delete the actual data file for the panel.

The remaining panels in the database are not renumbered when one panel is deleted. For example, if your database contains 4 panels, and you delete Panel 2, then Panel 3 and Panel 4 retain their numbers. If you add a fifth panel, it becomes Panel 2. If you add a sixth panel, it becomes Panel 5.

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Introduction

A field is the smallest unit of information in DataPerfect. Once you have defined panels for your database, you must add fields to the panels in order to display data.

- ▲ FIELD
- ▲ FIELD
- ▲ FIELD

The screenshot shows a menu bar at the top with options: BROWSING RECORD, Exit-F7, Create-F9, Edit-F6, Lookup-1, and Help-F3. Below the menu bar is a header for 'CUSTOMER INFORMATION' with a sub-header 'CUSTOMER.PER-30'. The main data area contains the following fields: Customer ID 00001 (marked with ▲ A), Last Name Burnett (marked with ▲ B), First Name Jane (marked with ▲ B), Middle M., Address 378 Garden Park Drive, City Pueblo, State CO, Zip 81002-0000, Hm Phone (719)555-9000, and Wk Phone (719)555-8370. At the bottom right, there is a field for Last Inv Date (marked with ▲ C) and a field for Balance Due with a value of \$0.00. At the very bottom, there are two fields: Payments and Invoices, both with a small icon next to them.

Fields can be formatted to accommodate alphanumeric characters, dates, numbers, and time.

In this section you will learn about the different field formats and the options available for each type of field format. You will also learn about field options.

Defining a Field

Defining a field requires you first to create the field and then to assign a field format to the field (see *Field Formats* under *Fields* in *Reference*).

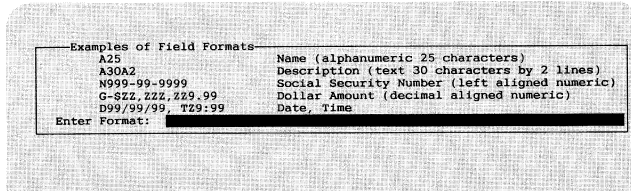
To define a field,

- 1 Be sure the cursor is in the desired panel.
- 2 Press **Define Panel** (Alt-F8) to access the Define Panel menu.

You cannot add or delete fields from a panel if the panel contains data. If the panel has already been defined and you want to define another field, the data must be exported from the panel, and then deleted from the panel (see *Exporting Data From a Database to a Disk File* under *Export and Import Data* and *Deleting One or More Records* under *Records* in *Reference*).

- 3 Use **Enter**, the **Space Bar**, and the arrow keys to position the cursor where you want to create a field (usually next to panel text you have included).
- 4 Press **Create** (F9) to create a field.

Some examples of field formats appear in the instruction box.



- 5 Enter the desired field format.

See *Field Formats* below for the available options and the proper syntax.

The field is inserted at the cursor position and continues to the right of the cursor's position as designated in the field format.

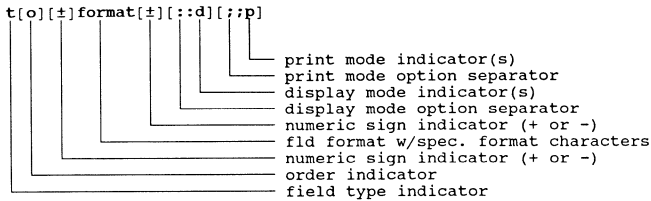
You can create up to 80 fields per panel. When you create a field it is given a "field number" which consists of the panel number plus the field number. A sample field number would be P1F3. This signifies that it is the third field in the first panel. It is the number that is displayed whenever this field is referenced (see *Using Formulas* under *Formulas and Functions* in *Reference*).

To assign special attributes to a field, place the cursor on the desired field and press Define Field (Shift-F8). For more information, see *Field Options* under *Fields* in *Reference*.

Field Formats

The field format designates the size of a field and the way it is displayed and printed. The field format also determines the type of data a field accepts.

Once you have pressed Create (F9) in Define Panel mode, you are prompted to enter a field format. The format may contain numbers, letters, and other characters, and must follow the syntax indicated below.



All items within brackets [] are optional. The numeric sign indicator may be placed in either of the above positions, but not in both.

Field Type

In the diagram above, *t* refers to the field type. This must always be the first character in a field format. Below is a list of the field types.

A

Alphanumeric field. If followed only by a number, this defines a fixed length field (e.g., A15). To define a variable length field, add a second A followed by a number to indicate the number of lines displayed (e.g., A25A3). The variable length field is also known as a *text field*. Variable length fields can contain as many as 32,000 characters, regardless of the display format.

D

Date field.

F

Floating decimal field.

G

Numeric field, decimal (or right) aligned.

H

Numeric field, decimal (or right) aligned. Same as G Type numeric field, with one exception. If the field value is zero, blank spaces, rather than zeros, are stored in the field.

N

Numeric field, left aligned. Should not be used for computations. Does not calculate decimal places.

T

Time field.

U

Same as an alphanumeric field except all letters are converted to uppercase.

Format Specifications

Below are the format specifications for each field type.

Alphanumeric Field, Fixed Length

This field format begins with *A* or with *U* (for uppercase) and is followed by a number. It is used to define fixed length fields which accept only letters and numbers.

Determine the maximum length needed for the field. If the field is larger than necessary, space will be wasted.

Examples:

A25 Alphanumeric, 25 characters long

U10 Alphanumeric, Uppercase, 10 characters long

Characters:

Alphanumeric

Maximum Length in Panel:

78 characters

Field Size:

The length of the field format (e.g., A10 uses 10 bytes).

Alphanumeric Field, Variable Length (Text Field)

A variable length field adds a second A, followed by a number, to indicate the number of lines you want to display. The variable length field is also known as a text field. This field format accepts letters, numbers, bolding, underlining, and carriage returns.

In a report, if the number of lines displayed in a text field is zero (e.g., A35A0), the entire field is printed, regardless of its length.

In the report form, changing the zero to a number specifies how many lines should be printed (e.g., A35A4 prints four lines of the text field). Changing the number after the first A specifies how wide you want the field to print (e.g., changing A35A0 to A20A0 prints only 20 characters per line).

A report can print all of the data in a text field, even though you may only be able to view 15 lines of the text field at a time in a panel. Additional text can be viewed by scrolling through the text field using the arrow keys.

If more than 4,000 characters are entered into a text field, response time while actually in the field is affected.

Examples:

A30A4 Alphanumeric, 30 characters long and 4 lines displayed

U20A3 Alphanumeric, Uppercase, 20 characters long and 3 lines displayed

Characters:

Alphanumeric

Maximum Length in Panel:

78 characters per line

Maximum Lines Displayed in Panel:

15

Maximum Number of Characters:

32,000

Field Size:

The number of characters entered in the field (e.g., a text field containing 50 characters uses 50 bytes).

Date Field

This field format begins with *D*. A date field uses the characters 9 or Z to indicate numbers. If Z is used instead of 9, a blank date field appears when no data has been entered.

DataPerfect checks the date when it is entered to make sure that it is a valid date. Valid dates range from March 2, 1900, to December 31, 2078.

Dates are actually stored by DataPerfect as a number representing the number of days since March 2, 1900. This format, referred to as Julian date format, provides efficient use of disk space, along with the ability to perform calculations on dates.

If you need to specify dates prior to March 2, 1900, use an N Type numeric field format (e.g., N99/99/9999). For more information, see *N Type Numeric Field* below. Be aware that you will not be able to use the date functions with this field format.

If you want to enter dates prior to 1900 and want to sort dates by year, use three consecutive N Type numeric fields to represent the date (month, day, and year). For example, the date field in a panel would appear to the user as one field, but the date would actually contain a Month field, a Date field, and a Year field, separated by slashes (/) (e.g., N99/N99/N9999).

If a date requested in an N Type numeric field is unknown, the user can enter two zeros (00) as the date. You can enter zeros in a date field to represent a month or year, but if the date field format includes Z's, the zeros will appear as blanks.

In reports, the date format DZ9MON9999 displays the day, then the three letter abbreviation for the month, followed by the year. This format is only valid in reports and must not contain dashes or spaces.

The abbreviations used for names of months in date fields can be altered if necessary (see *Format Defaults* under *System Operations* in *Reference*).

Also, if there is not an order indicator in the format, the order in which the months, days, and years are displayed is determined by the default setting (see *Order Indicators* below).

Examples: (assuming the default setting is MDY)

D99/99/99	Displays date as MM/DD/YY
DZ9/Z9/99	Displays date as MM/DD/YY (leading zero in a Z position displays as a space)
D99/99	Displays date as MM/DD

D99/99/9999 Displays date as MM/DD/YYYY

DDMY99/99/99 Displays date as DD/MM/YY

Characters:

Z Indicates a digit in the field (leading zeros display as a space)

9 Indicates a digit in the field (all zeros are displayed)

A slash (/) may be replaced with any character (such as a dash or a space).

Field Size:

Two bytes.

It is possible, as shown in the example above, for a date field to be formatted omitting either the day, month, or year. To do this, define the date field format so that the unit to be eliminated (month, day, or year) is last in the sequence, and do not assign characters (9's) to that unit. For example, the format DMDY99/99 includes only a month and day. A year cannot be entered because the Y representing the year is placed last in the format sequence, and no space was allotted for it in the format. The format DMYD99/99 includes only a month and year. A day cannot be entered because the D representing the day is placed last in the format sequence, and no space was allotted for it in the format.

Because all dates are converted to a Julian date format, a year must be assigned to every date. If a field in a record is formatted without a year and is then changed in the panel or in a report to include a year, DataPerfect computes the year as 1904. You are given no indication on the screen or on a printed report that the year 1904 has been assigned to the date field.

If a date field in a record is formatted without a month and is then changed in the panel or in a report to include a month, the month defaults to January.

If a date field in a record is formatted without a day and is then changed in the panel or in a report to include a day, the day defaults to 1 (the first day of a month).

If you have entered the system date in a date field by pressing Edit (F6), this (today's) date is used instead of the above defaults.

Floating Decimal Fields

This field format begins with *F*, is followed by *N* (numbers only) or *Z* (numbers with leading zeros suppressed), and ends with a number. Floating decimal fields are available only in reports.

Floating decimal fields are used to format the appearance of a calculated field in a report. This format lets you specify the exact number of digits you want to display.

You may want to print fields that have a *whole* and a *decimal* part, and you may not have enough room in the report to print the largest possible occurrence. However, it is advantageous to display as many decimal places as possible. The following table shows some examples of numbers and how they would be printed using floating decimal field formats.

<u>Number</u>	<u>FN6</u>	<u>FN10</u>	<u>FZ6</u>	<u>FZ10</u>
12.66666	12.667	0012.66666	12.667	12.66666
23,987.3456	023987	23987.3456	23987	23987.3456
-34.5	-034.5	-0000034.5	-34.5	-34.5
7,376,191.4	*****	07376191.4	*****	7376191.4

As you can see from the example, if the whole part of the number is too large to fit in the field, the number is replaced with asterisks.

Negative numbers are always displayed with the negative sign (-).

Order indicators can be used also.

Example:

- FN5** Five characters are printed including the decimal and sign. Leading zeros display as zeros.
- FZ12** Twelve characters are printed, including the decimal and sign. Leading zeros display as spaces.

Characters:

- Z All leading zeros display as spaces.
- N All zeros are displayed.

Minimum Length in Panel:

- 3 (Including the decimal and sign)

Maximum Length in Panel:

- 16 (Including the decimal and sign)

G Type Numeric Field

This field format begins with *G*, accepts only numeric values, and is decimal (right) aligned.

After selecting a G Type field format when defining a field or in a report, you can specify either a period (.) or a comma (,) for the decimal marker and thousands separator. The default decimal marker is a period and the default thousands separator is a comma.

You may want to use a comma (,) as a decimal marker and a period (.) as a thousands separator. To change the defaults, insert the desired characters before the format. The decimal marker should be entered first, then the thousands separator (e.g., *G,.\$ZZ.ZZ9,99*).

In decimal or right aligned numbers (G Type), a negative sign (-) is valid only at the beginning or end of the field to indicate a possible negative value.

Examples:

- G-\$,ZZ9,99** Dollar amount (leading zeros in a Z position are not displayed)
- GZZ9.9ZZZ** Number with four decimal places

Characters:

- Z Indicates a digit in the field (leading and trailing zeros are truncated)
- 9 Indicates a digit in the field (all zeros are displayed)
- *
- A leading zero in this position displays and prints as an asterisk (*)
- Negative sign indicator. If used, this must appear either as the first character after the G or after any existing order indicators (see *Order Indicators* below), or at the

- end of the field format. This character only displays or prints if the field value is negative. This character "floats," similar to the dollar sign (\$).
- + Positive sign indicator. If used, this must appear either as the first character after the G (or after existing order indicators) or at the end of the field format. This character displays or prints as a positive sign (+) if the field value is positive, or as a negative sign (-) if the field value is negative.
- \$ Monetary symbol. "Floats" if Z's are used in the format. European monetary symbols also float if used in the format.
- .
- ,
- () Negative number indicator. The field format must be enclosed in parentheses. If this indicator is used with dollar figures, it must precede the dollar sign (\$).

Maximum Length in Panel:

14 digits (not including format characters)

If the result of a calculation is more than 14 characters, asterisks display in the field.

Field Size:

Four bytes (if the number of digits in the field format is less than 10) or eight bytes (if the number of digits in the field format is equal to or greater than 10).

H Type Numeric Field

This field format begins with *H*, and is the same as the G Type format with one exception. If the field value is zero, blank spaces rather than zeros are stored in the field. Therefore, in a report which specifies "Eliminate Line if Blank," a line is eliminated if the field value is zero.

N Type Numeric Field

This field format begins with *N*, accepts only numeric values, and is left aligned. Left aligned numbers do not contain a positive (+) or negative (-) sign. You can also enter other characters and

spaces as part of the format (e.g., N(999) 999-9999 for a telephone number). The user can only enter numbers during data entry. The parentheses and dash are displayed and printed in the field as part of the format.

The N Type field format does not recognize order indicators.

N Type numeric fields should not be used in calculations.

Examples:

N999-99-9999 Social Security Number

N(999) 999-9999 Telephone Number

Characters:

9 or Z Indicates a digit in the field. Displays a zero in every position. Any other characters are used as separators.

Maximum Length in Panel:

14 digits (not including format characters)

Field Size:

Four bytes (if the number of digits in the field format is less than 10) or eight bytes (if the number of digits in the field format is equal to or greater than 10).

Time

This field format begins with *T*. The first 9 in the hour, minutes, or seconds in any time field format may be replaced with a *Z*. This causes a leading zero to be replaced with a blank.

Also, if there is not an order indicator in the format, the order in which the hours, minutes, and seconds are displayed is determined by the default setting (see *Order Indicators* below).

Time is kept in 24-hour format. For example, 09:00 represents 9 a.m., and 13:00 represents 1 p.m.

Examples: (assuming the default setting is HMS)

T99:99:99 Displays time as HH:MM:SS

TZ9:Z9:Z9 Displays time as HH:MM:SS (leading zeros in a Z position display as spaces)

T99:99 Displays time as HH:MM

TSMH99:99:99 Displays time as SS:MM:HH

Characters:

- Z Indicates a digit in the field (leading zeros display as spaces)
- 9 Indicates a digit in the field (all zeros are displayed)

Field Size:

Four bytes.

It is possible, as shown in the example above, for a time field to be formatted omitting either the hour, minute, or second. To do this, define the time field format so that the unit to be eliminated (hour, minutes, or seconds) is last in the sequence, and do not assign characters (9's) to that unit. For example, the format THMS99:99 would include only the hour and minutes (H, M, and S are order indicators). Seconds cannot be entered because the S representing the seconds is placed last in the sequence.

**Order
Indicators**

The date, time, and G Type numeric fields permit order indicators. An order indicator determines the format for these fields, and is valid only for the field to which it is assigned. If any of these fields have not been assigned a specific order indicator, DataPerfect assigns them the format defaults (see *Format Defaults* under *System Operations in Reference* for information on changing the default settings). The field format defaults are as follows:

Date: mdy (month/day/year)

Time: hms (hour/minutes/seconds)

G Type: . (decimal marker) , (thousands separator)

You can override the current defaults by typing the symbols for the desired units in the order you want in the field format:

Date: m (month) d (day) y (year)

Time: h (hour) m (minutes) s (seconds)

G Type: . (period) , (comma)

In a G Type numeric field, the symbol for the decimal marker should be entered first, then the symbol for the thousands separator. Only commas and periods may be used for the decimal marker and thousands separator.

Examples:

DDMY99/99/99

Displays the day, then month, then year.

TSMH99:99:99

Displays the seconds, then minutes, then hours.

G,,\$Z.ZZ9,99

Uses a comma for the decimal marker and a period for the thousands separator.

Field Formats in Reports

When designing a report form, you can edit the format of a field in a report without changing the original field format in the database.

To edit the field format for any field in a report,

- 1 Be sure the report form is on the screen.
- 2 Position the cursor on the reverse video bar which represents the field you want to edit.
- 3 Press **Edit** (F6) to display a reverse video bar containing the original field format in the lower part of the instruction box.
- 4 Edit the format, then press **Enter** to return to the report form.

Editing the report field format is very useful if you are printing double or triple-width labels and the fields are too wide to fit within the labels, or if you want wider or narrower margins for a text field.

Text Fields

Any text fields added to the report are given a format similar to A40A0 or A32A0. The zero (0) after the second A indicates that all lines of the text field are to be included in the report. If you change the format to A40A4, only the first four lines of text are included. Changing the first part of the text field format (A40) will widen or narrow the field format. See *Printing Parallel Text Fields in a Report* under *Reports in Reference* for more information.

You may edit the format of a text field to a length that is not valid in panels. For example, A200A0 is a valid format for a text field in a report.

Also, a special format of A0A0, which is infinitely wide, is allowed when saving reports to disk files for use in WordPerfect. This appears as a one-character field in the report form. Using this format causes the field to be saved without any carriage returns. When it is retrieved into WordPerfect, the text is formatted with soft returns, and will wrap to the margins defined in WordPerfect.

Editing a Field Format

You can edit a field format in a panel, if necessary. However, no data can exist in the database when you edit the field format. See *Exporting Data From a Database to a Disk File* under *Export and Import Data* in *Reference*.

- 1 Be sure you have exported and/or deleted all the data from the database.
- 2 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 3 Position the cursor on the reverse video bar which represents the field you want to edit.
- 4 Press **Edit** (F6) to display a reverse video bar containing the original field format in the lower part of the instruction box.
- 5 Edit the format, then press **Enter** to return to the Define Panel menu.

Field Options

Field options are used to assign special attributes to a field. To define field options, your cursor may be either on the desired field in Browse mode or on the desired field while in Define Panel mode (Alt-F8).

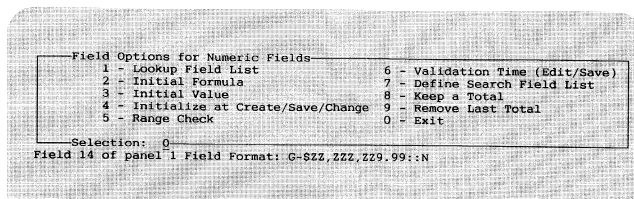
Field formats which include display mode indicators ::C, ::H, or ::N can only be assigned field options from Browse mode if a Shift-arrow key is used to move the cursor to the field (see *Display Mode Indicators in a Field Format* under *Fields in Reference*).

You can access the Field Options menu in either of two ways. One way is to follow the three steps below.

- 1 While in Browse mode, be sure the cursor is on the field to which you want to assign a field option.
- 2 Press **Define Field** (Shift-F8) to access the Field Options menu.
- 3 Select the desired field option.

Another way to access the Field Options menu is to follow the five steps below.

- 1 Be sure the cursor is in the desired panel.
- 2 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 3 Use **Tab** and the arrow keys to move the cursor to the field to which you want to assign field options.
- 4 Press **Define Field** (Shift-F8) to access the Field Options menu.
- 5 Select the desired field option.



Nine field options are available for numeric (G, H, and N Type) and time fields. Alphanumeric fields and date fields do not allow

the Keep a Total (8) and Remove a Total (9) options. Computed fields (containing ::C as the display mode indicator) allow only the Lookup Field List (1) and Define Field Formula (2) options. Auto-Incrementing fields (containing ::I as the display mode indicator) allow only Lookup Field List (1) and Set Value for Next Created Record (2).

Each option and how it functions is listed below.

Lookup Field List

This option lets you define the lookup field list. The lookup field list defines the list of fields which appears when you press Lookup (F8) or Up Arrow (↑) on a particular field. The fields in the lookup list are displayed left to right, one record per line, at the top of the screen (see *Lookup* under *Data Entry Keystrokes and Features in Reference*).

You are not required to define lookup field lists. If no lookup field list has been defined for a particular field in a panel, a default list is used. This default list includes the first field in the first index defined for the current panel, and the field on which the cursor is positioned when you press Lookup.

For detailed information, see *Lookup Field Lists* under *Field Lists and Indexes in Reference*.

Initial Formula

This option lets you assign a formula to a field. DataPerfect uses the formula to calculate a value for the field. An initial formula can be calculated when a record is created, edited, or saved. For detailed information about formulas, see *Using Formulas* under *Formulas and Functions in Reference*.

To enter an initial formula in a field,

- 1 Be sure the Field Options menu is on your screen.
- 2 Select Initial Formula (2).

The Specify Formula screen appears.

- 3 Type the desired formula. Do not press Enter after typing the formula.
- 4 Press **Exit** (F7) or **Save** (F10) to save the formula and return to the Field Options menu.

You can determine when a formula will be initialized by selecting Initialize at Create/Save/Any Change (4) from the Field Options menu.

You cannot assign both an initial formula and an initial value to the same field (see *Initial Value* below).

Initial Value

This option lets you assign an initial value to a field. An initial value can be inserted in a field automatically when a record is created, edited, or saved.

For example, a database may contain a State field. If you know that the majority of states to be entered in this field will be identical, you may want to insert the name of the predominant state as an initial value. This will save time when entering data.

To set an initial value,

- 1 Be sure the Field Options menu is on your screen.
- 2 Select Initial Value (3).
- 3 Enter the desired value.
- 4 Press **Exit** (F7) to return to the Field Options menu.

You can determine when the field will be initialized by selecting Initialize at Create/Save/Any Change (4) from the Field Options menu.

If you attempt to assign an initial value to a field which has already been assigned an initial formula, a message appears on the screen: "Replace the formula already defined? (Y/N) N." If you attempt to assign an initial formula to a field which has already been assigned an initial value, a message appears on the screen: "Replace the value already assigned? (Y/N) N."

Initialize at Create/Save/Any Change

This option is useful only for a field that contains a previously defined initial formula or initial value. These options determine when the formula or value should be calculated.

Each option and how it operates is listed below.

No Setting

Formula or initial value is computed only if the user presses Edit (F6) while the cursor is on the desired field in Create or Edit mode.

Automatically Computed When Record Is Created

Formula or initial value is automatically computed when record is created. Once you select Initial Formula or Initial Value, this becomes the default setting.

Automatically Computed When Record Is Saved

Formula or initial value is automatically computed when created record is saved.

Automatically Computed at Any Change and When Record Is Saved

Formula or initial value is automatically computed at any change and when record is saved.

To select one of these settings,

- 1** Be sure the Field Options menu is on your screen.
- 2** Select Initialize at Create/Save/Any Change (4).

Each time you select this option, the setting changes to the next option. The current setting is displayed in the lower part of the screen. For example, if the current setting is "Automatically computed when record is created," and you select this option, the setting changes to "Automatically computed when created record is saved." If you continue to select this option, you rotate through the settings in the same order.

- 3** Continue to select this option until the desired setting appears in the lower part of the screen.
- 4** Press **Exit** (F7) to return to the Field Options menu.

"Automatically computed when record is created" often is used when a certain field value will be used in most of the records. For example, your database contains customer names, addresses, and phone numbers. The majority of your customers live in the city of Fort Collins, Colorado. You could assign Fort Collins as the initial value on the City field and then select "Automatically computed when record is created." Each time a record is created, the value Fort Collins appears in the City field. If the customer lives in Fort Collins, the user does not need to enter the name of city because the correct value is already entered. If a customer lives in a city other than Fort Collins, the user would enter the name of the appropriate city. Because the selected setting is "Automatically computed when record is created," the field would not be reinitialized and the new value would be saved with the record.

***Important:** Fields that contain formulas should generally be set to "Automatically computed at any change and when record is saved." This setting forces the value of the field always to be current.*

If a formula has not been specified for a date or time field, and the initialization time has been set to create, save, or any change, the field behaves as though the functions TODAY or NOW had been specified as the formula. These functions are valid only on

date or time fields (see *Functions Used in Formulas* under *Formulas and Functions in Reference*). For example, if you press Edit (F6) while the cursor is on a date field and an initialization time is set, the current date is inserted in the field.

Range Check

This option lets you set low and high limits for values that can be entered in this field. You can do this by specifying a range (high and low values) to be checked. A range check can be used on alphanumeric, text, numeric, date, or time fields.

To specify a range check,

- 1** Be sure the Field Options menu is on your screen.
- 2** Select Range Check (5).
- 3** Enter the low value of the range.
- 4** Enter the high value of the range. The high value defaults to the same value you entered for the low value. You can change it if necessary.

After you have entered the low and high range values, the Field Options menu is redisplayed. At this point, you can select another field option, or press Exit (F7) to return to the panel.

When data is entered into a field for which a range check is defined, DataPerfect checks the data against the low and high limits that you specified. If the data is not within the range, an error message is displayed, and the field is cleared.

You should control the point at which the data is validated by selecting Validation Time (Edit/Save) (6) from the Field Options menu.

If you need to perform a disjointed range check (includes a range of data which is not sequential), you must use a formula (see *Using Formulas* under *Formulas and Functions in Reference*).

Validation Time (Edit/ Save)

This option is useful only for a field that contains a range check. If you have specified a range check, DataPerfect checks the data entered in the field to see if it is between the low and high values of the range. You can check a field's range when the data is entered (edit) or when the record is saved (save).

To select Validation Time,

- 1** Be sure the Field Options menu is on your screen.
- 2** Select Validation Time (Edit/Save) (6).

Each time you select Validation Time, this feature progresses through a loop consisting of "No setting" (nothing is displayed on the screen) to "Validate when record is edited" to "Validate when record is saved" and back to "No setting."

3 Continue to select this option until the desired setting appears in the lower part of the screen.

4 Press **Exit** (F7) to return to the Field Options menu.

If a range check has been defined, but no validation time has been set, the range check is ignored.

Define Search Field List

This option lets you define a number of fields to search any time you search on a particular field. For detailed information, see *Search Field Lists* under *Field Lists and Indexes* in *Reference*.

Keep a Total

This option can be used only on time fields or numeric (G, H, and N Type) fields. Totals are used to add or subtract a value in a field to or from the value in a field in a linked panel (see *Links* in *Reference*).

Because totals are kept in a separate panel, you must define a link correctly defined that creates a one-to-many or many-to-one relationship. Totals in a linked panel immediately recalculate whenever a value changes in a field that contributes to the total.

To define a total,

- 1** Be sure you have already defined a link between the two panels (see *Links* in *Reference*).
- 2** Be sure the Field Options menu is on your screen.
- 3** Select Keep a Total (8).

After selecting this option, you are prompted to add this value to another field (1), or subtract this value from another field (2).

- 4** Type **1** if you want to add the field value to another field.

or

Type **2** if you want to subtract the field value from another field.

The current panel is displayed, with the cursor on the first link in the panel.

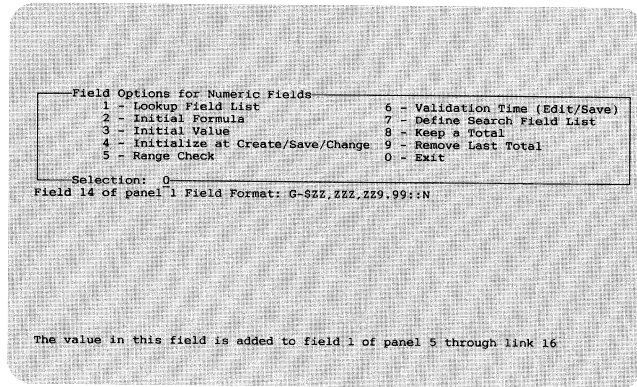
- 5** If the cursor is not already on the desired link, move to the desired data link or panel link, then use Down Arrow (↓) to move to the linked panel.

6 Move the cursor to the desired field.

With the cursor positioned on the appropriate field,

7 Press **Select** (F4) to select the field you want to contain the total.

You are returned to the Field Options menu.



A field can be totaled into more than one other field simply by repeating the steps above and selecting a new field in step 7.

Remove a Total

This option is used to delete a total.

To remove a total,

1 Be sure the Field Options menu is on your screen.

2 Select Remove Last Total (9).

The last total is removed from the field.

If you have defined three Keep a Totals, and you want to delete the first of the three Keep a Totals, you must first delete all three Keep a Totals, then you must redefine the two you want to keep.

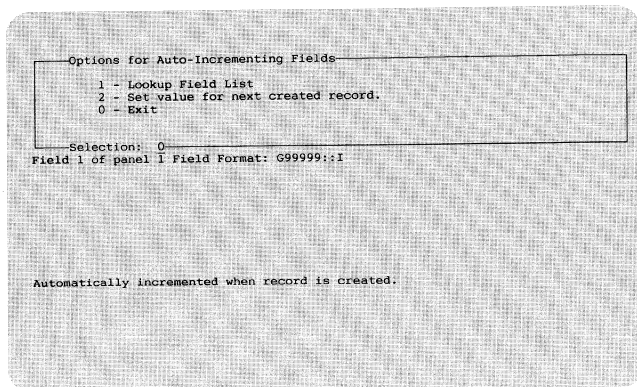
Set Value for Next Created Record

This option is valid only for auto-incrementing fields (see *Display Mode Indicators in a Field Format* under *Fields in Reference*).

This option lets you set the value of the auto-incrementing field for the next record that will be created.

To set the value for the next created record,

- 1 Be sure the Field Options menu is on your screen.



- 2 Select Set Value for Next Created Record (2).

- 3 Enter the desired value for the next created record.

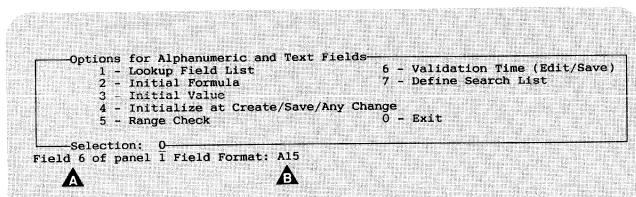
After you have entered the desired value, the Field Options menu is redisplayed. At this point, you can select another field option or press Exit (F7) to return to the panel.

Field Number/ Format

When the Field Options menu is on the screen, the field number and field format for the selected field are displayed on the first line below the instruction box.

The field number represents the creation order of a field in a panel. A field number and field format might look like this:

- A** FIELD NUMBER
- B** FIELD FORMAT



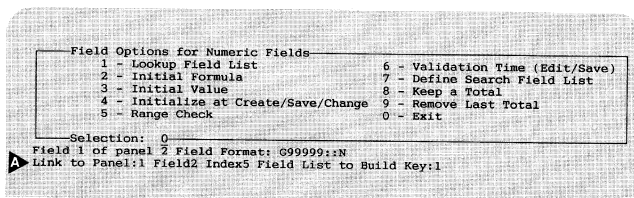
The field on which your cursor was positioned when you accessed the Field Options menu is *field 6 of panel 1*. This was the sixth field in the first panel. This field would appear as *PIF6* if it were selected in a formula.

The field format is A15 (see *Field Formats* under *Fields in Reference*).

Display Link Definition

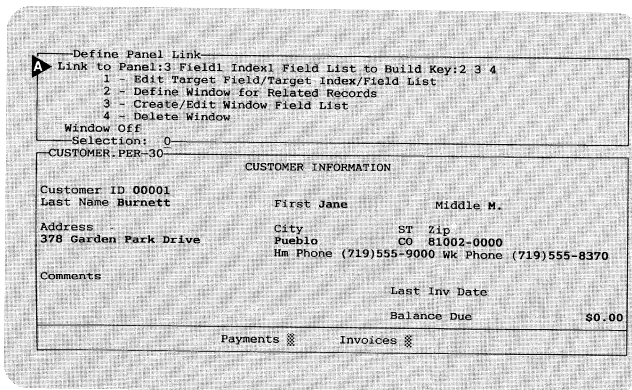
If you press Define Field (Shift-F8) when the cursor is positioned on a field containing a data link, the Field Options menu is displayed, as well as information about the field format and the link's definition.

DATA LINK DEFINITION



If you press Define Field when the cursor is positioned on a panel link, the Define Panel Link menu is displayed, as well as information about the link's definition. See *Links in Reference* for detailed information about illustration.

PANEL LINK DEFINITION



Below is an explanation of each section of the link definition shown in the illustration.

Link to Panel:3

Panel 3 is the destination panel. It is the third panel in the panel list.

Field1

Field 1 is the field number of the target field in the destination panel. To see the actual field, move to the destination panel and press Reveal (Alt-F3) twice. This displays the field numbers.

Index1

The first index in the destination panel was selected to define the link. To see the index, move to the destination panel, press Define Index (Ctrl-F8), then select Edit Index Field List (option 2) and use Up Arrow and Down Arrow to find the selected index. For more information about indexes, see *Field Lists and Indexes in Reference*.

Field List to Build Key:2 3 4

Fields 2, 3, and 4 in the source panel are the common fields between the two panels that were selected to define the link. The field numbers can be seen by pressing Reveal (Alt-F3) twice while in the source panel.

Display Mode Indicators in a Field Format

Display mode indicators can be placed at the end of any field format to control how the field appears on the screen once data has been entered. A double colon (::) is used to separate a display mode indicator from the rest of the field format.

Display mode indicators can be combined with print mode indicators on the same field. However, the display mode indicators must come before any print mode indicators in a field format, separated by double semicolons (;:). See *Print Mode Indicators in a Field Format* under *Fields in Reference* for more information.

Example:

N99999-9999::M;;E

The display mode indicator is ::M and the print mode indicator is ;;E.

The following information describes the format and uses of each display mode indicator.

Format	Description
::C	Computed Field
::E	Auto-Enter Field
::H	Hidden Field
::I	Auto-Incrementing Field
::M	Must Be Updated Field
::N	Non-Updatable Field

Computed Field (::C)

A computed field can compute the data in a field mathematically. It can also compute the data in a field logically (when used in IF and CASE statements). When entering or editing data, use the Shift-arrow keys to move the cursor to a field containing this indicator. Otherwise, the cursor skips over the field. A field which contains this indicator only displays the information. The information in the field is not stored as part of the record.

The value in the field is calculated from other data each time the record is displayed. This option requires that a formula is attached to the field (see *Using Formulas* under *Formulas and Functions in Reference*).

A field with this indicator cannot receive or send values to be totalled in another field, nor can the field be included in an index or in a link field list. However, a field with this indicator can be included in a lookup field list (see *Lookup Field Lists* under *Field Lists and Indexes* in *Reference*).

Fields which contain this indicator recalculate each time the record is displayed or accessed, and consequently can slow the record display.

Example:

G\$Z,ZZZ.99::C

**Auto-Enter
Field (::E)**

When the last character in an auto-enter field has been typed, the cursor moves to the next field in the edit order.

This indicator is designed for fields where every space available will be used in each field (e.g. a Phone Number field), and makes data entry quicker. However, this indicator has no effect on G Type numeric (right aligned) fields.

Example:

N999-9999::E

**Hidden Field
(::H)**

A hidden field is not displayed on the screen. A hidden field is generally a computed field or an auto-incrementing field. Any field can be a hidden field.

Example:

GZZZ9::H

**Auto-
Incrementing
Field (::I)**

An auto-incrementing field increases by one number each time a new record is created. This option is only valid on numeric (G, H, and N Type) fields.

The beginning value for this field defaults to zero. It can be changed by pressing Define Field (Shift-F8), selecting Set Value for Next Created Record (2), and entering the desired value (see *Field Options (Set Value Next Created Record)* under *Fields in Reference*).

Example:

GZ,ZZZ::I

Must Be Updated Field (::M)

A must be updated field requires data to be entered in this field. The user cannot save the record without entering the required information in this field.

When placed on a field that contains a data link, this indicator assures that a related record exists in the linked panel before allowing the record to be saved.

Example:

D99/99/99::M

Non-Updatable Field (::N)

A non-updatable field cannot be changed by the user. When entering or editing data, use the Shift-arrow keys to move the cursor to a field containing this indicator. Otherwise, the cursor skips over this field (unless the field contains a data link).

A field with this indicator can be included in an index and/or in a lookup field list (see *Index Options* and *Lookup Field Lists* under *Field Lists and Indexes in Reference*).

Example:

N99::N

Multiple Indicators

More than one indicator can be specified for a field. List all of the desired indicators after the double colon.

Example:

GZZZZ::IH

Print Mode Indicators in a Field Format

Print mode indicators can be placed at the end of a field format to control how the field appears in a report. A double semi-colon (;;) is used to separate the print mode indicators from the rest of the field format. The print mode indicators must come after any display mode indicators (e.g., N99999-9999::M;;E). See *Display Mode Indicators* under *Fields* in *Reference* for more information.

Only one print mode indicator can be specified per field.

The following information describes the format and uses of each print mode indicator.

Format	Description
::B	Truncate Both Leading and Trailing Blanks
::C	Center Characters
::D	Delete All Blanks
::E	Delete Zero Sub-Fields from the End
::L	Left Adjust Characters
::N	New Occurrence of Field
::R	Right Adjust Characters
::S	Suppress Leading Blanks
::T	Truncate Trailing Blanks
::1-9	Truncate Leading and Trailing Blanks and Leave <i>n</i> Spaces

Truncate Both Leading and Trailing Blanks (::B)

This indicator truncates all spaces before and after the text of the field, and does not maintain the amount of space specified by the field format in the report.

Example:

A12;;B

Center Characters (::C)

This indicator centers the data within the limits of the field, and maintains the amount of space specified by the field format in the report.

Example:

A20;;C

**Delete All
Blanks (;;D)**

This indicator removes all blanks in the field. Data is shifted from the right of the blanks to the left, and the trailing spaces are truncated. This option does not maintain the amount of space specified by the field format in the report.

Example:

A45;;D

**Delete Zero
Sub-Fields
from the
End (;;E)**

This indicator is especially designed for use in numeric fields. A subfield is a contiguous group of digits at the end of a field. If a field is broken into one or more subfields (beginning from the right), the subfield will be truncated if its value is zero. This option does not maintain the amount of space specified by the field format in the report.

For example, you might use the format N99999-9999;;E for nine digit ZIP codes. If the last four digits are zero, DataPerfect prints only the first five digits. It would not print the subfield separator (-) and the four zeros at the end of the field format.

This option leaves the field blank if no data is entered in the field. For example, if a Phone Number field (N(999) 999-9999) is empty, nothing would be printed in the field.

Example:

N99999-9999;;E

**Left Adjust
Characters (;;L)**

This indicator shifts the data in the field to the left edge of the field, and maintains the amount of space specified by the field format in the report.

Example:

A15;;L

**New Occurrence
of Field (;;N)**

This indicator notifies DataPerfect that the field on which it is placed has been selected previously in the report. This indicator is used only on a text field.

See *Parallel Text Fields in a Report* under *Reports in Reference*.

Example:

A30;;N

**Right Adjust
Characters (;;R)**

This indicator shifts the data in the field to the right edge, and maintains the amount of space specified by the field format in the report.

Example:

N999999;;R

**Suppress
Leading Blanks
(;;S)**

This indicator suppresses (truncates) leading blanks from a field, and does not maintain the amount of space specified by the field format in the report. Fields to the right of this field will move to the left to adjust for the truncated spaces.

Example:

A9;;S

**Truncate
Trailing Blanks
(;;T)**

This indicator truncates trailing blanks from a field, and does not maintain the amount of space specified by the field format in the report.

Example:

A25;;T

**Truncate
Leading
and Trailing
Blanks and
Leave *n*
Spaces (;;1-9)**

This option deletes all of the leading and trailing blanks and leaves the specified number of spaces (1 to 9) after the data.

Example:

A15;;1

How Print Mode Indicators Operate

The print mode indicators act differently on different field formats. The table below illustrates how each print mode indicator affects the data in two different fields. The fields are formatted as A20;;x and G\$ZZZ,ZZ9.99;;x (x represents the print mode indicator). Five spaces (no tabs) are situated between the fields.

Indicator	A20;;x	G\$ZZZ,ZZ9.99;;x
no indicator	Lynda A. Warner	\$485.27
::B	Lynda A. Warner	\$485.27
::C	Lynda A. Warner	\$485.27
::D	LyndaA.Warner	\$485.27
::E	Lynda A. Warner	\$485.27
::L	Lynda A. Warner	\$485.27
::R	Lynda A. Warner	\$485.27
::S	Lynda A. Warner	\$485.27
::T	Lynda A. Warner	\$485.27
::1	Lynda A. Warner	\$485.27
::9	Lynda A. Warner	\$485.27

Note that indicators L, R, and C do not alter the amount of space specified by the field format in the report. Columns of data are always properly lined up when printed. The others may cause the printed data to be shortened; therefore, columns may not line up. However, if you use tabs instead of spaces between fields, alignment is still maintained.

The indicators S, T, and B are especially useful when producing specific merge files for use with WordPerfect. These indicators can prevent occurrences such as "Lynda A. Warner ^R" from appearing in a merge file.

Refer to *Sample Reports (Custom WordPerfect Merge Files)* under *Reports* in *Reference* for details on creating custom merge files in WordPerfect.

Defining a Help Screen Using Edit Help

You can create help messages for each of the fields in a panel. These messages should be designed to assist the user during data entry and to reduce the documentation necessary for your applications.

Create or Edit Help Message

To create or edit a help message for a field,

- 1 Position the cursor on the appropriate field and press **Edit Help** (Shift-F3).

A blank instruction box is displayed at the top of the screen, and the cursor is positioned in the upper left corner of the screen.

The screenshot shows a help screen for a customer record. At the top, there are three menu options: 'Save Text - Tab', 'Cancel Text Changes - Esc', and 'Help-F3'. Below this is a header 'CUSTOMER INFORMATION'. The main content area contains the following text:

Customer ID 00001	First Jane	Middle M.
Last Name Burnett		
Address	City	ST Zip
378 Garden Park Drive	Pueblo	CO 81002-0000
	Home Phone (719)555-9000	Work Phone (719)555-8370
Comments		Last Inv Date
		Balance Due
		\$0.00

At the bottom of the screen, there are two menu options: 'Payments' and 'Invoices', each followed by a vertical bar and a space.

- 2 Type the text of the help message and press **Save** (F10) when finished.

Repeat this procedure for each field where a help message is needed.

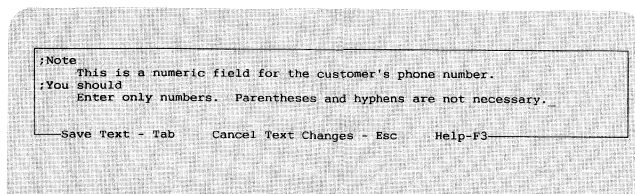
Customize Help Border

A border appears around a help message. You can customize the look of the border by using the semicolon (;) character.

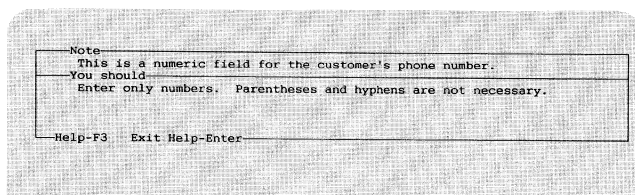
If the first line in the help message begins with a semicolon (;), the text following the semicolon is indented five spaces and embedded in the top line of the instruction box. Any subsequent line that begins with a semicolon draws a horizontal line across the

box, and any text which follows the semicolon is embedded in that line. However, type no more than 20 characters on the top line to avoid interfering with the top line display.

For example,



appears as:



You can also separate sections of a help message using a horizontal line with no text embedded in it. When you type a semicolon (;) at the left margin, then exit the Edit Help screen, a horizontal line appears across the help message.

Scrolling Help Messages

Help messages can contain as many as 32,000 characters. Six lines are displayed at a time, and can scroll if necessary.

If Auto-Help is off, the user can press Help (F3) to see the help message. The user can press any key (except Help or Enter) to cause the message to scroll.

If Auto-Help is on, the first six lines of the help message are displayed. The user can press any key (except Help or Enter) to cause the message to scroll.

After a message has scrolled to the end, press any key to return to the field. Press Enter to exit from a help screen at any time. Press Help additional times to move to different levels of the Help menu.

For more information, see *Auto-Help* under *Screen* and *Help* under *Data Entry Keystrokes and Features* in *Reference*.

Using Reveal to Display Information About Fields/Panels

You can press Reveal (Alt-F3) once in any mode to display the field formats in a panel (see *Field Formats* under *Fields* in *Reference*). Pressing Reveal twice displays the creation order (field number) of the fields in a panel. Pressing Reveal three times displays the edit order of the fields in a panel (see *Panel Options (Change Edit Order)* under *Panels* in *Reference*). Press any key (except Reveal) to restore the screen.

When you are editing a report form, you can place the cursor on a report variable code and press Reveal to view or edit the formula used in the report variable (see *Report Form* and *Report Variables* under *Reports* in *Reference*).

If you have selected a field to include in a formula or in a report, you can press Reveal while the cursor is positioned on the field number (see *Select* under *Data Entry Keystrokes and Features* in *Reference*). This displays the actual panel and field represented by the field number. For example, because the field number P1F8 represents the eighth field created in the first panel, then pressing Reveal displays the actual panel and field represented by P1F8.

Deleting a Field

You can delete a field from a database only if no data exists in the database. Use Export (Shift-F7) to remove data from a database so that you can delete unwanted fields. Use Import (Ctrl-F5) to import the data back into the database once you have deleted the unwanted fields. For more information, see *Export and Import Data in Reference*.

To delete a field,

- 1 Be sure you have exported or deleted all of the data from the database.
- 2 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 3 Position the cursor on the field you want to delete.
- 4 Press **Delete**.

After deleting fields from a database, you may want to run Recompute Field Offset. This option increases the efficiency of space in the database (see *Panel Options (Recompute Field Offset)* under *Panels in Reference*).

The remaining fields in the database are not renumbered when one field is deleted. However, if you define more than 80 fields for a panel, any field created after field number 80 uses numbers from previously deleted fields.

Deleting a field can also delete all indexes which contain that field. If you delete a field which has been selected for an index, a message appears explaining that an index or indexes may also be deleted. Press Cancel (F1) if you do not want to delete the field. Type *y* at the prompt if you want to delete the field and consequently the index(es). If you delete a field which is contained in an index, be sure to check to see if any indexes need to be redefined. For more information about indexes, see *Field Lists and Indexes in Reference*.





Introduction

Formulas can be created and placed on fields to initialize field values, calculate field values from other data, manipulate dates, or validate fields.

DataPerfect contains more than twenty functions which can be used in formulas. A function always returns a value.

In this section, you will learn the correct syntax for using formulas and functions, and will learn how to create formulas using a wide variety of options. In addition, several of the most common formulas are included at the end of *Using Formulas*. Also, a description of each function and its use is included in *Functions Used in Formulas*.

Using Formulas

DataPerfect provides a simple and powerful formula processor for initializing field values, calculating field values from other data, manipulating dates, and validating fields.

Terms

In order to understand formulas, you need to know the following terms.

Operator

The symbol used to denote a mathematical or logical operation. The add (+), subtract (-), and less than (<) signs are examples of operators. The two kinds of operators are unary and binary. A unary operator requires only one operand. Binary operators require two operands. These are discussed in greater detail below.

Operand

The item of information affected by the operator. An operand could be a field, a literal item, a function, a statement, or the result of another calculation.

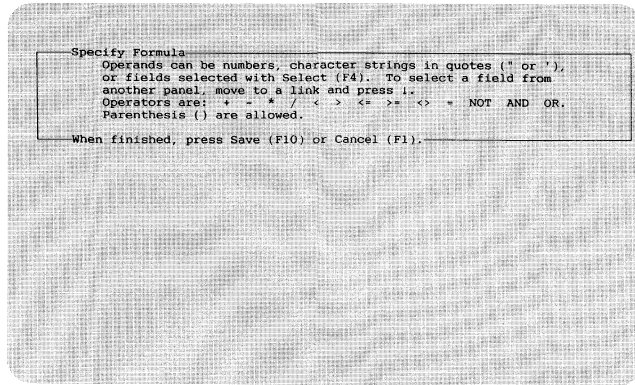
Expression

Formed when an operator is combined with the necessary number of operands. For example, $A + B$ and $-B$ are expressions.

Formula

Consists of one or more expressions connected by operators. Formulas can be used on fields, and in searches and reports.

When you create or edit a formula in a search, in a report, or in a field, the Specify Formula screen appears.



You can enter or edit the formula from the Specify Formula screen.

DataPerfect is not case sensitive when reading formulas. Use either uppercase or lowercase letters when typing formulas.

Formulas in Report Variables

When a formula is needed in a report, a report variable is used (see *Report Variables* under *Reports* in *Reference*).

Formulas in Searches

A formula can be used in a search (see *Search* in *Reference*). Each record is examined during the search. If the statement is true, the record is a match. If the statement is false, the record is not a match.

To specify a formula from the Search Options menu,

- 1 Press **Search** (F2) to access the Search Options menu.
- 2 Select Specify Formula (3).

The Specify Formula screen is displayed.

- 3 Type the desired formula. Press **Select** (F4) to include fields that are required by the formula. Do not press Enter when you are finished.
- 4 Press **Save** (F10) or **Exit** (F7) to save the formula and return to the Search Options menu.

Formulas can be used anytime a search is performed (e.g., reports, exports, imports, multiple deletions).

Formulas on Fields

A formula can be used to insert a specific value in a field.

To attach a formula to a field in a panel,

- 1 Position the cursor on the field for which you want to define a formula, then press **Define Field** (Shift-F8).
- 2 Select Initial Formula (2).

The Specify Formula screen is displayed.

- 3 Type the desired formula. Press **Select** (F4) to include fields that are required by the formula. Do not press Enter when you are finished.
- 4 Press **Save** (F10) or **Exit** (F7) to save the formula and return to the Field Options menu.

Complex Formulas

Operators and functions can be combined in a variety of ways to build complex formulas (see *Functions Used in Formulas* under *Formulas and Functions* in *Reference*). The following examples show a few of the possible combinations.

Examples:

P1F4 + P1F5 + P1F6

Adds Fields 4, 5, and 6 of Panel 1 together.

P1F4 / 2 * P1F7

Divides the value in Field 4 of Panel 1 by 2 and multiplies the result by the value in Field 7 of Panel 1.

((P1F16 + year[P1F2]) // 3 + P1F12) * 2

Adds the value in Field 16 of Panel 1 to the year of the date found in Field 2 of Panel 1 and divides (mods) the result by 3. The remainder of that division is then added to the value in Field 12 of Panel 1 and the result is multiplied by 2.

Using Spaces in Formulas

Spaces in formulas are generally ignored unless they are part of a text string, or if they occur within a predefined word. You may want to use spaces simply to increase readability.

Rounding

A calculation may result in a number with a fraction (e.g., 3.5). If the field format does not allow for decimal places, the number is rounded up to the next integer if the decimal value is .5 or greater.

If the decimal value is less than .5, the number is rounded down. You can alter this default using the *round* function (see *Functions Used in Formulas* under *Formulas and Functions in Reference*).

Operands

Operands are the values affected by the operators. An operand can be another field in the current panel, a field in a linked panel, a function, a literal item, a statement, or the result of another calculation. Specific types of operands are explained below.

Field

If you want to include a field in a formula, you must press Select (F4) to select the field, rather than type the panel and field number (e.g., P2F23) in the Specify Formula screen. If you type the panel and field number (instead of using Select), you will receive the message: "Word not recognized." If the desired field is in another panel, the other panel must be linked to the current panel (see *Links in Reference*).

To select a field while typing a formula,

- 1 Be sure the cursor is on the Specify Formula screen.
- 2 Press **Select** (F4).

The current panel is displayed and the cursor rests on the first field (or the last field selected).

- 3 Move the cursor to the desired field.
- 4 Press **Select** to include the field in the formula.

To select a field in another panel (once the current panel is displayed),

- 1 Position the cursor on the link that connects to the other panel, and press **Down Arrow** (↓) to move to that panel.
- 2 Position the cursor on the desired field and press **Select** (F4).

DataPerfect then returns to the Specify Formula screen and inserts the field number in the formula. If the field is selected from the current panel, the field number might be P2F5, assuming the current panel is panel 2 and the selected field is field 5.

If the field is selected from another panel (through a link), the field number will include the panels and fields from both the source and destination panels. For example, P2F7P6F3 states that the data link or panel link is located on panel 2, field 7, the linked panel is panel 6, and the selected field from the linked panel is field 3. The numbers vary with the actual panel and field numbers in your application.

To verify that the selected field number represents the correct field, position the cursor on the field number in the Specify Formula screen, and press Reveal (Alt-F3). The appropriate panel is displayed, and the selected field is highlighted. Press any key to return to the Specify Formula screen. See *Using Reveal to Display Information About Fields/Panels* under *Fields in Reference*.

You may only want the formula to suggest a value which can be overwritten by the user, or you may want the formula to supply the value with no option of overwriting it. If you assign a formula to a standard field, the user will be able to access the field and change the value if desired. To prevent this from happening, you must define the field as a non-updatable field. See *Display Mode Indicators in a Field Format* under *Fields in Reference* for more information.

Formulas that depend on the values in other fields should be initialized to calculate and update when the record is saved (see *Field Options (Initialize at Create/Save/Any Change)* under *Fields in Reference*).

Function

See *Functions Used in Formulas* under *Formulas and Functions in Reference*.

Literal Item

A literal item is a constant, such as a text string or a number. For example, if you multiply a purchase total by the sales tax, the percent of tax would be a literal item.

Example:

P1F2 * .05

P1F2 is the purchase total and .05 is the percent of tax.

Statement

DataPerfect contains two statements: the IF statement and the CASE statement (see *Statements* below).

Result of Another Calculation

A report variable can use any of the above operands, as well as another report variable in its formula (see *Report Variables* under *Reports in Reference*). Also, a field can use another calculated field in its formula.

Mathematical Operators

The binary mathematical operators supported by DataPerfect are add (+), subtract (-), multiply (*), divide (/), and modulo (also called "mod") or remainder (//). The unary operators are minus (-) and plus (+).

Examples:

P1F3 + 34.5

Adds the value of Field 3 in Panel 1 to 34.5.

P1F5 - P1F3

Subtracts the value of Field 3 in Panel 1 from the value of Field 5 in Panel 1.

12 * P1F4

Multiplies the value in Field 4 of Panel 1 by 12.

P1F5 / 6

Divides the value in Field 5 of Panel 1 by 6.

P1F6 // 3

Divides the value in Field 6 of Panel 1 by 3 and keeps only the remainder.

-P2F4

Uses the unary minus sign (-) to negate the value in Field 4 of Panel 2.

+P1F6

Uses the unary plus sign (+) to leave the sign unchanged for the value in Field 6 of Panel 1.

Logical Operators

DataPerfect also supports the logical operators used in the examples below. The comparison operators produce a 1 for a true comparison and a 0 for a false comparison.

Examples:

P2F3 < P2F6

The less than (<) operator compares the values in the two indicated fields. If P2F3 is less than P2F6, then the condition is considered true. Otherwise, the condition is false.

P2F3 > 5

The greater than (>) operator compares the value in the specified field and indicates whether it is greater than 5.

P2F3 <= 6

The less than or equal to (<=) operator compares the value in the specified field and indicates whether it is less than or equal to 6.

P2F3 >= 1

The greater than or equal to (>=) operator compares the value in the specified field and indicates whether it is greater than or equal to 1.

P3F14 = 25

The equal to (=) operator compares the value in the specified field and indicates if it is equal to 25.

10 <> P2F3

The not equal to (<>) operator compares the value in the specified field and indicates if it is not equal to 10.

NOT (P2F3 = 10)

The logical NOT operator is always used with one of the comparison operators and reverses the result of the simple comparison. This formula would yield the same result as the formula above (10 <> P2F3).

P2F3 > 5 AND P2F6 < 23

The logical AND operator combines two comparisons and produces a 1 only if *both* comparisons are true.

P2F3 > 5 OR P2F6 < 23

The logical OR operator combines the two comparisons and produces a 1 if *either* of the two comparisons is true.

The result of any formula used in a report is stored in the report variable to which the formula is attached. To print the result, press Report Options (Ctrl-F7) from the report form, then choose Select Report Field (1) to access the Report Fields and Variables menu. Select Print Report Variable (5). See *Report Variables* under *Reports* in *Reference*.

Statements

Two statements are available in DataPerfect: the IF statement and the CASE statement. These statements assign specific answers for specific conditions.

When you are typing a statement, if you do not have room for the entire statement on one line, you may use hard returns and spaces to improve the statement's readability on the screen. DataPerfect ignores the hard returns and spaces. Also, the syntax for both IF and CASE statements allows for either uppercase or lowercase letters.

The IF Statement

Syntax:

```
IF condition
THEN expression
[ELSE expression]
ENDIF
```

Using the above example as an IF statement, any part of the formula within brackets [] is optional. A condition is a limited expression (i.e., it can only be an expression that produces either a true statement (1) or a false statement (0)).

The following rules apply to the IF statement:

- The condition must be true or false.
- If the condition listed is 1 (true), then the expression following THEN is calculated by DataPerfect.
- If the condition is 0 (false), then the expression following ELSE is calculated.
- If there is not an ELSE, a new value is not returned.

The expression following THEN and ELSE must produce a value which fits in the designated field or printed report variable. For example, if the format is A20, then the IF statement might be the following:

```
IF P1F5 >= 12
THEN "Good Afternoon"
ELSE "Good Morning"
ENDIF
```

The phrase "Good Afternoon" is a text string that will not exceed the format A20. Text included in a formula must be enclosed in either single or double (matching) quotation marks.

The statement above says, "If the value in P1F5 is greater than or equal to 12, then insert the expression 'Good Afternoon' in the current field. If the value is less than 12, then insert the expression 'Good Morning' in the current field."

If a field format is G\$ZZZ,ZZ9.99, the IF statement might be the following:

```
IF P4F6 = 1
THEN .75 * P4F3
ELSE IF P4F6 = 2
THEN .5 * P4F3
ELSE IF P4F6 = 3
```

```
THEN .25 * P4F3
ENDIF ENDIF ENDIF
```

P4F3 is a G Type numeric field and, when it is multiplied by the given number, the result will match the format G\$ZZZ,ZZ9.99.

The statement above says, "If the value in P4F6 is equal to 1, then multiply .75 by the value in P4F3. Otherwise, if the value in P4F6 is equal to 2, then multiply .5 by the value in P4F3. Otherwise, if the value in P4F6 is equal to 3, then multiply .25 by the value in P4F3."

Every IF statement must use ENDIF at the end of the formula. For example, because the above formula includes three IF statements, three ENDIF's are placed at the end of the formula.

Because an IF statement is an expression, IF statements can be nested inside other IF statements, as shown in the sample statement below.

```
IF P1F5 > 0 THEN
IF P1F4 = "Mr."
THEN "M"
ELSE "F"
ENDIF
ELSE "N" ENDIF
```

The CASE Statement

Syntax:

```
expression CASES
CASE condition OF expression END OF
[CASE condition OF expression END OF]
[DEFAULT expression]
ENDCASES
```

The definitions for condition and expression used for the IF statement also apply to the CASE statement. However, in the CASE statement, the condition must include "CV," which stands for case value. The case value is the value returned by the initial expression. Expressions following OF must return a value that does not exceed the size of the field into which it will be returned.

The following rules apply to the CASE statement:

- If the expression preceding CASES contains a formula, it is calculated and returns a value, which is thereafter referred to as the case value (CV). If the expression preceding CASES does

not contain a formula (i.e., just one field), the designated field is thereafter referred to as the case value. Using CASE CV is similar to using IF in an IF statement. For example, an expression that precedes CASES might be the following formula:

```
P1F1 / P1F2 * P1F8 CASES
```

- This expression is evaluated.
- If the condition returns a 1 (true), then the expression following OF is calculated and the CASE ends (using OF is similar to using THEN in an IF statement).
- If the condition returns a 0 (false), then DataPerfect checks the case value against the next condition.
- DataPerfect proceeds in this manner until a value of 1 (true) is returned, or until every CASE has been checked.
- When all occurrences of CASE have been checked and returned as 0 (false), DataPerfect looks for a DEFAULT. The DEFAULT says, "If none of the above are true statements, then evaluate the following expression." If a DEFAULT exists, the expression following DEFAULT is calculated and the CASE ends. If no DEFAULT exists, the CASE ends when no matches are found and no value is returned.

For example, if the format of the field containing the CASE statement is A20 and P1F4 is a numeric field, then a CASE statement might be the following:

```
P1F4 CASES  
CASE CV < 12 OF "Good Morning" END OF  
CASE CV < 18 OF "Good Afternoon" END OF  
DEFAULT "Good Evening"  
ENDCASES
```

The statement above says, "If the value in P1F4 is less than 12, then insert the expression 'Good Morning' in the current field. If the value in P1F4 is less than 18, then insert the expression 'Good Afternoon' in the current field. If the value in P1F4 is neither less than 12 nor less than 18, then insert the expression 'Good Evening' in the current field."

The order of the CASE CV's in the above statement affects the way the statement is evaluated. If the order of the two CASE CV's were reversed, the second CASE CV (CASE CV < 12 OF "Good Morning") would not be evaluated (any field less than 18 also includes any field less than 12).

The DEFAULT also could have been the following statement:

```
CASE CV >= 18 OF "Good Evening" ENDOF
```

Because the CASE statement is an expression, CASE statements can be nested inside other CASE statements, as shown in the statement below.

```
P1F5 CASES  
CASE CV = 1 OF 100 ENDOF  
CASE CV = 2 OF (P1F8) CASES  
CASE CV = 1 OF 1000 ENDOF  
CASE CV = 2 OF 2000 ENDOF  
CASE CV = 3 OF 3000 ENDOF  
ENDCASES ENDOF  
CASE CV = 0 OF 0 ENDOF  
ENDCASES
```

Usually, an IF or CASE statement constitutes the entire formula. If so, the value returned by the statement should match the format of the field.

Occasionally, the value returned is simply used as an operand in a more complicated expression. In this case, the value returned by the statement does not need to match the format of the field.

When the case value is alpha (i.e., words, not numbers), the CASE statement evaluates strings of the same length. As soon as it finds a match, the rest of the case value is dropped and the statement ends.

For example, if you have a CASE statement that allows either "NO" or "NONE" to be entered into a field, the CASE statement might incorrectly be written like this:

```
P1F1 CASES  
CASE CV = "NO" of 50 ENDOF  
CASE CV = "NONE" of 100 ENDOF  
ENDCASES
```

The statement above says, "If P1F1 contains the value 'NO,' then insert the expression '50' in the current field. If P1F1 contains the value 'NONE,' then insert the expression '100' in the current field."

When the CASE statement is evaluated, it looks at the first condition and compares those two letters (NO) to the field value. The string size of the first condition, if smaller than CV, is used

to evaluate the other conditions. No matter which value (NO or NONE) is in the field, the expression '50' is placed in the field. This is because a CASE statement compares conditions of the same length.

The above CASE statement would properly be written like this:

```
P1F1 CASES
CASE CV = "NO a" OF 50 ENDOF
CASE CV = "NONE" OF 100 ENDOF
ENDCASES
```

Adding the *a* at the end of the first statement causes the statement to evaluate all four spaces in the condition against the field value, rather than just the first two spaces, as in the previous statement. The *a* is not evaluated as part of the string.

This is only needed if the conditions are spelled similarly.

The following example is a formula which uses the same idea (adding extra letters to increase the length of the field value) to calculate a student's GPA (Grade Point Average).

```
P3F12 CASES
CASE CV = "A a" OF 4.0 ENDOF
CASE CV = "A+" OF 4.0 ENDOF
CASE CV = "A-" OF 3.7 ENDOF
CASE CV = "B b" OF 3.0 ENDOF
CASE CV = "B+" OF 3.4 ENDOF
CASE CV = "B-" OF 2.7 ENDOF
CASE CV = "C c" OF 2.0 ENDOF
CASE CV = "C+" OF 2.4 ENDOF
CASE CV = "C-" OF 1.7 ENDOF
CASE CV = "D d" OF 1.0 ENDOF
CASE CV = "D+" OF 1.4 ENDOF
CASE CV = "D-" OF 0.7 ENDOF
CASE CV = "F" OF 0.0 ENDOF
CASE CV = "I" OF 0.0 ENDOF
CASE CV = "UW" OF 0.0 ENDOF
ENDCASES
```

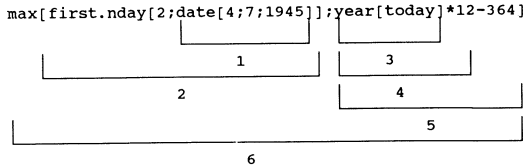
**Calculation
Order and
Use of
Parentheses**

Three factors determine the order in which expressions in a formula are evaluated: parentheses, operator priority, and the direction of evaluation (left to right).

The following functions and operators are described in the order of their priority (highest to lowest).

Functions

Functions in a formula are always evaluated first. Nested functions are evaluated starting with the function most deeply nested and working from there to the outside function. Multiple functions at the same level within a nest or in the formula are evaluated from left to right. Operators within functions follow the order indicated below.



Statements

Operators within IF and CASE statements are evaluated first, after which IF and CASE statements are evaluated.

Unary + -

The sign of the variables is always determined before performing another operation.

* //

Multiplications and divisions (including mods) are evaluated from left to right.

+ -

Add and subtract are evaluated from left to right.

< > <= >= <> =

Comparison operators are evaluated from left to right.

NOT

Evaluated from left to right.

AND

Evaluated from left to right.

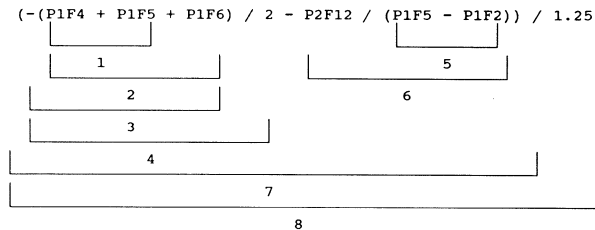
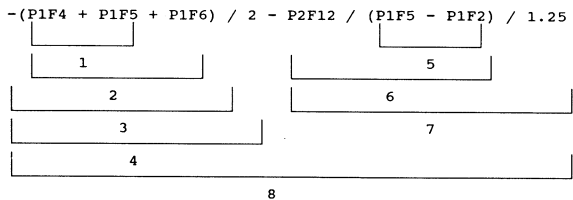
OR

Evaluated from left to right.

Parentheses can be used in formulas to alter the order of evaluation according to your needs. Expressions within parentheses are always evaluated first. Where nested parentheses exist, the

most deeply nested expression is evaluated first, and the outermost expression is evaluated last. Where multiple sets of unnested parentheses exist, they are evaluated from left to right. Parentheses must be in matched pairs.

The following examples illustrate the order of evaluation in different formulas.



Concatenation

DataPerfect includes two functions that can perform concatenations (*cat.c* and *cat.t*). These are discussed in *Functions Used in Formulas* under *Formulas and Functions in Reference*. You can also place two alphanumeric fields, strings, or a combination of the two next to each other (with no operators) and they will be concatenated. If the resulting string is longer than the field containing the formula, the extra characters are truncated. If the field containing the formula is a variable length text field, truncation should not be necessary. For example, the following formula may return "Mr. Harry Jones" as the field value:

"Mr. " truncate[P1F6] " " P1F7

P1F6 represents a First Name field, and P1F7 represents a Last Name field.

Sample Formulas

Several sample formulas are listed below with a description of how each works.

Calculating Age

You can calculate a person's age in the current year, in the current month, or the person's exact age today using one of the three formulas below. Regardless of the formula you want to use, you first need to follow steps 1 through 9 below.

- 1 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 2 Position the cursor where you want to add a Date of Birth field, then type **Date of Birth**.
- 3 Press **Create** (F9) to create the field.
- 4 In the reverse video bar, enter the format **D99/99/9999**.
- 5 Position the cursor where you want to add an Age field, then type **Age**.
- 6 Press **Create** to create the field.
- 7 In the reverse video bar, enter the format **GZ9**.
- 8 Position the cursor on the Age field, then press **Define Field** (Shift-F8) to access the Field Options menu.
- 9 Select Initial Formula (2).

Now you are ready to enter the formula for your particular application.

If you want to determine a person's age in the current year, type the following formula:

$$(\text{today} - \text{P1F6}) / 365.25$$

P1F6 represents the Date of Birth field. Be sure you use **Select** (F4) to select the Date of Birth field.

If you want determine a person's age in the current month, type the following formula:

```
IF MONTH [today] >= MONTH [P1F6]
THEN YEAR [today] - YEAR [P1F6]
ELSE YEAR [today] - YEAR [P1F6] - 1
ENDIF
```

P1F6 represents the Date of Birth field. Be sure you use **Select** (F4) to select the Date of Birth field.

In the above formula, if the birthday has already occurred this year, then the birth year is subtracted from the current year, giving the person's age. If the birthday has not already occurred this

year, then the birth year is subtracted from the current year, giving the age the person will be. One (1) is then subtracted, giving the current age.

If you want to determine a person's exact age today, type the following formula:

$$((\text{today} - \text{PIF6}) / 365.25) - .5$$

PIF6 represents the Date of Birth field. Be sure you use Select to select the Date of Birth field.

In the above formula, the person's age is calculated, then .5 is subtracted. This is necessary because DataPerfect rounds up a fraction .5 or greater.

For example, a man's birthday is in March, and he turned 20 years old in 1988. If the current month is October 1988, his age is about 20.6 years. DataPerfect subtracts .5 from 20.6, giving 20.1 as the man's age. Since DataPerfect rounds down .1, the age displayed is 20. If the man turned 20 years old in March 1988 and the current month is July 1988, his age is about 20.4. DataPerfect subtracts .5 from 20.4, giving 19.9 as the man's age. Because DataPerfect rounds up .9, the age displayed is 20.

After you have typed the desired formula, follow steps 1 through 3 below.

- 1** Press **Exit** (F7) or **Save** (F10) to return to the Field Options menu.
- 2** Select Initialize at Create/Save/Any Change (4) until this message appears in the lower part of the screen:
"Automatically computed at any change and when record is saved."
- 3** Press **Exit** twice to return to the panel.

Calculating Dates

Below are two formulas that calculate dates. The first formula inserts a day of the week into an alphanumeric field. The second formula inserts a month, day, and year into an alphanumeric field. These formulas are commonly used in reports, but you can also use them in a field in a panel. The two formulas cannot be on the same field at the same time unless you use the *cat.c* or *cat.t* function to connect them (see *Functions Used in Formulas* under *Formulas and Functions* in *Reference*).

Regardless of the formula you want to use, you first need to follow steps 1 through 9 below.

- 1** Press **Define Panel** (Alt-F8) to access the Define Panel menu.

- 2 Position the cursor where you want to add a Date field, then type **Date**.
- 3 Press **Create** (F9) to create the field.
- 4 In the reverse video bar, enter the format **D99/99/9999**.
- 5 Position the cursor where you want to add an alphanumeric field.
- 6 Press **Create** to create the field.
- 7 If you are going to use the formula for inserting a day of the week into the field, enter the format **A9** in the reverse video bar. This field format allows for the longest possible name for a day of the week (Wednesday).

or

If you are going to use the formula for inserting a month, day, and year into the field, enter the format **A18** in the reverse video bar. This field format allows for the longest possible month, day, and year (September 30, 1988).

- 8 Position the cursor on the alphanumeric field, then press **Define Field** (Shift-F8) to access the Field Options menu.
- 9 Select Initial Formula (2).

Now you are ready to enter the formula for your particular application.

If you want to insert a day of the week into the alphanumeric field, type the following formula:

```
DAY.OF.WEEK [P1F1] CASES
CASE CV = 1 OF "Monday"      ENDOF
CASE CV = 2 OF "Tuesday"     ENDOF
CASE CV = 3 OF "Wednesday"   ENDOF
CASE CV = 4 OF "Thursday"    ENDOF
CASE CV = 5 OF "Friday"      ENDOF
CASE CV = 6 OF "Saturday"    ENDOF
CASE CV = 7 OF "Sunday"      ENDOF
ENDCASES
```

P1F1 represents the Date field. Be sure you use Select (F4) to select the field.

If you want to insert a month, day, and year into an alphanumeric field, type the following formula:

```
MONTH [P1F1] CASES
CASE CV = 1 OF "January "    ENDOF
CASE CV = 2 OF "February "   ENDOF
```

```

CASE CV = 3 OF "March "   ENDOF
CASE CV = 4 OF "April "   ENDOF
CASE CV = 5 OF "May "     ENDOF
CASE CV = 6 OF "June "    ENDOF
CASE CV = 7 OF "July "    ENDOF
CASE CV = 8 OF "August "  ENDOF
CASE CV = 9 OF "September" ENDOF
CASE CV = 10 OF "October " ENDOF
CASE CV = 11 OF "November" ENDOF
CASE CV = 12 OF "December" ENDOF
ENDCASES
APPLY.FORMAT["GZ9";day[P1F1]] ", "
APPLY.FORMAT["N9999";year[P1F1]]

```

P1F1 represents the Date field. Be sure you use Select to select the field.

After you have typed the desired formula, follow steps 1 through 3 below.

- 1 Press **Exit** (F7) or **Save** (F10) to return to the Field Options menu.
- 2 Select Initialize at Create/Save/Any Change (4) until this message appears in the lower part of the screen:
"Automatically computed at any change and when record is saved."
- 3 Press **Exit** twice to return to the panel.

Sort Dates Backward

Because dates are sorted chronologically in an index, you must use a formula if you want to sort the dates in reverse order.

First, define the needed fields and formula.

- 1 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 2 Position the cursor where you want to add a Date field, then type **Date**.
- 3 Press **Create** (F9) to create the field.
- 4 In the reverse video bar, enter the format **D99/99/9999**.
- 5 Position the cursor where you want to add a hidden numeric field.
- 6 Press **Create** to create the field.
- 7 In the reverse video bar, enter the format **N99999::H**.
- 8 Position the cursor on the hidden numeric field, then press **Define Field** (Shift-F8) to access the Field Options menu.

9 Select Initial Formula (2).

10 Type the following formula:

66,000 - P1F1

66,000 simply represents a value higher than the largest possible Julian date. P1F1 represents the Date field. Be sure you use Select (F4) to select the Date field.

11 Press **Exit** (F7) or **Save** (F10) to return to the Field Options menu.

12 Select Initialize at Create/Save/Any Change (4) until this message appears in the lower part of the screen:
"Automatically computed at any change and when record is saved."

13 Press **Exit** twice to return to the panel.

Now create an index whose first field is the hidden numeric field.

14 Press **Define Index** (Ctrl-F8) to access the Define Index menu.

15 Select Create Index (1).

16 Move the cursor to the hidden numeric field, and press **Select** to select this field as the first field in the index. Then select any additional fields you want to include in the index.

17 Press **Exit** twice to return to the panel.

Next, assign this index to a lookup field list for the Date field.

18 Move the cursor to the Date field, then press **Define Field**.

19 Select Lookup Field List (1).

20 Move the cursor to the Date field in the lookup field list.

21 Press **Select** to select the field, then select any additional fields you want to include in the lookup field list.

22 Press **Exit** to move to the Index Selection screen.

23 Use **Up Arrow** (↑) and **Down Arrow** (↓) to move to the index which contains only the hidden numeric field.

24 Press **Select** to select the index, then press **Exit** to return to the panel.

Any time a lookup is performed on this field, the dates will be sorted backward in the lookup list.

Because Julian dates are actually numbers somewhere between 0 and about 65,000, you are performing simple math. Indexes sort chronologically, so when a lookup is performed, 06/02/88 comes before 06/10/88. However, you may want to show 06/10/88 *before* 06/02/88. The Julian value for 06/02/88 is 32,235 and the Julian value for 06/10/88 is 32,243. 66,000 represents a value higher than the largest possible Julian date. If you subtract 32,235 from 66,000, you get 33,765. If you subtract 32,243 from 66,000, you get 33,757. 33,757 is less than 33,765, so it would appear first in the index, giving the desired results.

Disjoint Range Check

A disjoint range check requires a user to enter only a range of data which is not sequential. For example, a Gender field may contain only "M" (male) or "F" (female), but since "M" and "F" are not next to each other in the alphabet, you cannot set a range check only allowing those two letters.

To define a disjoint range check for the example above,

- 1 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 2 Position the cursor where you want to add the Gender field, then type **Gender**.
- 3 Press **Create** (F9) to create the field.
- 4 In the reverse video bar, enter the format **U1**.
- 5 Position the cursor on the Gender field, then press **Define Field** (Shift-F8).
- 6 Select Initial Formula (2).
- 7 Type the following formula:

```
IF P1F1 = "M" OR P1F1 = "F"  
THEN P1F1  
ELSE " "  
ENDIF
```

P1F1 represents the Gender field. Be sure to use Select (F4) to select the Gender field.

- 8 Press **Exit** (F7) or **Save** (F10) to return to the Field Options menu.
- 9 Select Initialize at Create/Save/Any Change (4) until this message appears in the lower part of the screen:
"Automatically computed at any change and when record is saved."
- 10 Press **Exit** twice to return to the panel.

The above formula allows only "M" or "F" to be entered into the Gender field. It works by checking the field value for "M" or "F." If "M" or "F" is found, DataPerfect leaves the field as it is. If some other value is found, DataPerfect replaces it with a " " (space).

Calculate the Number of Days Between Two Dates

Julian dates are used to calculate dates in formulas. Suppose today's Julian date is 32,678 and you want to find out how many days there are between April 1, 1987 and today. The Julian date for April 1, 1987 is 31,807. DataPerfect needs to subtract 31,807 from 32,678 to get a remainder of 871 (days).

To calculate the number of days between today and April 1, 1987, you first need to define an Earliest Date field, a Most Recent Date field, and a Number of Days Between Dates field.

- 1** Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 2** Position the cursor where you want to add an Earliest Date field, then type **Earliest Date**.
- 3** Press **Create** (F9) to create the field.
- 4** In the reverse video bar, enter the format **D99/99/9999**.
- 5** Position the cursor where you want to add a Most Recent Date field, then type **Most Recent Date**.
- 6** Press **Create** to create the field.
- 7** In the reverse video bar, enter the format **D99/99/9999**.
- 8** Position the cursor where you want to add a Number of Days Between Dates field, and type **Number of Days Between Dates**.
- 9** Press **Create** to create a field.
- 10** In the reverse video bar, enter the format **GZZZZ9**.

Next, assign a formula to the Number of Days Between Dates field.

- 11** Position the cursor on the Number of Days Between Dates field, then press **Define Field** (Shift-F8) to access the Field Options menu.
- 12** Select Initial Formula (2).
- 13** Type the following formula:

P1F2 - P1F5

P1F2 represents the Most Recent Date field, and P1F5 represents the Earliest Date field. Be sure to use Select (F4) to select the fields.

The dates must be subtracted in this order so that a positive number is obtained.

- 14 Press **Exit** (F7) or **Save** (F10) to return to the Field Options menu.
- 15 Select Initialize at Create/Save/Any Change (4) until this message appears in the lower part of the screen:
"Automatically computed at any change and when record is saved."
- 16 Press **Exit** twice to return to the panel.

Calculating Conditional Totals

You can calculate conditional totals using a formula. The panels below represent a database that keeps track of your checkbook transactions.

CHECKER.DAT-1			Account Number 100-0001
Ck#	Date	Payee	Transaction Amount
250	07/21/89	ABC Company	\$150.00
Cleared Bank	Y/N	N	Outstanding Checks

In the Transactions panel above, you enter all of the transactions. You have fields labeled Account Number, Check Number, Payee, Date, Transaction Amount, and Cleared Bank (Y/N). The Transactions panel also contains a panel link to another panel (the Outstanding Checks panel).

CHECKOUT-1—Depth 2	
Account Number: 100-0001	Outstanding Balance: \$150.00

The Outstanding Checks panel (above) keeps track of the outstanding checks and their total amount. This panel contains fields labeled Account Number and Outstanding Balance.

To figure the outstanding balance, you need to total the Transaction Amount field, only if "N" (No) is in the Cleared Bank field. This is an example of a conditional total.

If a total is defined on the Transaction Amount field to total to the Outstanding Balance field, every transaction in the same account will total. You need to create a hidden field that determines when

the Cleared Bank field contains "N" and then perform the total. If the Cleared Bank field does not contain "N," the total will not be performed.

To calculate the outstanding balance,

- 1 Define a Transactions panel which contains fields similar to the one shown above.
- 2 Define an Outstanding Checks panel which contains fields similar to the one shown above.

Now create a panel link in the Transactions panel.

- 3 Access the Transactions panel, then press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 4 Position the cursor where you want to create the panel link, then select Define Link for ↓Panel (F5).
- 5 Once the panel link symbol appears, position the cursor on the symbol and select Define Link for ↓Panel again.

DataPerfect takes you through a series of steps, asking you to select a target panel, a target field, an index, and a link field list. If you are unfamiliar with these steps, see *Panel Links* under *Links* in *Reference*.

- 6 In the Transactions panel, position the cursor where you want to add a hidden G Type numeric field.
- 7 Press **Create** (F9) to create the field.
- 8 In the reverse video bar, enter the format **G\$Z,ZZ9.99::H**.

Be sure that the Transaction Amount field you created has the same (or larger) field format as the hidden G Type numeric field you just created.

- 9 Position the cursor on the Transaction Amount field and press **Edit** (F6) to check the field format.
- 10 If necessary, edit the field format to be G\$Z,ZZ9.99.

Now you are ready to assign the formula to the hidden G Type numeric field.

- 11 Position the cursor on the hidden G Type numeric field, and press **Define Field** (Shift-F8) to access the Field Options menu.
- 12 Select Initial Formula (2).

13 Type the following formula:

```
IF P1F2 = "N" THEN P1F3 ENDIF
```

P1F2 represents the Cleared Bank field and P1F3 represents the Transaction Amount field. Be sure you use Select (F4) to select the fields.

14 Press **Exit** (F7) or **Save** (F10) to save the formula and return to the Field Options menu.

15 Select Initialize at Create/Save/Any Change (4) until the message appears in the lower part of the instruction box: "Automatically computed at any change and when record is saved."

Next, assign Keep a Total to the hidden G Type numeric field that totals in the Outstanding Balance field (in the Outstanding Checks panel).

16 From the Field Options menu, select Keep a Total (8).

17 Select Add the Value to Another Field (1).

The Transaction panel appears on the screen.

18 Position the cursor on the panel link, then press **Down Arrow** (↓) to move to the Outstanding Checks panel.

19 Position the cursor on the Outstanding Balance field, then press **Select** to select the field.

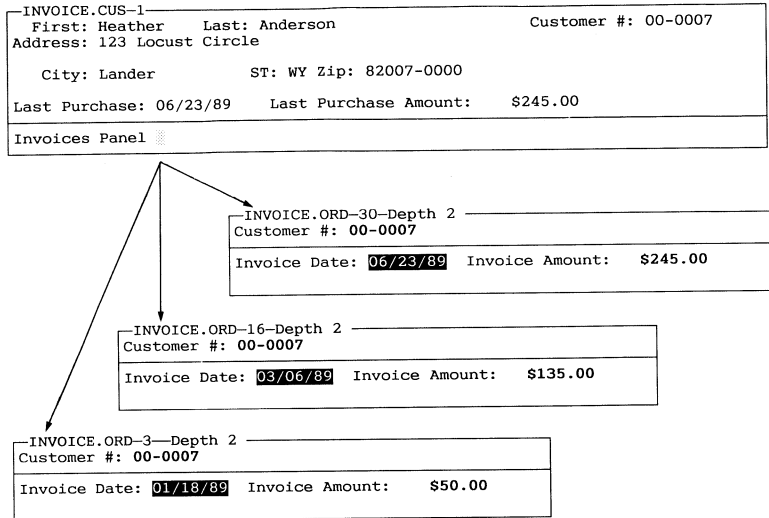
The definition for the total is displayed below the Field Options menu in the lower part of the instruction box (e.g., "The value for this field is added to field 3 of panel 2 through panel link 5").

20 Press **Exit** twice to return to the panel.

Each time a record is created or edited, the formula on the hidden field is evaluated. If the Cleared Bank field contains "N," the value in the Transaction Amount field is copied into the hidden field, which is then totalled to the Outstanding Balance field. If the Cleared Bank field contains "Y" (or any value other than "N"), a value of zero (0) is assumed which, when added to the total, does not increase the outstanding balance.

Calculating Most Recent Date

You can calculate a most recent purchase date or a most recent payment date using a formula. The panels below represent a database for a small business that calculates the most recent purchase dates of invoice items.



The Customer Information panel (INVOICE.CUS) includes the following fields: Customer Number, Last Name, First Name, Address, City, State, ZIP Code, Phone Number, Last Purchase Date, and Last Purchase Amount.

The Invoices panel (INVOICE.ORD) includes the following fields: Customer Number, Invoice Date, and Invoice Amount.

To display a most recent purchase date in the Customer Information panel,

- 1 Define a Customer Information panel which contains fields similar to the ones listed above. Be sure the field formats for the Last Purchase Date field and the Last Purchase Amount field include the ::C display mode indicator (see *Display Mode Indicators in a Field Format* under *Fields in Reference*).
- 2 Define an Invoices panel similar to the one shown above. Now create a panel link in the Customer Information panel.
- 3 Access the Customer Information panel, then press **Define Panel** (Alt-F8) to access the Define Panel menu.

- 4 Position the cursor where you want to create the panel link, then select Define Link for ↓Panel (F5).
- 5 Once the panel link symbol appears, position the cursor on the symbol and press Define Link for ↓Panel again.

DataPerfect takes you through a series of steps, asking you to select a target panel, a target field, an index, and a link field list. If you are unfamiliar with these steps, see *Panel Links* under *Links* in *Reference*.

Important: Be sure the first field in the index is the Customer Number field. The Customer Number field should also be the only field in the link field list.

- 6 Once you have defined the panel link, move the cursor to the Invoices panel.

In the Invoices panel, define a hidden numeric field and assign a formula to it.

- 7 Press **Define Panel** to access the Define Panel menu.
- 8 Position the cursor where you want to add a hidden numeric field.
- 9 Press **Create** (F9) to create a field.
- 10 In the reverse video bar, enter the format **N99999::H**.
- 11 Position the cursor on the hidden numeric field, then press **Define Field** (Shift-F8) to access the Field Options menu.
- 12 Select Initial Formula (2).
- 13 Type the following formula:

66,000 - P2F4

66,000 simply represents a value higher than the largest possible Julian date. P2F4 represents the Invoice Date field. Be sure you use Select (F4) to select the field.

- 14 Press **Exit** (F7) or **Save** (F10) to return to the Field Options menu.
- 15 Select Initialize at Create/Save/Any Change (4) until the message appears in the lower part of the instruction box: "Automatically computed at any change and when record is saved."

This hidden numeric field will be one of the fields in the index used in the panel link.

- 16 In the Invoices panel, press **Define Index** (Ctrl-F8) to access the Define Index menu.

- 17 Select Edit Index Field List (2).
- 18 Use **Up Arrow** (↑) and **Down Arrow** (↓) to find the index in which the Customer Number field is the first field selected.
- 19 Edit the index so that the next field after the Customer Number field is the hidden numeric field.

Editing the index in this manner, and assigning the formula in step 13 to the hidden numeric field, sorts the dates of purchase backward (see *Sort Dates Backward* above under *Sample Formulas*).

- 20 Press **Exit** twice to return to the Invoices panel.

Now return to the Customer Information panel and assign a formula to the Last Purchase Date field.

- 21 Move to the Customer Information panel, then press **Define Panel** to access the Define Panel menu.
- 22 Position the cursor on the Last Purchase Date field, then press **Define Field**.
- 23 Select Initial Formula.
- 24 Use **Select** to select the Purchase Date field through the panel link in the Customer Information panel by using the following formula:

P1F10P2F4

P1F10 represents the panel link in the Customer Information panel. P2F4 represents the Last Purchase Date field in the Invoices panel.

- 25 Press **Exit** three times to return to the panel.

Whenever a record is displayed in the Customer Information panel, this formula goes through the panel link and retrieves the Invoice Date field from the first related record in the Invoices panel. Because the index used to define the link contains a field with a formula which was defined to sort the dates backward, the most recent date of purchase will be displayed through the panel link.

Finally, assign the same formula to the Last Purchase Amount field.

- 26 From the Customer Information panel, press **Define Panel** to access the Define Panel menu.
- 27 Position the cursor on the Last Purchase Amount field, then press **Define Field**.

- 28 Follow steps 23 through 25 above to add the same formula to this field.

Calculating Elapsed Time

To figure elapsed time, you first need to define a Start Time field, an End Time field, and an Elapsed Time field.

In order for this formula to record accurate time, it is important that the system time on your computer is accurate.

- 1 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 2 Position the cursor where you want to add a Start Time field, then type **Start Time**.
- 3 Press **Create** (F9) to create a field.
- 4 In the reverse video bar, enter the format **T99:99:99**.
- 5 Position the cursor where you want to add an End Time field, then type **End Time**.
- 6 Press **Create** to create a field.
- 7 In the reverse video bar, enter the format **T99:99:99**.
- 8 Position the cursor where you want to add an Elapsed Time field, then type **Elapsed Time**.
- 9 Press **Create** to create a field.
- 10 In the reverse video bar, enter the format **T99:99:99**.

Now assign a formula to the Start Time field and the End Time field.

- 11 Position the cursor on the Start Time field, then press **Define Field** (Shift-F8) to access the Field Options menu.
- 12 Select Initial Formula (2).
- 13 Type the following formula:

NOW

Now is a function that inserts the current time into the field.

- 14 Press **Exit** (F7) or **Save** (F10) to save the formula and return to the Field Options menu.
- 15 Be sure the message in the lower part of the instruction box reads: "Automatically computed when record is created." If it does not, select Initialize at Create/Save/Any Change (4) until it is displayed correctly.
- 16 Press **Exit** to return to the Define Panel menu.

- 17 Position the cursor on the End Time field, then press **Define Field** to access the Field Options menu.
- 18 Select Initial Formula.
- 19 Type the following formula:

NOW

Now is a function that inserts the current time into the field.

- 20 Press **Exit** or **Save** to save the formula and return to the Field Options menu.
- 21 Select Initialize at Create/Save/Any Change until the message appears in the lower part of the instruction box:
"Automatically computed when created record is saved."
- 22 Press **Exit** to return to the Define Panel menu.

When you press Create to create a new record, the *now* function calculates the current time and stores it in the Start Time field. When you press Save to save a record, the *now* function calculates the current time and stores it in the End Time field. If you want to enter the starting and ending times manually, you cannot use the *now* function.

Next, assign a formula to the Elapsed Time field.

- 23 Position the cursor on the Elapsed Time field, then press **Define Field** to access the Field Options menu.
- 24 Select Initial Formula.
- 25 Type the following formula:

PIF6 - PIF5

PIF6 represents the End Time field. PIF5 represents the Start Time field.

- 26 Press **Exit** or **Save** to return to the Field Options menu.
- 27 Select Initialize at Create/Save/Any Change until the message appears in the lower part of the instruction box:
"Automatically computed at any change and when record is saved."
- 28 Press **Exit** twice to return to the panel.

This formula displays the time which elapsed between the starting and ending times in the Elapsed Time field.

Defining a "Quality Assurance" Field

If you do not want a record to be saved until certain information is correct, you first need to define a Verify field which displays a certain value when the correct data has been entered.

- 1 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 2 Position the cursor where you want to add the Verify field, then type **Verify**.
- 3 Press **Create** (F9) to create the field.
- 4 In the reverse video bar, enter the format **A4::MN**.

This format allows for the word "OKAY" to be entered in the Verify field. The ::M display mode indicator is included in the field format so that the field must be updated; the ::N display mode indicator is included so the user can't arbitrarily change the displayed value.

Now assign a formula to the field.

- 5 Position the cursor on the field, then press **Define Field** (Shift-F8).
- 6 Select Initial Formula (2).
- 7 Type the following formula:

```
IF P1F1 = 0 THEN " " ELSE "OKAY" ENDIF
```

P1F1 represents any field that you want to evaluate. Be sure you use **Select** (F4) to select the field.

- 8 Press **Exit** (F7) or **Save** (F10) to return to the Field Options menu.
- 9 Select Initialize at Create/Save/Any Change (4) until the message appears in the lower part of the instruction box: "Automatically computed at any change and when record is saved."

Next, assign a range check to this field in which "OKAY" is both the high and low value.

- 10 Select Range Check (5).
- 11 Enter **OKAY** as the low value for the field.
- 12 Enter **OKAY** as the high value for the field.
- 13 Select Validation Time (Edit/Save) (6) so that the message appears in the lower part of the instruction box: "Validated when record is saved."

14 Press **Exit** to return to the panel.

When a user enters data in a record, the word "OKAY" appears in the display field if all of the data is correct. Since "OKAY" is in the allowed range set by the range check, the record can be saved and the user can go on. If the data is not correct, the word "OKAY" does not appear in the field. Since blanks are not in the allowed range, DataPerfect will not allow the record to be saved. The record cannot be saved until correct data has been entered and the word "OKAY" appears in the Verify field.

Functions Used in Formulas

A function is much like an operator. It looks at one or more *arguments*, which are usually fields, literal items, or report variables, and returns a single result. Arguments (hereafter referred to as *arg*) can also be formulas containing any of the operators listed in *Using Formulas* under *Formulas and Functions in Reference*.

You will not ordinarily place functions on the same field type as the one from which you are trying to retrieve information. For example, you would not use **year[*arg*]** on a date field. However, you can use **year[*arg*]** on a numeric field to retrieve information from a date field.

When defining a function, be sure to use square brackets [] to enclose the arguments.

DataPerfect is not case sensitive when reading functions. You may use either uppercase or lowercase letters when typing functions.

Specific Functions

Each function is listed below, followed by a description and example(s) of its use.

abs[*arg*]

Figures the absolute value of the *argument*. *Arg* must be a number or a field with a numeric format.

Examples:

abs[P1F6]

Returns the absolute value of P1F6.

abs[66,000 - P2F4]

Returns the absolute value of 66,000 - P2F4.

If *arg* is zero (0) or greater, *arg* remains unchanged. If *arg* is less than zero (0), the positive value of *arg* is returned.

Example:

abs[-53]

Returns 53 as the absolute value.

apply.format[*arg1*;*arg2*]

Converts the data specified by *arg2* into an alphanumeric format of the same field type according to the field format specified in *arg1*. *Arg1* can be any field format (except text) supported by

DataPerfect and must be enclosed in quotation marks (" "). The data type of *arg2* must match that of the format specified in *arg1*. When used by itself as a complete formula (all of the formula), the field containing the formula must be alphanumeric. *Apply.format* always returns a character string.

Example:

apply.format["D99/99/9999";P1F4]

Returns "04/07/1988" in alphanumeric format. P1F4 represents a date field that contains the date "04/07/88". The field that contains this formula is alphanumeric.

cat.c[*arg1*;*arg2*;...;*argn*]

Concatenates two or more character strings. You can only concatenate alphanumeric fields or text fields. If a positive integer is used as an *arg*, then that number of carriage returns is inserted between the text or fields. The carriage returns are always inserted unless they follow the first *arg*. If the first *arg* contains no value, it truncates the first *arg* and suppresses any carriage return(s) which follow the *arg*. A maximum of ten carriage returns is allowed. Literal string *args* may also be used.

For each blank field you want to check, you must nest the *cat.c* function (see the third example below).

Examples:

cat.c[P3F6;6;P3F7]

Concatenates P3F6 and P3F7 separated by six carriage returns.

cat.c["THIS IS";" A TEST"]

Returns "THIS IS A TEST".

cat.c[P1F1;1;cat.c[P1F2;1;P1F3]]

Checks P1F1 and P1F2. Then, if the fields are blank, they are truncated, and the following carriage returns are suppressed. P1F3 is printed.

cat.t[*arg1*;*arg2*;...;*argn*]

Concatenates two or more character strings. *Arg* must be a text string, alphanumeric field, or text field. If a positive integer is used as an *arg*, then that number of carriage returns is inserted between the text or fields. The carriage returns are always inserted unless they follow the first *arg*. If the first *arg* contains no value, it suppresses any carriage return(s) which follow the *arg*. A maximum of ten carriage returns is allowed. Literal string *args* may also be used.

This function also truncates any trailing blanks from the fields selected as *args* before concatenating them.

Examples:

cat.t[P1F4;3;P1F5]

Concatenates P1F4 and P1F5 separated by three carriage returns.

cat.t[P1F11; ", "P1F12]

Concatenates P1F11 and P1F12 separated by a comma (,) and a space. All other trailing blanks are truncated.

contains[*arg1*;*arg2*]

Searches the field specified in *arg1* for the text found in *arg2*. This function is used in IF THEN statements, except when performing a search.

This function performs a search similar to Specify Template on the Search Options menu (see *Search* in *Reference*). Asterisks (*) and question marks (?) are the default wildcard characters. An asterisk searches for many characters; a question mark searches for a single character. To search for an asterisk or a question mark, you must change the wildcard characters. To do this, begin *arg2* with a broken vertical line, followed by the desired wildcard characters (e.g., |*nm*).

Example:

contains[P1F3;"*development*"]

If used in a report formula, returns any records where the word *development* is found in P1F3.

contains[P1F8;"| #\$\$\$"]

The # searches for many characters; \$ searches for one character. Returns a true value where an asterisk is found in P1F8.

convert[*arg1*;*arg2*]

This function is used to convert character strings to numbers or to force left alignment of a computed value in a numeric (G, H, and N Type) field.

This function converts the character string specified by *arg2* into data according to the field format specified in *arg1*. *Arg1* can be any field format (except text) supported by DataPerfect and must be enclosed in quotation marks (" "). *Arg2* must be a text string or alphanumeric field. The field with the formula may contain any format. The value returned is converted according to the format in *arg1*.

Example:

convert["G\$ZZZ,ZZ9.99";P2F3]

The field P2F3 is an alphanumeric field. The field that contains this formula is alphanumeric. Assume P2F3 contains the value \$100,000. The value returned is \$100,000.00 first in numeric format because of *arg1*.

date[*arg1*;*arg2*;*arg3*]

Returns the date in Julian date format. *Arg1* = day, *arg2* = month, *arg3* = year. If a field is used, it must be a date field format. Whenever you are working with a date field in a formula, it is necessary to use the date function. For example, the formula P1F1 = "01/01/88" does not work properly if P1F1 is a date field. An accurate formula would be P1F1 = date[1;1;1988].

Examples:

date[4;7;1987]

Returns the Julian value for July 4, 1987 (31901).

date[day[P1F2];month[P1F2];year[P1F2]]

Returns the Julian date for P1F2.

day[*arg*]

Returns the day of the month, a number from 1 to 31. *Arg* must be a date field, the special argument *today*, a report variable, or a formula which produces a valid date.

Examples:

day[today]

Returns the day of the month (today). If today were December 5, 1988, the value would be 5.

day[P1F3]

Returns the day of the month for the date in P1F3.

day[RV1]

Returns the day of the month for the date in RV1.

day.of.week[*arg*]

Returns a number from 1 to 7 representing the day of the week (1 = Monday, 2 = Tuesday, 7 = Sunday, etc.). *Arg* is a single value in Julian date format, a date field, a report variable, or a formula which produces a valid date.

Examples:

day.of.week[*today*]

Returns the day of the week for today. If today were November 23, 1988, the value would be 3 for Wednesday.

day.of.week[P1F4]

Returns the day of the week for the date in P1F4.

first.day[*arg*]

Returns the Julian value for the first day of the month and year specified in *arg*. The format of *arg* is a date field, a report variable, or a formula which produces a valid date.

Examples:

first.day[*today*]

Returns the Julian value for the first day of the current month of the current year. If today were September 5, 1988 (Julian date 32,330), the value 32,326 (September 1, 1988) would be returned.

first.day[P2F4]

Returns the Julian value for the first day of the month and year for the date in P2F4.

first.nday[*arg1*;*arg2*]

Returns the date of the first Monday through Sunday of the month and year specified. *Arg1* is a number from 1 to 7 where 1 = Monday, 2 = Tuesday, 7 = Sunday, etc. *Arg2* is a number, formula, report variable, or field that represents the month and year in Julian date format.

Examples:

first.nday[1;*today*]

Returns the day of the month for the first occurrence of a Monday (1) of the current month of the current year. If today were September 8, 1988 (Thursday), the value 5 (Monday, September 5, 1988) would be returned.

first.nday[4;P2F4]

Returns the day of the month for the first occurrence of a Thursday (4) of the month and year for the date in P2F4.

last.day[*arg*]

Returns the Julian value for the last day of the month and year specified in *arg*. The format of *arg* is a single number, a date field, a report variable, or a formula which produces a valid date.

Examples:

last.day[*today*]

Returns the Julian value for the last day of the current month of the current year. If today were September 5, 1988 (Julian date 32,330), the value 32,355 (September 30, 1988) would be returned.

last.day[P2F4]

Returns the Julian value for the last day of the month and year for the date in P2F4.

last.nday[*arg1*;*arg2*]

Returns the date of the last Monday through Sunday of the month and year specified. *Arg1* is a number from 1 to 7 where 1 = Monday, 2 = Tuesday, 7 = Sunday, etc. *Arg2* is a number, formula, or field that represents the month and year in Julian date format.

Examples:

last.nday[1;*today*]

Returns the day of the month for the last occurrence of a Monday (1) in the current month of the current year. If today were September 8, 1988 (Thursday), the value 26 (Monday, September 26, 1988) would be returned.

last.nday[4;P2F4]

Returns the day of the month for the last occurrence of a Thursday (4) in the month and year for the date in P2F4.

max[*arg1*;*arg2*;...;*argn*]

Returns the value of the *arg* with the highest value. *Args* can be numeric or text fields, but text and numeric *args* cannot occur in the same function. This function is not case sensitive.

Examples:

max[15-13;4;16*2-9]

Returns 23.

max[P1F3;P1F13;25]

Returns the highest value found in the *args*.

max["Kevin";"BOB";"ZELDA";"ALAN"]

Returns "ZELDA."

min[*arg1*;*arg2*;...;*argn*]

Returns the value of the *arg* with the lowest value. *Args* can be numeric or text fields, but text and numeric *args* cannot occur in the same function. This function is not case sensitive.

Examples:

min[15-13;4;16*2-9]

Returns 2.

min[P1F3;P1F13;25]

Returns the lowest value found in the *args*.

min["Kevin";"BOB";"ZELDA";"ALAN"]

Returns "ALAN."

min["Kevin";P1F6;"ZELDA";RV1;"Jack"]

Returns the lowest value of the text strings, P1F6, and RV1.

month[*arg*]

Returns a number from 1 to 12 where 1 = January, 2 = February, 12 = December, etc. *Arg* must be a date field, the special argument *today*, a report variable, or a formula which produces a valid date.

Examples:

month[today]

Returns the number of the current month. If today is September 4, 1988, the value 9 is returned.

month[P2F5]

Returns the number of the month of the date in P2F5.

now

This is a function which returns the current time (assuming that the system clock is accurate). By itself, it is only valid on a time field. It can be combined with other functions in a formula.

round[*arg1*;*arg2*]

Rounds the number specified in *arg1* to the nearest control value specified in *arg2*. *Arg2* can be any number.

Examples:

round[P1F4;.25]

Rounds the value in P1F4 to the nearest .25.

round[P2F6;1]

Rounds the value in P2F6 to the nearest integer.

substring[arg1;arg2;arg3]

Returns a character string. *Arg1* is the original character string (or alphanumeric field). *Arg2* is a number indicating the position of the first character to be returned in the string. *Arg3* is a number indicating how many characters to include in the returned string (from the first character to be returned).

Example:

substring["215 Oak Lane, Hartford, CT";15;8]

Returns the value "Hartford."

today

This is a function which returns the current date (assuming that the system clock is accurate). By itself, it is only valid on a date field. It can be combined with other functions in a formula.

truncate[arg]

Removes all trailing blanks from a character string. This is especially helpful when concatenating two alphanumeric fields. *Arg* must be a character string.

Examples:

truncate[P2F3]

Assume the field P2F3 has the format of A10. In the current record, only 5 of the available spaces are used. This function truncates the 5 remaining spaces. For example, if the value in P2F3 is "Kevin ", the function **truncate[P2F3]** returns the value "Kevin."

truncate[P2F5]" truncate[P2F8]

Written this way, *truncate* would concatenate P2F5 and P2F8, truncate all trailing spaces from P2F5, and insert only one space between the fields.

year[arg]

Returns a year represented by a number from 1900 to 2078. *Arg* must be a date field, the special argument *today*, a report variable, or a formula which produces a valid date.

Examples:

year[today]

Returns the current year. If today is September 26, 1988, the value 1988 is returned.

year[P4F9]

Returns the year for the date in P4F9.

year[RV1]

Returns the year for the date in RV1.

Using Convert with Apply.Format

These two functions are used together when you need to apply a format to data, but the data returned is needed in a format other than an alpha string. *Apply.format* can change the format, but it always returns an alpha string, so the *convert* function is needed. *Convert* takes the alpha string returned from the *apply.format* and converts it to the format specified in *arg1* of the *convert* statement.

Example:

```
convert["G$Z,ZZZ";apply.format["N9999";P1F2]]
```

Suppose you want to take the value from P1F2 (whose format is N9999), and place it in a numeric G Type format field. The above formula would take the number in P1F2 and apply the same format, but it would change the value to a character string. Then the number, now a character string, would be used as *arg2* for the *convert* function. The *convert* function would convert the character string in *arg2* into the format G\$Z,ZZZ and display it in the field.

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Introduction

Understanding field lists and indexes is essential to understanding DataPerfect. Field lists and indexes are needed to establish links and lookup lists, and to sort records for reports.

In this section you will learn how to create, edit, and delete field lists and indexes. Information is also provided concerning the kinds of field lists you can use in DataPerfect.

Defining a Field List

Field list is a general term used to describe any list of fields created for a specific purpose. Indexes, link field lists, lookup field lists, search field lists, and window field lists are all considered field lists.

Any field in a panel may be used in a field list. Fields containing the ::C display mode indicator can be used in lookups, but cannot be selected when defining an index. (See *Display Mode Indicators in a Field Format* under *Fields in Reference*.)

For specific information about each type of field list, refer to *Index Options*, *Lookup Field Lists*, and *Search Field Lists* under *Field Lists and Indexes*; *Panel Links* and *Data Links* under *Links* (to define a link field list), and *Panel Links* under *Links in Reference* (to define a window field list).

To define a field list,

- 1 Be sure the cursor is in the panel for which you want to create the field list.
- 2 Depending on which type of field list you want to define, use the appropriate keystrokes to access the Define Field List screen.

Field List	Keystrokes
Index field list:	Define Index (Ctrl-F8), Create Index (1).
Lookup field list:	Define Field (Shift-F8), Lookup Field List (1).
Search field list:	Define Field (Shift-F8), Define Search Field List (7).
Link field list:	Define Panel (Alt-F8), Define Link for ↓Panel (F5).
Window field list:	Define Panel (Alt-F8), Define Link for ↓Panel (F5), Define Window for Related Records (2).

The current panel is displayed with the cursor positioned on the first field in the panel.

- 3 Move the cursor to the desired field, then press **Select** (F4) to choose the field you want to appear first in the field list.

After selecting a field, a number appears on the field to indicate the field's position in the field list.

- 4** Continue using **Select** to choose the fields in the order in which you want them in the field list.

If you make a mistake, select **Delete Last Entry in List (2)** to delete the last selection, or select **Delete List (1)** to erase the entire list and start again.

- 5** When you finish selecting fields for the list, press **Exit (F7)** to save the field list.

If you are defining a lookup field list or a link field list, you now need to select an index for the list. If you are defining any other type of field list, pressing **Exit** returns you to the panel.

Understanding Indexes

An index is a sorted list of fields used to locate and differentiate between records in the database.

You can define several indexes for each panel in a database, so records can be cross-referenced in a variety of ways. You must define at least one index for each panel in your database.

DataPerfect creates the index in a separate file (*filename.IND*), so that the index and the data files can be open for data entry, editing, and retrieval at the same time. Regardless of the number of indexes you define for a database, they all will be stored in one index file.

When you design indexes for your database, ask yourself these questions. How do I want to sort records? Is each index that I want to define unique? Can the indexes be used in any links that exist between panels? See related headings below.

Sorting Records Using an Index

The index identifies and prioritizes fields which then become a sort list used to sort records.

If you select only one field for the index, the records in your file will be sorted on that field only. If you select more than one field to include in the index, the order in which the fields are selected determines their position in the index, and consequently, the order in which the records will be sorted.

By defining several indexes for each panel, you can sort data in a variety of ways. Consider the panel below:

The screenshot shows a database panel with a menu bar at the top containing: BROWSING RECORD, Exit-F7, Create-F9, Edit-F6, Lookup-1, and Help-F3. Below the menu bar is a title bar that reads "CUSTOMER.PER-29". The main content area is titled "CUSTOMER INFORMATION" and contains the following data:

Customer ID 00001	First Jane	Middle M.
Last Name Burnett		
Address	City	ST Zip
378 Garden Park Drive	Pueblo	CO 81002-0000
	Ha Phone (719)555-9000	Wk Phone (719)555-8370
Comments		Last Inv Date
		Balance Due
		\$0.00

At the bottom of the panel, there are two buttons: "Payments" and "Invoices", each with a small icon next to it.

This is a Customer Information panel that contains basic information about each customer. You can sort the data in this panel in many different ways, depending on your needs. For example, when looking up a customer's address, it would be easiest to sort the records by last name. If you are sending a mailing, you may want to sort by ZIP code. You may also want to sort records according to the Customer ID numbers.

To sort records in these three ways, you need to define the following three indexes:

Index 1	Index 2	Index 3
Last Name	ZIP Code	Customer ID
First Name	Last Name	
Middle Name	First Name	
	Middle Name	

If you sort records using Index 1, and two customers have the same last name, DataPerfect looks at the next field selected for the index (the First Name field) and sorts on this field. If two customers have the same last name and the same first name, DataPerfect then checks for the next field selected for the index (the Middle Name field) and sorts on that field.

If you sort records using Index 2, and two customers have the same ZIP code, DataPerfect then sorts on the Last Name field, and so on.

If you sort records using Index 3, the records can only be sorted by the Customer ID field. Assuming that no customer will have more than one record, there is no need to define additional fields for this index (no two customers have the same Customer ID number).

Theoretically, you could build indexes to accommodate every possible sorting need. However, you would probably discover that you are not using your disk space very efficiently. Although DataPerfect compacts the data to keep the index relatively small and efficient, try not to waste disk space with unnecessary indexes and index fields.

Unique Indexes

The fields you select are concatenated to form a *key* (the list of fields selected as the index) which is placed in the index. All selected fields comprise a *key field list*. DataPerfect checks the key each time a record is saved to make sure the record is unique.

That is why every index must make a unique key. If you chose only one field from a panel to include in an index, and there is a possibility that the field's value might be the same for several records, then you must add another field to the index to ensure that the index will always be unique.

All indexes in the panel are checked for uniqueness before a record is saved. If the user tries to save a duplicate record, a message appears on the screen saying that the record is not unique. The record remains in Create or Edit mode and the user is prompted either to cancel the record or to edit the record to make it unique.

If the same fields are left blank in more than one record, and one or more of these fields are in the index, DataPerfect evaluates these records as duplicates. For example, suppose Index 1 above was created as an index in a panel. Two last names in the panel are "Johnson" so DataPerfect moves to the next field in the index (the First Name field) to sort the records. If one of the Johnson records contains a blank in the First Name field, and the other Johnson record also contains a blank in the First Name field, these two records are evaluated as duplicates, and an error message appears above the second Johnson record informing you that the record is not unique.

If you edit an index so that it is no longer unique for the existing records, you are given an error message when the records reindex, informing you that the index is not unique. You should edit the index immediately to create a unique index. The index will then be regenerated, and all records will be accessible.

Occasionally, you may not be able to define a unique index because of the nature of the fields in a panel. In this case, you can create a numeric field in the panel (see *Field Formats* under *Fields in Reference*). Assign this field to be an auto-incrementing, hidden field (see *Display Mode Indicators in a Field Format* under *Fields in Reference*). An auto-incrementing field indicator ensures that each record will be unique because it assigns a new number to each record. A hidden field indicator ensures that the field will not be displayed. Once this field has been defined, you can include it in an index specification to guarantee that no two indexes in the database are the same.

Links and Indexes

An index is required to establish a data link or panel link. When you define a link, you are required to select an index from the destination panel which first lists the fields that are common between the two panels. This index combines with a link field list

(specified in the source panel) to establish the link and determine which records are related (see *Links in Reference*).

Index File Specifications

The following list provides information about index space allocation in a file.

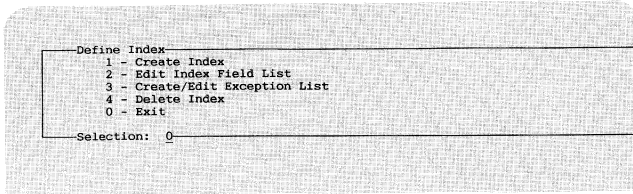
- The maximum size of an index (.IND) file is 2 billion bytes.
- The maximum number of index entries per data file is 16 million.
- The index key is limited to 255 bytes. If the index specification lists fields of combined length greater than 255, no error message is generated. The characters beyond the 255 limit are ignored.
- The index data is compressed. Prior to compression, character fields occupy the length designated in their formats. N Type numeric fields occupy the number of digits designated in their formats. G Type numeric fields occupy 8 bytes, and date fields occupy 2 bytes.

After compression, the index is usually 1,000 bytes for every 100 records. To compute disk space used, divide the number of records by 100, multiply that quotient by the number of indexes, and then multiply the product by 1000. For example, in a database with 350,000 records and 5 indexes, the index uses 17.5 megabytes of disk space.

Index Options

Once you have defined all the fields in a panel, you must define at least one index for that panel. Indexes are used to define the sort order and to prevent duplicate records.

Access the Define Index menu by pressing Define Index (Ctrl-F8). Four index options are available.



Create Index

This option creates a new index.

- 1 Be sure the Define Index menu is on your screen.
- 2 Select Create Index (1).

When you select this option, the current panel is displayed.

- 3 Use **Tab** and **Shift-Tab** or the **Shift-arrow** keys to move the cursor to the desired field.
- 4 Press **Select** (F4) to select a field for the index.

All selected fields are numbered (beginning with number one) to indicate the order in which data will be sorted. If you make a mistake, select Delete Last Entry in List (2) to delete the last selection, or select Delete List (1) to erase the entire list and start again.

- 5 Repeat steps 3 and 4 until you have selected all of the fields you want to include in your index.
- 6 When finished, press **Exit** (F7) to return to the Define Index menu.

Another index can be defined at this point by selecting Create Index (1) again, or you can exit to the panel by pressing Exit. The same field may be used as the first field in more than one index.

If you create an index in a panel that already contains records, the existing indexes for that panel will be regenerated when you exit the Define Index menu.

**Edit Index
Field List**

This option changes an index that has been defined previously.

- 1** Be sure the Define Index menu is on your screen.
- 2** Select Edit Index Field List (2).
The Index Selection screen is displayed.
- 3** Use **Up Arrow** (↑) and **Down Arrow** (↓) to move through the indexes.
- 4** Press **Select** (F4) when the index you want to change is displayed.
- 5** If necessary, select Delete List (1) or Delete Last Entry in List (2) to move the cursor to the desired field.

or

Use **Tab** and **Shift-Tab** or the **Shift-arrow** keys to move the cursor to the desired field.

- 6** Press **Select** to select a new field for the index.

If you make a mistake, select Delete Last Entry in List (2) to delete the last selection, or select Delete List (1) to erase the entire list and start again.

Repeat steps 5 and 6 until you have made all of the desired changes to your index.

- 7** Press **Exit** (F7) to return to the Define Index menu.

If you edit an index in a panel that already contains records, the existing indexes for that panel will be regenerated.

Another index can be edited at this point by selecting Edit Index Field List (2) again, or you can exit to the panel by pressing Exit.

**Create/Edit
Exception
List**

An exception list is a list of fields that DataPerfect checks whenever a record is created or edited. If any of the fields in the list are empty when you save the record, the record is excluded in the index that contains the exception list. One exception list per index is allowed. At least one index per panel (usually the first index) should not include an exception list. The exception list is not restricted to fields that have been selected for the index.

For example, suppose a panel in your database contains an Invoice Date field which is referenced when sending second notices to customers with outstanding balances.

If you Created an exception list using this Invoice Date field, you do not have to look through the records for all of the customers in your database in order to record a payment. An exception list lets you look through only those records for customers to whom invoices were sent. This lookup can be performed easily if you have defined two indexes.

The first index needs to include the Name, Address, and Balance Due fields for each customer's record. The first index would not contain an exception list. Therefore, a lookup using that index would display all of the records in the file.

The second index would include the Name, Address, and Invoice Date fields for each customer's record. The second index needs to contain an exception list which includes only the Invoice Date field.

After the exception list is created for the second index, you can define a lookup field list on the Invoice Date field and specify the second index as the index you want to use for the lookup (see *Lookup Field List* under *Field Lists and Indexes* in *Reference*). With the cursor on the Invoice Date field, you can perform a lookup which displays only those records which have data in the Invoice Date field. If a record has an Invoice Date field which contains no data, that particular record is excluded from the lookup.

At the end of each month, you can run a report to reset all Invoice Date fields to zero (0) and start a new invoicing cycle.

To create an exception list,

- 1 Be sure the Define Index menu is on your screen.
- 2 Select Create/Edit Exception List (3) to access the Index Selection screen.
- 3 Use **Up Arrow** (↑) and **Down Arrow** (↓) to move through the available indexes, then press **Select** (F4) to select the desired index.
- 4 Select the fields to be included in the exception list.
- 5 Press **Exit** (F7) to return to the Define Index menu.

To delete an exception list,

- 1 Follow steps 1 through 3 above.

- 2 Select Delete List (1).
- 3 Press **Exit** (F7) to save the deletion and exit the Define Index menu.

Delete Index

If you want to remove an unwanted index, or if you have exceeded available disk space, this option lets you delete an index.

Before you delete an index, check to see if the index is used in any links, lookup lists, or reports. If it is, you must redefine the link, lookup list, or report to use another index.

- 1 Be sure the Define Index menu is on your screen.
- 2 Select Delete Index (4).
- 3 Use **Up Arrow** (↑) and **Down Arrow** (↓) to move through the indexes.
- 4 Press **Select** (F4) when the index you want to delete is displayed.

The selected index is deleted.

If you delete an index, the remaining indexes are not renumbered. For example, if you delete Indexes 1 through 3 and have defined lookup lists, links, etc. using Index 4, the lookup lists, links, etc. still look for Index 4. However, if you create a new index at this point, the new index becomes Index 1.

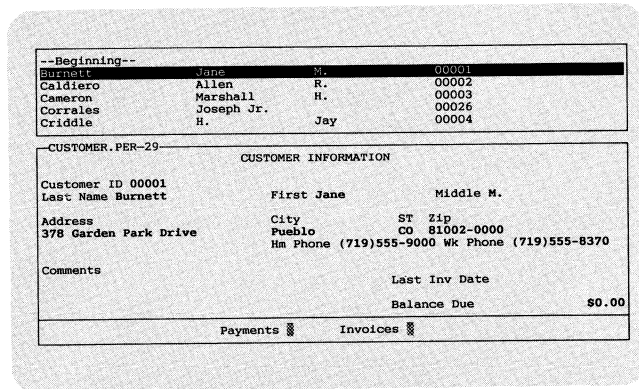
Deleting a field can also delete all indexes which contain that field. If you delete a field which is contained in an index, a message appears explaining that an index or indexes may be deleted also. Press **Cancel** (F1) if you do not want to delete the field. Type **y** at the prompt if you want to delete the field and consequently the index(es). If you delete a field which is contained in an index(es), be sure to check to see if any indexes need to be redefined.

Lookup Field Lists

Lookup (F8) is a feature used to look through, locate, and retrieve records in a database. When you press Lookup, a sorted list of records appears at the top of the screen. This list is called a lookup list.

A lookup field list determines the order in which the fields appear horizontally across the lookup list (see *Defining a Field List* under *Field Lists and Indexes* and *Lookup* under *Data Entry Keystrokes and Features* in *Reference* for more information).

For example, suppose you want to include four fields from a panel when you design a lookup list for the Last Name field. The four fields are the Last Name, First Name, Middle Name, and Customer ID fields. You can determine the order in which you want these fields to appear horizontally in the lookup list. If you define the lookup field list to include the four fields in the same order as they are listed above, the lookup list will look like the example below.



However, another possible order would be to list the First Name field first, and then the Middle Name, Last Name, and Customer

ID fields. If you define the lookup field list in this order, the lookup list will look like the example below.

```

--Beginning--
Name      L.      Burnett      00001
Allen     R.      Caldiaro    00002
Marshall  H.      Cameron     00003
Joseph Jr.      Jay      Corrales    00026
H.              Jay      Criddle     00004
  
```

```

CUSTOMER.PER-29
CUSTOMER INFORMATION
Customer ID 00001
Last Name Burnett
Address      City      ST  Zip
378 Garden Park Drive Pueblo CO 81002-0000
Hm Phone (719)555-9000 Wk Phone (719)555-8370
Comments
Last Inv Date
Balance Due $0.00
Payments ☒ Invoices ☒
  
```

Although the above lists are organized differently horizontally, they are both sorted vertically by last name, according to the index you selected.

Default Lookup List

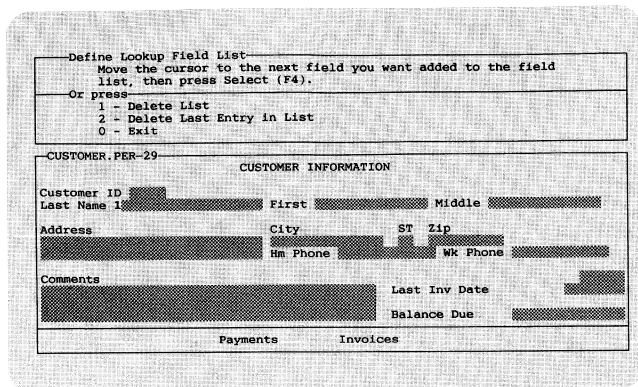
You are not required to define lookup field lists. If no lookup field list has been defined for a particular field in a panel, a default list is used. This default list includes the first field in the first index defined for the current panel, and the field on which the cursor is positioned when you press Lookup.

Defining a Lookup Field List

To define a lookup field list, you must have previously defined a panel, defined the fields you want to include in the panel, and defined an index.

- 1 Move your cursor to the field for which you want to define a lookup field list and press **Define Field** (Shift-F8).
- 2 Select Lookup Field List (1).
- 3 Use **Tab** and **Shift-Tab** or the **Shift-arrow** keys to move the cursor to the first field you want to include in the lookup field list.
- 4 Press **Select** (F4) to select the field.

Upon selecting a field, a number appears on the field to indicate the field's position in the lookup field list.



5 Continue to select the fields in the order in which you want them displayed when a lookup is performed.

If you make a mistake, select Delete Last Entry in List (2) to delete the last selection, or select Delete List (1) to erase the entire list and start again.

6 After you have selected the fields for the lookup field list, press **Exit** (F7).

Selecting an Index

Next you are prompted to select the index that you want to use to sort the records vertically in the lookup list. Usually you will want to select an index that has the same first field as the lookup field list, though this is not essential.

For example, suppose you defined two indexes for a Customer Information panel. Below is a representation of each index and the order in which the fields were selected.

Index 1

Last Name field
 First Name field
 Middle Name field
 Customer ID field

Index 2

Customer ID field
 First Name field
 Middle Name field
 Last Name field

You can select either of these indexes, depending on how you want the records sorted vertically in the lookup list. If you select

the first index, the records are sorted by last name, because that is the first field in Index 1.

```

--Beginning--
Burnett      Jane      M.      00001
Caldiero    Allen     R.      00002
Cameron     Marshall  H.      00003
Corrales    Joseph Jr. H.      00026
Griddle     H.       Jay     00004

CUSTOMER.PER-30
CUSTOMER INFORMATION

Customer ID 00001
Last Name Burnett      First Jane      Middle M.
Address      City      ST Zip
378 Garden Park Drive Pueblo CO 81002-0000
Hm Phone (719)555-9000 Wk Phone (719)555-8370

Comments      Last Inv Date
Balance Due      $0.00

Payments ☒      Invoices ☒

```

If you select the second index, the records are sorted by Customer ID, because that is the first field in Index 2.

```

--Beginning--
00001 Jane      M.      Burnett
00002 Allen     R.      Caldiero
00003 Marshall  H.      Cameron
00004 H.       Jay     Criddle
00005 Holly    Diane   Dunn

CUSTOMER.PER-30
CUSTOMER INFORMATION

Customer ID 00001
Last Name Burnett      First Jane      Middle M.
Address      City      ST Zip
378 Garden Park Drive Pueblo CO 81002-0000
Hm Phone (719)555-9000 Wk Phone (719)555-8370

Comments      Last Inv Date
Balance Due      $0.00

Payments ☒      Invoices ☒

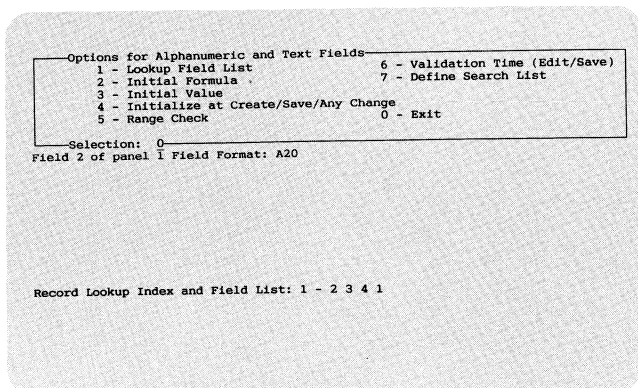
```

To select an index for the lookup list,

- 1 Use **Up Arrow** (↑) and **Down Arrow** (↓) to bring the appropriate index to the screen, then press **Select** (F4) to select that index.

After you select an index, DataPerfect returns to the Field Options menu.

After a lookup field list has been defined for a field, the list's definition appears near the bottom of the screen, beneath the Field Options menu.



In the illustration above, the number 1 before the hyphen means that the first index was selected for this lookup field list.

The numbers 2, 3, 4, and 1 after the hyphen are the fields that were selected to display horizontally in the lookup list. To see which fields are represented by the numbers following the hyphen, press **Reveal** (Alt-F3) twice when your cursor is in the panel. The numbers that appear represent the order in which the fields were created (see *Using Reveal to Display Information About Fields/Panels* under *Fields in Reference*).

Editing a Lookup Field List

To edit a lookup field list,

- 1 Move your cursor to the field for which you want to edit the lookup field list and press **Define Field** (Shift-F8).
- 2 Select **Lookup Field List** (1).

- 3 Use **Tab** and **Shift-Tab** or the **Shift-arrow** keys to move the cursor to the field you want to edit in the lookup field list.

You may need to select **Delete List** (1) or **Delete Last Entry in List** (2) to access the desired field.

- 4 Press **Select** (F4) to select the desired field.
- 5 Press **Exit** (F7) to save the changes.

- 6** Use **Up Arrow** (↑) and **Down Arrow** (↓) to find the index you want to use, then press **Select** (F4) to select the index.
 - 7** Press **Exit** to return to the Field Options menu.
-

**Deleting a
Lookup Field
List**

To delete a lookup field list,

- 1** Move your cursor to the field which contains the lookup field list you want to delete and press **Define Field** (Shift-F8).
- 2** Select **Lookup Field List** (1).
- 3** Press **Cancel** (F1) twice to delete the lookup field list and return to the Field Options menu.

or

Select **Delete Field List** (1), then press **Exit** (F7) to return to the Field Options menu.

Search Field Lists

Assigning a search field list to a particular field lets you search through a number of fields simultaneously whenever you press **Search**. In order to perform this type of search, the cursor must be positioned on the field for which the search field list was defined. All fields to be included in the search field list must have the same field-format as the field for which the list is defined.

This feature works only when a search is performed using a template or a range. You cannot use a search field list to search for a formula (see *Search* in *Reference*).

Suppose you have a database which uses a Customer Information panel including First Name, Middle Name, and Last Name fields. It is possible that some customers go by their middle names, instead of by their first names. You can define a search field list on the First Name field which includes both the First Name and Middle Name fields (these two fields must have the same field format). This ensures that a search on the First Name field will find any customers who go by their middle names. For example, if a customer's first name is "Leslie," but she goes by her middle name of "Diane," a search including both First Name and Middle Name fields would find her record, regardless of which name she goes by.

To define a search field list,

- 1 Move your cursor to the field on which you want to define a search field list, then press **Define Field** (Shift-F8).

The Field Options menu appears.

- 2 Select Define Search Field List (7).

The current panel is displayed.

- 3 Position the cursor on the first field you want in the search field list, then press **Select** (F4).

Important: All of the fields in a search field list must have the same format as the field for which the list was created.

- 4 Continue to select the other fields for the search field list by repeating step 3 as necessary.

If you make a mistake, select Delete Last Entry in List (2) to delete the last selection, or select Delete List (1) to erase the entire list and start again.

- 5 When finished, press **Exit** (F7) to return to the Field Options menu.

Whenever you press ♦Search (F2) on a field which has been assigned a search field list, all the fields in that list will be searched.

Editing a Search Field List

To edit a search field list,

- 1 Move your cursor to the field which contains the search field list you want to edit, then press **Define Field** (Shift-F8).
- 2 Select Define Search Field List (7).
- 3 Use **Tab** and **Shift-Tab** or the **Shift-arrow** keys to move the cursor to the field you want to edit in the search field list.

You may need to select Delete List (1) or Delete Last Entry in List (2) to access the desired field.

- 4 Press **Select** (F4) to select the field.
- 5 Press **Exit** (F7) to return to the Field Options menu.

Deleting a Search Field List

To delete a search field list,

- 1 Move your cursor to the field which contains the search field list you want to delete, then press **Define Field** (Shift-F8).
- 2 Select Define Search Field List (7).
- 3 Select Delete List (1).
- 4 Press **Exit** (F7) to save the deletion and return to the Field Options menu.

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Introduction

Once all of the panels in a database are defined with the appropriate fields and indexes, you can define links to associate related data from two separate panels in the database. Data links and panel links are the two types of links available for use in DataPerfect. This section provides information about features found in both types of links, and also gives specific information about how to use each type of link.

Links

A link associates related information from two panels in the same database (panels in one database cannot be linked to panels in another database). Once a link is established, you can move between the panels without having to go back to the panel list. A link also lets you share data between two panels in a database. The panel containing the link is the *source panel*. The panel to which the link leads is the *destination panel*.

Types of Links

There are two types of links in DataPerfect: data links and panel links (referred to in previous DataPerfect versions as doorways and doors). A data link is attached to a field. It is represented on the screen by a diamond (◆) at the left edge of the field that contains the data link. A panel link is not attached to a field. It is represented on the screen by a rectangle (▣).

Data links and panel links are alike in many ways. Both provide links between panels. Both let you move back and forth between the linked panels. Both require a common field in the panels being linked together. Both use an index and link field list to locate and verify records in the linked panel.

Data links and panel links each have unique characteristics as well. A data link must be attached to a field. A data link also includes a feature called data checking, which lets you check to see if data in one panel already exists in another panel. More information specific to data links is found in *Data Links* under *Links* in *Reference*.

A panel link does not need to be attached to a field. Also, a panel link includes a feature called a window, which lets data from the destination panel be displayed in the source panel. The user then can view the information without actually moving the cursor from the source panel to the destination panel. More information specific to panel links is found in *Panel Links* under *Links* in *Reference*.

Reasons for Links

The primary reason for links is to associate related information from two different panels. Suppose a database contains a Customer Information panel and an Invoices panel. Without a link between the panels, there would be no easy way to determine what items the customer had purchased. Using the Customer ID number as a common field between panels, you can define a link to connect the Customer Information panel to the Invoices panel.

This way, the Customer ID number included in the Customer Information panel could be used as a reference by the Invoices panel to locate the invoices for a particular customer.

```
BROWSING RECORD      Exit-F7  Create-F9  Edit-F6  Lookup-F1  Help-F3

CUSTOMER.PER-30
CUSTOMER INFORMATION

Customer ID 00006
Last Name Facer           First Wendy           Middle Leigh
Address                 City                ST Zip
199 West Dublin Avenue  Pueblo              CO 81002-0000
                        Hm Phone (719)555-3859  Wk Phone (719)555-1112

Comments                                     Last Inv Date
                                           Balance Due           $1,030.63

Payments [F6]  Invoices [F6]
```

```
BROWSING RECORD      Exit-F7  Create-F9  Edit-F6  Lookup-F1  Help-F3

CUSTOMER.INV-3
Invoices

Customer ID+00006
Name Wendy Leigh Facer
Invoice Number 00040 Date 07/31/99 Invoice Items [F6]

Items Purchased  Amount Qty Extended Amount
Blues             $95.00  1      $95.00
Lazy River       $145.00  2      $290.00
Paris at Night   $195.00  3      $585.00

Subtotal          $970.00
Tax                $60.63
Total             $1,030.63
```

Another reason for using links is to save disk space. Although data common to both panels appears in the destination panel, it is stored only in the source panel.

If you need to enter the same data into more than one panel, you can enter the data in the source panel, and then update the fields in the destination panel through the link. You do not need to enter the identical information manually.

Another reason for linking panels is to keep a total. Totals are created by adding or subtracting a field in one panel to a field in another panel. A link is required so the total can pass through the link to the panel that contains the total (see *Field Options (Keep Total)* under *Fields in Reference*).

Occasionally, you may need to create a formula that uses a value from a field in another panel. The two panels must be linked in order to create such a formula (see *Using Formulas* under *Formulas and Functions in Reference*).

A subreport is a report that groups information from two linked panels. For example, if you wanted to print a customer's name and address and list all of the invoices for that customer, you could define a link between the Customer Information panel and the Invoices panel so the report could extract the needed information from both panels.

Relationships Between Links

Four types of relationships are possible between linked panels.

One-to-One

A one-to-one relationship is established when one record in a panel is related to only one record in a linked panel. A link connecting a Student panel to a Social Security Number panel is a one-to-one relationship because *one* student can have only *one* social security number.

One-to-one relationships are often used when you need to extend a panel. If the necessary information does not fit in the panel, another panel needs to be created to hold the additional information.

One-to-Many

A one-to-many relationship is established when one record in a panel is related to many records in a linked panel. A link connecting the Customer Information panel to the Invoices panel is a one-to-many relationship because *one* customer may have *many* invoices.

Panel links usually work best in one-to-one and one-to-many relationships (see *Panel Links* under *Links in Reference*).

Many-to-One

A many-to-one relationship is established when many records in one panel are related to only one record in a linked panel. A link connecting the Items Purchased panel to the Invoices panel is a many-to-one relationship because *many* items in the Items Purchased panel may appear on *one* invoice in the Invoices panel.

Many-to-Many

A many-to-many relationship is established using three panels. For example, a database that stores a school schedule might have a Students panel (each student listed only once), an Enrollment panel (the name of each student enrolled in each class), and a Classes panel (each class listed only once). The Students panel and the Enrollment panel form a one-to-many relationship (*one* student enrolled in *many* classes). The Class panel and the Enrollment panel form a many-to-one relationship (*many* classes for each student in the Enrollment panel). With the use of the Enrollment panel, a many-to-many relationship is established (*many* students to *many* classes).

Data links usually work best in many-to-one and many-to-many relationships (see *Data Links* under *Links* in *Reference*).

Related records are located in different panels connected by a data link or panel link and contain one or more common fields. For example, a database may contain a Customer Information panel and an Invoices panel. All invoices in the Invoices panel which belong to a customer in the Customer Information panel are known as related records. These invoice records are related to the customer's record because the same customer number is found in both the record in the Invoices panel and the record in the Customer Information panel.

Designing a Link

Before you can define a data link or a panel link, the database must be designed properly. Three conditions must exist in a database before a link can be defined.

- Two panels must exist that can be associated together using related information (e.g., a Customer Information panel and an Invoices panel). One panel will be the source panel, and the other will be the destination panel.
- The two panels must have at least one field in common. These fields must have the same format and the same length in both panels.
- The destination panel must contain one index that begins by listing the fields which are common to both panels.

These are the only requirements which need to be met before defining a link. However, before beginning the definition process, you need to decide two things:

- Which field do you want the cursor to land on when moving through the link? This will be known as the target field.

- Which fields in the source panel are also found in the destination panel, and which of those will you be using in the link field list when prompted?

You are now ready to define the link in the database.

Defining a Link

To define a link, you must first select the destination panel and target field (detailed information about these processes is found in *Data Links* and *Panel Links* under *Links* in *Reference*). Next, you are prompted to select an index from the destination panel (see *Understanding Indexes* under *Field Lists and Indexes* in *Reference*). Then, you are prompted to select fields for a link field list from the source panel.

The index and the link field list you specify here establish the link and determine which records are related to each other.

To determine which fields to include in the link field list and the index, you must first decide which fields will be common to both the source panel and the destination panel. Once you decide what the common fields will be, that will be the list of fields you need to include in the link field list. All fields in the link field list come through the link in the source panel and appear in the destination panel.

Important: *Avoid using fields in the link field list which contain initial values that initialize fields in the other panel.*

Once you know which fields you want in the link field list, be sure an appropriate index exists in your destination panel. An appropriate index must contain the fields in your link field list. It may contain other fields too, but they must have been selected after the fields in the link field list. If the destination panel does not have an index that fits this description, you need to create one before you begin defining the link.

Three examples of link field lists and their appropriate indexes are listed below.

Link Field List:	Last Name field, First Name field
Index:	Last Name field, First Name field, Phone field
Link Field List:	Date field, Amount field, Last Name field
Index:	Date field, Amount field, Last Name field
Link Field List:	Name field, Grade field
Index:	Name field, Grade field, Semester field

Once the appropriate index and link field list have been selected, a link is established. For step-by-step instructions on selecting an index and a link field list, see *Data Links* and *Panel Links* under *Links* in *Reference*.

The data in the first field in the link field list is compared to the data in the first field in the index. If the data matches, then DataPerfect moves to the second field in the link field list and compares its data against the data in the second field in the index, etc. until there are no more fields in the link field list.

If the data does not match, DataPerfect moves on to the next record and repeats the process until a match is found. If no match is found, then DataPerfect determines that the record in the source panel does not have any records related to it in the destination panel.

Using Links

This section contains additional information to be aware of when using links.

Maximum Number of Levels

The maximum number of links you can pass through without exiting is 19. For example, if you are in a panel and move through a link to another panel, you have passed through one link. You can continue to move through links until you have moved through 19 panels. At this point, you receive a message saying you have passed through the maximum number of levels allowed.

You can create as many links as needed, but you can only pass through 19 of them without exiting. Once you have passed through 19 links, you must press Exit (F7) to move back through previous panels.

At the top of the panel, next to the record number, is the depth number. This number indicates how many levels (links) have been passed through. The depth number appears once the cursor is in the second level.

Source Panel Colors

When you move through a link to a destination panel, the destination panel may overlap the source panel on the screen. If part of the source panel is still showing on the screen, the source panel colors do not change to match the destination panel colors. This aids readability and helps to distinguish between the two panels.

Moving to the Nearest Link

Whenever you want to move to the nearest link, press Down Arrow or ↓Panel (F5). If you are not on a link when you press one of these keys, the cursor moves to the next link in the edit order (see *Panel Options (Change Edit Order)* under *Panels in Reference*). If you are on a link when you press one of these keys, the cursor moves directly to the linked panel.

Down Arrow versus Down Panel (↓Panel)

To move to a linked panel from a data link or panel link, place the cursor on the link and press Down Arrow (↓) or ↓Panel (F5).

Pressing Down Arrow lets you access only the related records in the destination panel. Pressing ↓Panel lets you access all of the records in the destination panel.

To return to the source panel, press Exit (F7).

Lookup versus Up Arrow

When in Create or Edit mode, pressing Lookup (F8) or Up Arrow (↑) on a link displays data from the destination panel. In Browse mode, Lookup displays the related records from the destination panel and Up Arrow displays data from the source panel.

Unwanted Characters in the Destination Panel

If unwanted characters (e.g., smiling faces, triangles, question marks) appear in records in a destination panel, there is probably a discrepancy between the link field list and the index attached to the list. The example below may result in this problem.

Link Field List:	Last Name field, Date field, Company field
Index:	Last Name field, Company field, Date field

In this case, you need to modify the index or link field list so that the fields are in the same order.

Data Links

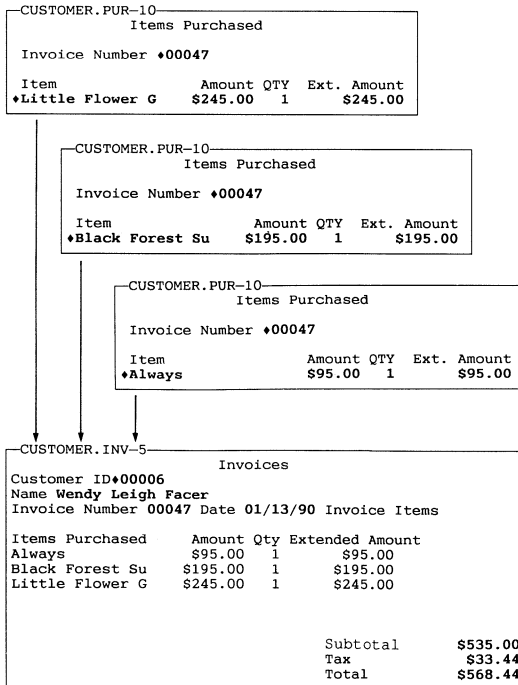
You should be familiar with the information under *Links in Reference* before beginning this section.

Data Link Characteristics

A data link (referred to in previous DataPerfect versions as a doorway) associates related information from two panels in a database, and must be attached to a field. It is represented on the screen by a diamond (◆) at the left edge of the field that contains the data link.

A data link provides a feature known as data checking. When data is being entered in a field which contains a data link, this feature checks to see if a related record already exists in the destination panel. This feature prevents incorrect data from being entered in the database. See *Data Checking* below for more detailed information.

A data link is most often used to show a many-to-one or a many-to-many relationship (for example, many items purchased on one invoice or many students registered for many classes). The following illustration demonstrates a practical use of data links in a many-to-one relationship.



Defining a Data Link

Before you define a data link, be sure you have completely thought out the design of the data link (see *Designing a Link* under *Links* in *Reference*). To completely define a data link, you should perform the following steps:

- 1 - Select the field which contains the data link.
- 2 - Select the destination panel.
- 3 - Select the target field.
- 4 - Select an index.
- 5 - Define a link field list.
- 6 - Select a data checking option.

Information about each of these steps is listed below.

Select the Field Which Contains the Data Link

A data link must be attached to a field. Therefore, you must designate the field in the source panel which will contain the data link.

- 1 With your cursor in the desired panel, press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 2 Position the cursor on the field where you want the data link, then press ↓**Panel** (F5) to display the panel list.

The data link character does not appear next to the field until the data link is completely defined (see the steps below).

Select the Destination Panel

The destination panel is the panel you want to access when you move through the data link.

With the panel list on the screen,

- 3 Position the cursor on the panel you want for the destination panel, then press **Enter**.

The cursor moves to the destination panel you selected.

Select the Target Field

Once you are in the destination panel, you must select a target field. A target field is the field on which the cursor lands when moving through a link. Because users will rarely use the link to change information common to both panels, the target field is usually the first field in the edit order that is not common to both panels. However, the target field may be any field in the panel.

- 4 Move the cursor to the field you want to select as the target field.

- 5 Press **Select** (F4) to select the target field.

Select an Index

DataPerfect uses two field lists to match related records in linked panels: one of the indexes you previously defined for the destination panel (see *Understanding Indexes* under *Field Lists and Indexes* in *Reference*), and a link field list you will create for the source panel.

Selecting an index is a significant step in establishing a link. Be sure you understand the information in *Defining a Link* under *Links* in *Reference* before you perform the following keystrokes.

The index you select for the destination panel must list all of the fields common to both panels as the first fields in the index.

- 6 Use **Up Arrow** (↑) and **Down Arrow** (↓) to locate the index from the destination panel that you want to use.
- 7 Press **Select** (F4) to select the index.

Define a Link Field List

The link field list should contain the field or fields from the source panel which you want to display in the destination panel (these should be the common fields between the two panels). The link field list is used in connection with the destination panel index you just selected to match records in the two linked panels.

Selecting a link field list is a significant step in establishing a link. Be sure you understand the information in *Defining a Link* under *Links* in *Reference* before you perform the following keystrokes.

With the fields from the source panel displayed on the screen,

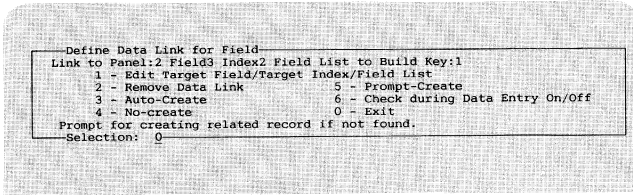
- 8 Move the cursor to the desired field.

Important: *The field must be identical to the first field in the index you selected.*

- 9 Press **Select** (F4) to select the field for the link field list.
- 10 Repeat steps 8 and 9 for any additional common fields between the panels.
- 11 Press **Exit** (F7) to save the link field list.

Define Data Link for Field Menu

Once you save the link field list, the Define Data Link for Field menu appears on the screen.



If a data link has been defined previously, you can access this menu by first pressing Define Panel (Alt-F8) to access the Define Panel menu. Move the cursor to the field which contains the data link, then press ↓Panel (F5).

A message appears above the data link options which gives the definition of the data link you just defined. This information will be different for each data link.

Link to Panel:2 indicates that the destination panel is the second panel in the panel list.

Field3 indicates that the target field is the third field in the destination panel.

Index2 indicates that the index is the second index for the destination panel.

Field List to Build Key:1 indicates that the link field list contains the first field in the edit order of the source panel.

Edit Target Field/Target Index/Field List

This option lets you edit the definition of the data link.

- 1 Be sure the Define Data Link for Field menu is on your screen.

You can access this menu by first pressing Define Panel (Alt-F8) to access the Define Panel menu. Move the cursor to the field which contains the data link, then press ↓Panel (F5).

- 2 Select Edit Target Field/Target Index/Field List (1).

The Select Target Field for Link screen appears.

- 3 Move the cursor to the desired target field and press **Select** (F4).

The Index Selection screen appears.

- 4 Use **Up Arrow** (↑) and **Down Arrow** (↓) to locate the desired index, then press **Select**.

The Define Link Key Field List screen appears.

- 5 Move the cursor to the field you want to edit.

You may need to use Delete List (1) or Delete Last Entry in List (2) to move to the desired field.

- 6 Press **Select** to select the desired field.

- 7 When you finish editing the link field list, press **Exit** (F7) to return to the Define Data Link for Field menu.

Remove Data Link

This option lets you remove an unwanted data link.

- 1 Be sure the Define Data Link for Field menu is on your screen.
- 2 Select Remove Data Link (2).

The data link is removed from the panel.

Data Checking

The four remaining options deal with data checking. These options control the status of the data link during data entry.

Auto-Create

When a user enters data in a field that contains a data link, and DataPerfect does not find a related record in the destination panel, the user is placed in the destination panel in Create mode. This forces the user to create a related record. After creating a related record, the user should press Exit (F7) to save it and return to the source panel to continue entering data.

To set a data link to Auto-Create,

- 1 Be sure the Define Data Link for Field menu is on your screen.
- 2 Select Auto-Create (3).

Auto-Create acts as a toggle. When Auto-Create is on, a message appears in the lower part of the instruction box: "Automatically create related record if record not found."

No-Create

When a user enters data in a field that contains a data link, and DataPerfect does not find a related record in the destination panel, a message appears in the instruction box. This message informs the user that a record cannot be created in the destination panel and that the user needs either to cancel the record being entered in the source panel or to use Lookup to locate an existing record in the destination panel. The user will not be able to save the record until the values used in creating the link correspond to an existing record in the destination panel. This prevents unwanted data from being entered.

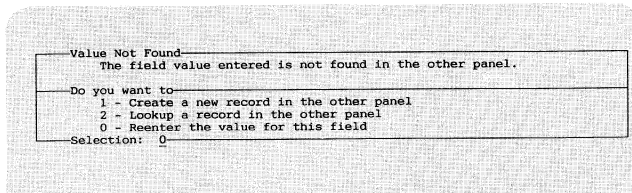
To set a data link to No-Create,

- 1 Be sure the Define Data Link for Field menu is on your screen.
- 2 Select No-Create (4).

No-Create acts as a toggle. If No-Create is on, a message appears in the lower part of the instruction box: "Do not allow user to create related record if not found."

Prompt-Create

Prompt-Create is the default setting for data links. If the user enters data in a field where Prompt-Create has been specified, and a related record is not found in the destination panel, three options appear:



Selecting Create a New Record in the Other Panel (1) places the cursor in the destination panel in Create mode.

Selecting Lookup a Record in the Other Panel (2) places the cursor in the lookup list to view records in the destination panel. The user can select a record into the panel by placing the cursor on the desired record in the lookup list and pressing Enter.

Selecting Reenter the Value for this Field (0) returns the user to the current panel.

To set a data link to Prompt-Create,

- 1 Be sure the Define Data Link for Field menu is on your screen.
- 2 Select Prompt-Create (5).

Prompt-Create acts as a toggle. If Prompt-Create is on, a message appears in the lower part of the instruction box: "Prompt for creating related record if not found."

Data Checking (On/Off)

The default setting is Data Checking On.

To turn off data checking,

- 1 Be sure the Define Data Link for Field menu is on your screen.
- 2 Select Data Checking (On/Off) (6).

A message appears in the lower part of the instruction box: "Don't check data link path during data entry."

If Data Checking is off, Auto-Create, No-Create, and Prompt-Create cannot be selected. In this case, data entered by the user is not checked against the destination panel.

Display Mode Indicators Which Affect Data Links

Three display mode indicators affect the way data links operate. For more information, see *Display Mode Indicators in a Field Format* under *Fields* in *Reference*.

Hidden (::H)

When you assign this indicator to a field that does not contain a data link, DataPerfect hides the field.

When you assign this indicator to a field that contains a data link, DataPerfect hides both the field and the data link attached to the field. The user is unable to move the cursor to the field or to pass through the link to the destination panel. The data link functions normally, but the user is unable to see it.

Must Enter (::M)

When you assign this indicator to a field that does not contain a data link, the user is required to enter data in that field before the record can be saved.

When you assign this indicator to a field that contains a data link, the user is required to create a related record in the destination panel before the current record can be saved (i.e., a record cannot be saved unless it has a related record in the linked panel).

Non-Updatable (::N)

When you assign this indicator to a field that does not contain a data link, the cursor cannot move to this field. The field is non-updatable.

When you assign this indicator to a field that contains a data link, the cursor may move to this field, but the user cannot edit the value in the field. The user can perform a lookup to select a different record in the source panel, but the value found in this field cannot be edited.

Enter/Edit Information at a Data Link

When you come to a data link while creating a record, you have three options:

- Press Enter to leave the field blank.
- Press Up Arrow (↑) to perform a lookup, locate the desired value, then press Enter to enter the value in the field.
- Enter a value for the data link field.

When you come to a data link while editing a record, you have the three options listed above, plus you have the option to press Down Arrow (↓) to access related records in the destination panel.

If the value entered in the source panel is already in the destination panel, the cursor moves to the next field in the source panel. If the value is not in the destination panel, and depending on which data checking option you selected, one of the following occurs:

- If the data link contains the auto-create option, you are placed in the destination panel so a new record can be created. If you create a new record, press Exit (F7) to save the record and return to the source panel.
- If the data link contains the no-create option, you are not allowed to create a new record, but are prompted to perform a lookup and select an existing record.
- If the data link contains the prompt-create option, a message giving you the option to create a new record with that value in the destination panel is displayed. If you create a record in the destination panel, press Exit (F7) to save the record and return to the source panel.

If you create or edit a related record in the destination panel, press Exit (F7) to save the changes and return to the source panel.

Panel Links

You should be familiar with the information under *Links* in *Reference* before beginning this section.

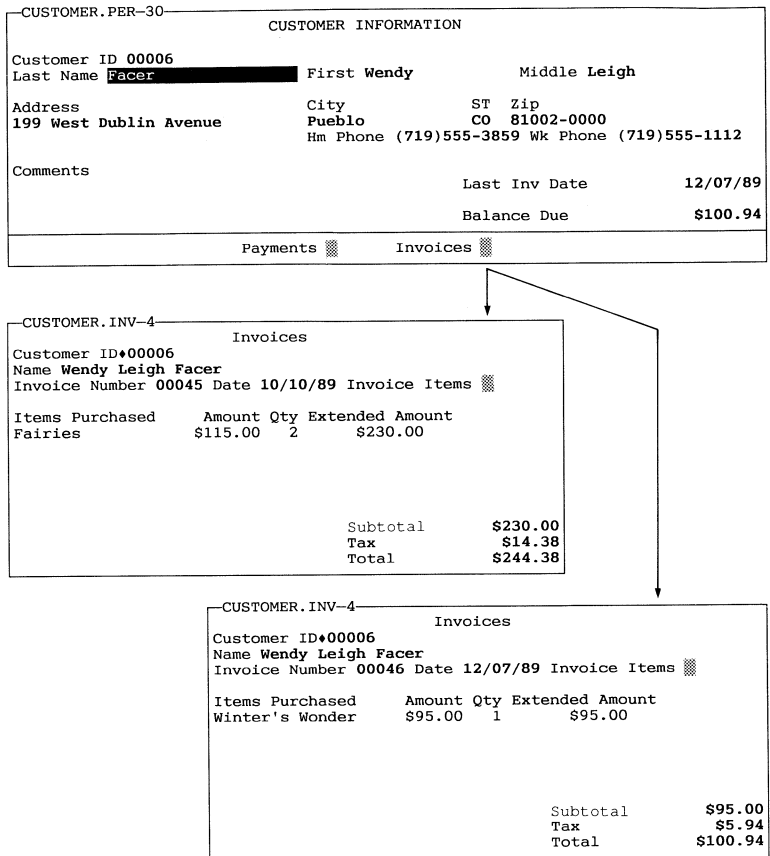
Panel Link Characteristics

A panel link (referred to in previous DataPerfect versions as a door) associates related information from two panels in a database. It is represented on the screen by a rectangle (■). A panel link is free-standing. This means it can be placed anywhere in a panel and is not associated with a field (as a data link is).

A panel link is useful when you want to associate related data. For example, all of the financial information for a customer could be placed in a linked panel. A panel link is also useful when you want to use a *window* to display information from a destination panel without leaving the source panel (see *Define Window for Related Records* below for detailed information).

A panel link is most often used to show a one-to-one or a one-to-many relationship (for example, one student to one social security number or one customer to many invoices).

The following illustration demonstrates a practical use of panel links in a one-to-many relationship.



Defining a Panel Link

Before you define a panel link, be sure you have completely thought out the design of the panel link (see *Designing a Link* under *Links* in *Reference*). To completely define a panel link, you should perform the following steps:

- 1 - Label the panel link.
- 2 - Select the destination panel.
- 3 - Select the target field.
- 4 - Select an index.
- 5 - Define a link field list.

Information about each of these steps is listed below.

Label the Panel Link

To label the panel link,

- 1** Be sure you are in the panel in which you want to define a panel link.
- 2** Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 3** Use the arrow keys and the **Space Bar** to position the cursor where you want to include panel text for the panel link.
- 4** Type the desired panel text for the panel link. For example, if the panel link takes you to the Invoices panel, you may want to type the word *Invoices*.
- 5** Use the **Space Bar** to position the cursor where you want to place the panel link.
- 6** Press ↓**Panel** (F5).

A one-character, reverse-video box appears. This is the panel link character.

Adding the panel link character does not create the panel link; it is only one of the necessary steps in the process of defining a panel link.

You can add the panel link character when you create a panel, or at any other time before you actually define the link.

Select the Destination Panel

The next step is to select the destination panel. This is the panel you want to access when you move through the panel link.

- 7** Press **Left Arrow** (←) to position the cursor on the panel link character (■).
- 8** Press ↓**Panel** (F5) to display the list of panels in the database.
- 9** Move the cursor to the panel you want for the destination panel.
- 10** Press **Enter** to select the destination panel.

The cursor moves to the destination panel you selected.

Select the Target Field

Once you are in the destination panel, you must select a target field. The target field is the field on which the cursor lands when moving through the link. Because users will rarely use the link to change information common to both panels, the target field is usually the first field in the edit order that is not common to both panels.

- 11 Move the cursor to the field you want to select for the target field.
- 12 Press **Select** (F4) to select the target field.

Select an Index

DataPerfect uses two field lists to match related records in linked panels: one of the indexes you previously defined for the destination panel (see *Understanding Indexes* under *Field Lists and Indexes in Reference*), and a link field list you will create for the source panel.

Selecting an index is a significant step in establishing a link. Be sure you understand the information in *Defining a Link* under *Links in Reference* before you perform the following keystrokes.

The index you select from the destination panel must list all of the fields common to both panels as the first fields in the index.

- 13 Use **Up Arrow** (↑) and **Down Arrow** (↓) to locate the index from the destination panel that you want to use.
- 14 Press **Select** (F4) to select the index.

Define a Link Field List

The last step in creating a panel link is creating a link field list for the source panel. A link field list should contain the source panel field(s) you want to display in the destination panel. It is used in connection with the destination panel index you just selected to match records in the two linked panels.

Selecting a link field list is a significant step in establishing a link. Be sure you understand the information in *Defining a Link* under *Links in Reference* before you perform the following keystrokes.

To select a link field list,

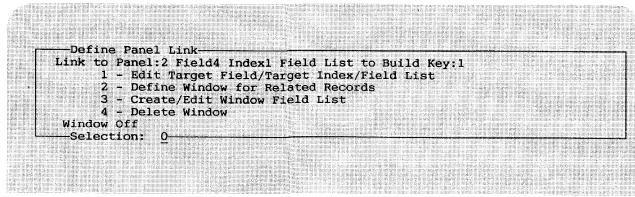
- 15 Move the cursor to the desired field.

Important: This field must be identical to the first field in the index you selected.

- 16 Press **Select** (F4) to select the field for the link field list.
- 17 Repeat steps 15 and 16 for any additional common fields which are included in the index you selected.
- 18 Press **Exit** (F7) to save the link field list.

Define Panel Link Menu

Once you save the link field list, the Define Panel Link menu is displayed.



If a panel link has been defined previously, you can access this menu by positioning the cursor on the panel link and pressing Define Field (Shift-F8). If the Define Panel menu is on the screen (Alt-F8), you can access this menu by positioning the cursor on the panel link, then pressing ↓Panel (F5) or Define Field (Shift-F8).

Above the menu options is a message which gives information about the panel link you just defined. This information will be different for each panel link you define.

Link to Panel:2 indicates that the destination panel is the second panel in the panel list.

Field4 indicates that the target field is the fourth field in the destination panel.

Index1 indicates that the index used for the link is the first index in the destination panel.

Field List to Build Key:1 indicates that the link field list contains only the first field in the source panel.

The options on the Define Panel Link menu let you edit the panel link's definition, and let you create, edit, or delete a window.

Edit Target Field/Target Index/Field List

This option lets you edit the definition of the panel link.

1 Be sure the Define Panel Link menu is on your screen.

2 Select Edit Target Field/Target Index/Field List (1).

The Select Target Field for Link screen is displayed.

3 Move the cursor to the desired target field and press **Select** (F4).

The Index Selection screen is displayed.

- 4 Use **Up Arrow** (↑) and **Down Arrow** (↓) to locate the desired index, then press **Select**.

The Define Link Key Field List screen is displayed.

- 5 Move the cursor to the field you want to edit.

You may need to use Delete List (1) or Delete Last Entry in List (2) to move to the desired field.

- 6 Press **Select** to select the desired field.

- 7 When you finish editing the link field list, press **Exit (F7)** to return to the Define Panel Link menu.

Windows

A window is a feature which lets the user view related information contained in the destination panel without having to move the cursor out of the source panel. The following illustration shows a source panel that contains a window.

The screenshot shows a terminal window with a menu bar at the top: BROWSING RECORD Exit-F7 Create-F9 Edit-F6 Lookup-1 Help-F3. Below the menu bar is a panel titled 'CUSTOMER.INV-3' with the following text: Invoices, Customer ID#00006, Name Wendy Leigh Facer, Invoice Number 00040 Date 07/31/89 Invoice Items. A sub-window titled 'Items Purchased' is displayed within the main panel, containing a table with columns: Items Purchased, Amount, Qty, Extended Amount. The table lists three items: Blues (\$95.00, Qty 1, Extended Amount \$95.00), Lazy River (\$145.00, Qty 2, Extended Amount \$290.00), and Paris at Night (\$195.00, Qty 3, Extended Amount \$585.00). Below the table, the following summary is shown: Subtotal \$970.00, Tax \$60.63, Total \$1,030.63.

The data in the Items Purchased, Amount, and Quantity columns is not really part of the Invoices panel. The Invoices panel has a window in the middle of it, which displays information from another panel—the Items Purchased panel.

A window can be created with or without a border around it. The window in the above illustration was defined with a border.

Define Window for Related Records

To define a window,

- 1 Be sure the Define Panel Link menu is on the screen.
- 2 Select Define Window for Related Records (2) from the menu.

Notice the reverse-video block which appears next to the panel link. This is the window. The Define Window menu now is displayed at the top of the screen.

3 Use the **Shift-arrow** keys to make the window the desired size.

If Shift-arrow does not work on your keyboard, try Alt-number (1, 2, 3, and 4), using the number keys at the top of your keyboard.

If you are using an enhanced keyboard (function keys across the top), you must use the arrow keys on the number pad.

The larger the window, the more data you can view. The width of the window determines how many fields you can view from each record, and the length of the window determines how many related records you can view. Each line of a window can accommodate one related record.

4 Use the arrow keys to position the window where you want it in the panel.

Two options are available on the Define Window menu. Display Related Records from Bottom/Top (1) lets you decide whether to display the first few related records from the destination panel or the last few. For example, if your window was designed to display six records (six lines), and twelve related records exist in the destination panel, you could choose to display either the first six records or the last six records. The default setting is to display the records from the top. If there are not enough records to fill the window, the bottom lines of the window are left blank. You may not scroll through a window.

Records will always be sorted in ascending order (A to Z), regardless of the Display Related Records from Bottom/Top setting.

If you select Display Related Records from Bottom/Top, the default changes so that the bottom few related records are displayed in the window. Select Display Related Records from Bottom/Top again to return the option to the original setting.

Border On/Off (2) lets you select a single-line border around your window. The default setting is border off. Select Border On/Off to turn on the border. Select Border On/Off again to return the option to the default setting.

5 If desired, select Display Related Records from Bottom/Top and/or Border On/Off.

6 Press **Save** (F10) or **Exit** (F7) to save the window.

Press **Cancel** (F1) to return to the **Define Panel** menu without saving the window.

Create/Edit a Field List for Window

Once you have saved a window, you are prompted to define a window field list for the destination panel. A window field list determines which fields from the related record(s) will be shown on each line of the window.

You can also use this option to edit a previously defined window field list.

The window field list does not need to use common fields from an index. You can select any fields you want. Those fields which do not fit in the window are truncated.

- 1** If you are creating a window field list for a newly created window, move the cursor to the first field in the destination panel which you want to display in the window.

or

If you are editing a previously created window field list, position the cursor on the appropriate panel link, press **Define Field** (Shift-F8), then select **Create/Edit Window Field List** (3). If the **Define Panel** menu is on the screen (Alt-F8), position the cursor on the appropriate panel link, then press **Panel** (F5) or **Define Field**, and select **Create/Edit Window Field List** (3). Move the cursor to the first field in the destination panel which you want to display in the window.

- 2** Press **Select** (F4) to select a field for the window field list.
- 3** Continue using **Select** to select any additional fields you want to display in the window.
- 4** Press **Exit** (F7) to return to the **Define Panel Link** menu.

Delete Window

This option deletes an unwanted window.

- 1** Be sure the **Define Panel Link** menu is on your screen.
- 2** Select **Delete Window** (4).

The window is removed from the panel.

Window Does Not Display Records

If a window you have defined does not display information, you can probably correct the problem in one of two ways. First, ask yourself the following questions. Is the panel link properly defined? Are the field formats identical for the common fields between panels? Does the link field list consist only of fields found in the index?

Second, if the link is defined properly, yet the window does not display information, you should regenerate the indexes in the panel in case any corruption has occurred. See *Using Index Recovery to Regenerate an Index* under *System Operations* in *Reference*.

Label a Window

You can create panel text above a window to identify the data displayed.

- 1** Be sure the Define Panel menu is on the screen (Alt-F8).
- 2** Position the cursor where you want to insert panel text for a window.
- 3** Type the desired panel text.
- 4** Press **Exit** (F7) to return to the panel.

Delete a Panel Link

You can delete a panel link only when no data exists in the database. If you attempt to delete a panel link while data exists in the database, the message appears on the screen: "This change cannot be made when the database contains data."

To delete a panel link,

- 1** Be sure the cursor is in the panel which contains the panel link you want to delete.
- 2** Be sure no data exists in the panel. If data exists, export it in WordPerfect Merge format to make a copy of the data, then press **Multiple Remove** (Alt-F5) to delete data from the panel (see *Exporting Data from a Database to a Disk File* under *Exporting and Importing Data* in *Reference*).
- 3** Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 4** Position the cursor on the panel link character that you want to delete.
- 5** Press **Delete**.

The panel link is removed from the panel.

- 6** If necessary, import the data back into the panel.

**Move Through
a Panel Link to
Create a Record**

You can move through a panel link to create a record in the destination panel.

If the cursor is not currently on a panel link, press Tab, Enter, or ↓Panel to move to the panel link.

To create a record in the destination panel,

- 1 Press **Down Arrow** (↓) or ↓**Panel** (F5) to move the cursor to a related record in a destination panel. (If no related records exist, you must use ↓Panel.)
- 2 If you pressed Down Arrow to enter the destination panel, you must press **Create** (F9) to create a new record.

or

If you pressed ↓Panel to enter the destination panel, you must press **Create** (F9) if related records already exist in the destination panel. If no related records exist, you will be in Create mode already, and may begin adding information to the record. The data from common fields in the source panel will be in their respective fields in the newly created record.

- 3 Enter the desired data.
- 4 If you want to enter more than one record in the destination panel, press **Create** to enter another record.
- 5 When you finish creating the last record in the destination panel, press **Exit** (F7) to return to the source panel.

**Move Through
a Panel Link to
Edit a Record**

You can move through a panel link to edit a record in the destination panel.

If the cursor is not on a panel link, press Tab, Enter, or ↓Panel to move to the panel link.

To edit a record in the destination panel,

- 1 Press **Down Arrow** (↓) to enter the destination panel.
- 2 Edit the appropriate record.
- 3 Press **Exit** (F7).
- 4 When prompted, type **y** to save your changes.
- 5 Press **Exit** again to return to the source panel.

You may want to edit more than one record in the destination panel. Instead of pressing Exit after editing the first record,

- 1** Press **Save** (F10) to save the changes.
- 2** Press **Lookup** (F8) to access the lookup list.
- 3** Use **Up Arrow** (↑) or **Down Arrow** (↓) to locate the next record you want to edit in the lookup list.
- 4** Press **Enter** to access the record in the panel.
- 5** Edit the record.
- 6** Continue to use Lookup, Edit, and Save until all desired records are edited.
- 7** Press **Exit** (F7) to return to the source panel.



Introduction

Once you have defined a panel with the necessary fields, indexes, and links, you are ready to begin adding records to the database.

A record is a group of fields that contains related information. Records are displayed one at a time in a panel. The illustration below displays what a record might look like in a panel.

The screenshot shows a terminal window with a menu bar at the top: BROWSING RECORD, Exit-F7, Create-F9, Edit-F6, Lookup-1, Help-F3. Below the menu bar is a header line: CUSTOMER.PER-30. The main content area is titled CUSTOMER INFORMATION and contains the following data:

Customer ID	00006	First	Wendy	Middle	Leigh
Last Name	Facer				
Address		City	ST	Zip	
199 West Dublin Avenue		Pueblo	CO	81002-0000	
		Ha Phone	(719)555-3859	Wk Phone	(719)555-1112
Comments				Last Inv Date	
				Balance Due	\$1,030.63

At the bottom of the form, there are two options: Payments and Invoices, each followed by a double asterisk symbol (⌘).

This section provides information about creating, editing, and deleting records. Additional information about keystrokes used to move around in records is found in *Data Entry Keystrokes and Features in Reference*.

Creating a Record

To add a new record to a database file,

1 Press **Create** (F9) while in Browse or Edit mode.

The cursor moves to the first field in the edit order.

2 Type the data you want to enter in the first field.

3 Press **Tab** to move the cursor to the second field.

4 Continue to add information to the desired fields.

5 When you have added all desired information to a record, press **Create** to save the record and enter another record.

or

Press **Save** (F10) to save the record without creating another one.

or

Press **Exit** (F7) to save the record and return to the panel list.

Records may be designated to be saved after information in the last field is entered (see *Panel Options (Auto-Save)* under *Panels in Reference*). If this option is on, you do not need to press Save (F10) to save a record. Instead, you can press either Create (F9) to create another record, or press Exit (F7) to return to the panel list.

Skip Fields While in Create Mode

Depending on how your database is defined, you may not have to enter information in all of the fields. You can skip a field by pressing Tab.

Some fields may require data before the record can be saved. If you do not enter data properly into such fields, a message notifies you that you have skipped a field where information was required. Enter the requested information before pressing Save or Create again.

Some fields may be designated as auto-enter fields (see *Display Mode Indicators in a Field Format* under *Fields in Reference*). If you fill every space in an auto-enter field, the cursor moves to the next field without pressing Tab.

**Keystrokes
Used in Create
Mode**

The following list provides information about common keystrokes used in Create mode.

Cancel

If you make a mistake while entering data in a field and you have not pressed Tab or Enter, you can press Cancel (F1) to restore the previous field value.

Edit Inserts the Current Date/Time

If the cursor is positioned on a date field or a time field, press Edit (F6) to insert the current date or time.

Enter

You can use Enter instead of Tab to move from field to field in a record. However, if you press Enter while in a text field, a carriage return is inserted. In a text field, you must use Tab or the Shift-arrow keys to move the cursor to the next field.

Escape

In Browse mode, pressing Escape moves the cursor to the previous field. In Create or Edit mode, pressing Escape restores the previous value entered in a field and moves the cursor to the beginning of the field. Pressing Escape again moves the cursor to the previous field.

Insert

Insert mode (rather than Typeover mode) is the default for all fields except numeric fields. You can press Insert at any time to turn Insert mode on and off manually.

Select

Use Select (F4) to enter data in a field quickly. If you are creating a record, press Select to fill in a field with information from the last record displayed in the panel (the background record). You can change this background record by performing a lookup and pressing Enter on the desired record (see *Lookup* under *Data Entry Keystrokes and Features* in *Reference*). When the cursor is on a field and you press Select, the desired information from the new background record appears in the field, and the cursor moves to the next field.

Shift-Arrow

Use the Shift-arrow keys to move from field to field in a record. Shift-Up Arrow moves the cursor to the field above. Shift-Down Arrow moves the cursor to the field below.

Shift-Right Arrow moves the cursor to the field to the right.
Shift-Left Arrow moves the cursor to the field to the left.

The Shift-arrow keys are the only way of moving the cursor to fields which contain a ::C or ::N display mode indicator (see *Display Mode Indicators in a Field Format* under *Fields in Reference*).

Shift-Tab

Use Shift-Tab to move the cursor to the previous field in a record.

Tab

Use Tab to save the data in the current field and move the cursor to the next field.

Editing a Record

You can edit the contents of a field or create a new record without pressing Edit (F6) or Create (F9). When you attempt to edit a record without first pressing Edit, one of several situations occurs, depending on which option was selected from Auto-Edit/Auto-Create/Menu on the Panel Options menu (see *Panel Options (Auto-Edit/Auto-Create/Menu)* under *Panels in Reference*).

If the Auto-Edit option is on, you can make the necessary changes in the field, then press Tab. When you press Tab, you are taken out of Browse mode and placed in Edit mode until you press Save (F10), Exit (F7), or Create (F9).

If the Auto-Create option is on, you can make the necessary changes in the field, then press Tab. When you press Tab, you are taken out of Browse mode and placed in Create mode. A new record is created, with the field you just changed being part of the new record.

If the Menu option is on, you can make the necessary changes in the field, then press Tab. When you press Tab, a menu appears from which you can select either Auto-Edit or Auto-Create.

If you start to edit a field in which you did not intend to make a change, press Cancel (F1) to restore the previous value of the field.

Keystrokes Used in Edit Mode

The following list provides information about common keystrokes used when editing a record.

Cancel

If you make a mistake while entering data in a field and you have not pressed Tab or Enter, you can press Cancel (F1) to restore the previous field value. If you press Cancel after pressing Tab or Enter, a prompt appears which allows you to confirm the cancellation.

Edit Inserts the Current Date/Time

If the cursor is positioned on a date field or a time field, press Edit (F6) to insert the current date or time.

Enter

You can use Enter instead of Tab to move from field to field in a record. However, if you press Enter while in a text field, a carriage return is inserted. In a text field, you must use Tab or the Shift-arrow keys to move the cursor to the next field.

Escape

In Browse mode, pressing Escape moves the cursor to the previous field. In Create or Edit mode, pressing Escape restores the previous value entered in a field and moves the cursor to the beginning of the field. Pressing Escape again moves the cursor to the previous field.

Insert

Insert mode (rather than Typeover mode) is the default for all fields except numeric fields. You can press Insert to turn Insert mode on and off manually.

Down Arrow or ↓Panel

Down Arrow (↓) or ↓Panel (F5) moves the cursor to the next panel link or data link. When the cursor is resting on a link, Down Arrow or ↓Panel moves the cursor to the destination panel. For more information, see *Links in Reference*.

Shift-Arrow

Use the Shift-arrow keys to move from field to field in a record. Shift-Up Arrow moves the cursor to the field above. Shift-Down Arrow moves the cursor to the field below. Shift-Right Arrow moves the cursor to the field to the right. Shift-Left Arrow moves the cursor to the field to the left.

The Shift-arrow keys are the only way of moving the cursor to fields which contain a ::C or ::N display mode indicator (see *Display Mode Indicators in a Field Format* under *Fields in Reference*).

Shift-Tab

Use Shift-Tab to move the cursor to the previous field in a record.

Tab

Use Tab to save the data in the current field and to move the cursor to the next field.

Recalculate a Formula Using Edit

If you find field values that are calculated incorrectly,

- 1 Position the cursor on the field which contains the incorrect value, then press **Edit** (F6) to go into Edit mode.
- 2 Press **Edit** again to force the formula to recalculate.

Deleting One or More Records

You can delete one record from a panel by pressing **Remove** (Shift-F5) while the cursor is positioned on that record. Also, you can remove multiple records from a panel by pressing **Multiple Remove** (Alt-F5).

***Important:** Once records are deleted from the database, they cannot be restored unless you have a backup copy of the database.*

Delete One Record

The **Remove** command deletes the record currently in the panel.

To delete a record which is displayed in a panel,

- 1 Press **Remove** (Shift-F5).
- 2 When prompted, type **y** to confirm the deletion.

In the lookup list, a record on which the cursor is positioned can be deleted by pressing **Remove** or **Delete** (Del), then pressing **y** at the prompt to confirm the deletion.

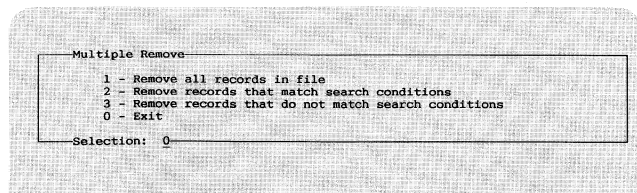
Delete Multiple Records

The **Multiple Remove** command deletes many records from the database at one time.

To remove every record in a panel,

- 1 Be sure the cursor is in the panel from which you want to remove records.
- 2 Press **Multiple Remove** (Alt-F5).

The **Multiple Remove** menu is displayed.



- 3 Select **Remove All Records in File** (1) to delete every record from the panel.

To remove only those records that match specific search conditions,

- 1 Be sure the cursor is in the panel from which you want to remove records.
- 2 Press **Multiple Remove** (Alt-F5).
- 3 Select Remove Records that Match Search Conditions (2).
- 4 Enter the desired search conditions (see *Search* in *Reference*).
- 5 Press **Search** (F2), then type **y** to confirm the deletion.

To remove those records which *do not* match the search conditions,

- 1 Be sure the cursor is in the panel from which you want to remove records.
- 2 Press **Multiple Remove** (Alt-F5).
- 3 Select Remove Records that Do Not Match Search Conditions (3).
- 4 Enter the desired search conditions (see *Search* in *Reference*).
- 5 Press **Search** (F2), then type **y** to confirm the deletion.

If the panel from which you are deleting records sends a total to another panel, you are prompted to reset the totals when you delete the records (see *Field Options (Keep Total)* under *Fields* in *Reference*). When prompted, type **y** to reset the totals, or type **n** to leave the totals unchanged when the records are deleted.

Delete a File

A file contains all of the records in a panel.

To delete a file,

- 1 Press **Exit** (F7) until you exit DataPerfect and the DOS prompt is displayed on your screen.
- 2 If you are not in the directory where the database is located, change to the correct directory (enter **cd\directory name** at the DOS prompt).
- 3 Enter **del filename** (*filename* is the name of the file you want to delete).

When you reenter DataPerfect and attempt to enter the panel from which the file was deleted, you will see the warning: "The index shows that records are present in the data file, but the file is not found." Select Delete the Index(es) to update the index, if you have deleted the file .

Important: *Once records are deleted from the database, they cannot be restored unless you have a backup copy of the database.*



Introduction

The keystrokes and features discussed in this section can assist you in creating and editing the records in your database. In addition, many of these keystrokes and features are also available when you create reports.

This section provides detailed information about using each keystroke or feature in a record and, if applicable, in a report.

The keystrokes and features are listed in alphabetical order.

Block

Block (Alt-F4) is used to define portions of text which you want to move, copy, bold, or underline. Block can also be used when entering data in a text field, or when creating a panel or a report.

Block cannot be used to move or copy information between databases.

Formulas

All or part of a formula can be copied or moved to another field in the same panel or in a different panel. If a formula is moved or copied to another panel, any fields that were included in the original formula need to be selected again using Select, once the formula appears in the new panel. (see *Select* under *Data Entry Keystrokes and Features in Reference*).

Panel Definition

During panel definition, you can move or copy fields and text within the same panel or to a different panel. If you move or copy a field within the same panel, the field format, plus any field options (e.g., lookup lists or formulas) you have defined are moved or copied. If you move or copy a field to a different panel, only the field format is moved or copied.

After data is entered into the database, you cannot block and move any fields (see *Move* under *Data Entry Keystrokes and Features in Reference*). However, you can use Copy to copy fields (in Define Panel mode) or to reproduce a block of text (see *Copy* under *Data Entry Keystrokes and Features in Reference*).

Reports

Block can be used within a section of the report form (see *Report Form* under *Reports in Reference*). You can move or copy parts of a report to another section of a report form or to another report. However, you cannot block across report sections. For example, the block cannot extend from the First Page Header section through the Other Page Header section. To make a copy of an existing report, position the cursor on that report in the report list and press Insert.

Text

You can move or copy data from one text field to another text field in the same database.

To use **Block**,

- 1 Position the cursor in the text field where you want the block to begin.
- 2 Press **Edit** (F6) to go into Edit mode, then press **Left Arrow** (←) to move the cursor into the text field.

Several instructions appear at the bottom of the instruction box, beginning with "Save Text - Tab."

- 3 Press **Block** (Alt-F4) to turn on **Block**.

A "Block" message appears at the top of the instruction box. You do not, however, see the blocked text in reverse video.

- 4 Move the cursor to where you want the block to end.
- 5 Press **Move** (Ctrl-F4) to cut the block from the screen, then press **Save** (F10) twice to save the field and the record.

or

Press **Save** once to copy the block, then press **Save** two more times to save the field and the record.

The block of text is saved in a separate buffer.

- 6 Position the cursor where you want the blocked text, then press **Move** (Ctrl-F4).

The block is restored or copied.

Bold

Bold (F6) can be used both in a report and in a text field.

Reports

When sending a report to the printer, designated text and fields will be bolded only if the report is in WordPerfect format and you are using the DataPerfect Printer Program (see *DataPerfect Printer Program* under *Reports* in *Reference*).

When sending a report to a disk file, save the file in WordPerfect format. A DOS text format does not bold when the file is printed.

You may not use **Bold** if the cursor is already positioned on a field. If the cursor is positioned on a field when you press **Bold**, you are placed in Edit mode.

You can bold text or fields while creating a report or in an existing report. To bold text or a field as you type in a report,

- 1 From a panel, press **Report/Export** (Shift-F7) to access the report list.

- 2 Move the cursor to the desired report and press **Enter** to access the Report menu.

or

Press **Insert** to create a new report.

- 3 Select Edit Report Form (8).

- 4 In the report form, position the cursor where you want Bold to begin.

- 5 Press **Bold** (F6) to turn on Bold.

or

Press **Attributes** (Shift-F6), then select Bold On/Off (1).

- 6 Type the desired text.

or

Press **Select** (F4) to select the desired field.

- 7 Press **Bold** again to turn off Bold.

or

Press **Attributes**, then select Bold On/Off again.

To bold existing text or a field that has already been selected in a report,

- 1 Be sure the report form is on the screen, then move the cursor to the beginning of the text or field you want to bold.

- 2 Block the desired text or field (see *Block* under *Data Entry Keystrokes and Features* in *Reference*).

- 3 Press **Bold** (F6) to bold the blocked text or field.

Text Field

You may bold text in a field only if the cursor is *in* the text field (you may need to press Right Arrow (→) or Left Arrow (←) to move into the text field). If the cursor is not in the text field when you press Bold, you are placed in Edit mode.

To bold text in a text field as you type,

- 1 Press **Bold** (F6) to turn on Bold.
- 2 Type the text.
- 3 Press **Bold** again to turn off Bold.

To bold existing text,

- 1 Block the text you want to bold (see *Block* under *Data Entry Keystrokes and Features* in *Reference*).
- 2 Press **Bold** (F6) to bold the text.

Cancel

Press Cancel (F1) to do the following:

- Cancel an action after selecting an incorrect function key.
- Restore original values to fields changed in Edit mode (before changes are saved) and cancel Edit mode.
- Reset a field to its original value when you are typing a new value (only if Enter has not been pressed).
- End a report while it is running.
- Discontinue an import or search.
- Exit a lookup list and return to the record the cursor was on when Lookup was pressed.
- Cancel creating/editing an index.
- Exit and save a report or panel definition.
- Cancel a link definition while still in the defining process.
- Cancel creating/editing a record.
- Remove a password from the database at the Define Passwords screen (press System (Shift-F9), then select Define Passwords (5)).

Copy

Using Save (F10) and Move (Ctrl-F4), you can copy a designated block of text or fields (see *Block* under *Data Entry Keystrokes and Features* in *Reference*).

After defining the block,

1 Press **Save** (F10).

This copies the block into a separate buffer, leaving the original block of text on the screen.

2 Position the cursor where you want the block copied and press **Move** (Ctrl-F4) (see *Move* under *Data Entry Keystrokes and Features* in *Reference*).

The copied block appears.

Press Move to restore copies of the block as many times as necessary. However, only one block may be defined at a time. If you define and copy another block, the first block is eliminated from the buffer (whether you have restored it or not). When you exit the database, any data in the buffer is deleted.

Cursor Movement

This section describes the keystrokes needed to move through databases, panels, and records. Keystrokes for moving within fields are also included.

Moving Through Databases

The first screen you see when you enter DataPerfect is a list of databases available in the current directory. Use the keystrokes described below to move your cursor between databases or between a panel list and database list.

Database to Database

If you are currently in a database, press Exit (F7) until the database list is displayed. Use the arrow keys to highlight the desired database, then press Enter. Press Home or Page Up to move your cursor to the first database in the list. Press End or Page Down to move your cursor to the last database in the list.

Database List to Panel List

Use the arrow keys to highlight the desired database, then press Enter. The panel list is displayed.

Panel List to Database List

Exit (F7) returns you to the database list.

Moving Through Panels

A database may have many panels in the panel list. Use the keystrokes described below to move from one panel to another.

Panel List to Panel

Use the arrow keys to highlight the desired panel, then press Enter. Press Home or Page Up to move your cursor to the first panel in the list. Press End or Page Down to move your cursor to the last panel in the list.

Panel to Panel List

Exit (F7) returns you to the panel list.

Panel to Panel via Panel List

Return to the panel list by pressing Exit (F7). Move the cursor to the desired panel, then press Enter. Press Home or Page Up to move your cursor to the first panel in the list. Press End or Page Down to move your cursor to the last panel in the list.

Panel to Panel via a Link

To move from a source panel to a destination panel through a panel link, position the cursor on the link and press Down Arrow (↓) or ↓Panel (F5). To move from a source panel to a destination panel through a data link, position the cursor on the field to the right of the data link and press Down Arrow or ↓Panel. Pressing Down Arrow lets you access only the related records in the destination panel. ↓Panel lets you access all of the records in the destination panel. To return to the source panel, press Exit (F7).

Moving Through Records

When you are in a panel, use the following features and keystrokes to browse through the records.

Page Up/Page Down

Page Up moves the cursor to the previous record and Page Down moves the cursor to the next record. DataPerfect uses the current index in the panel to determine the previous or next record. If you haven't accessed any kind of index during this database session (e.g., a lookup list), the first index in the panel is used.

Shift-Page Up/Page Down

Shift-Page Up moves the cursor to the first record in a panel. Shift-Page Down moves the cursor to the last record in a panel. These keystrokes work only on a standard keyboard.

Lookup (F8) or Up Arrow (↑)

Pressing Lookup or Up Arrow when in a record lets you use the Lookup feature to locate a record (see *Lookup* under *Data Entry Keystrokes and Features in Reference*).

↵Search (F2) or ⏪Search (Shift-F2)

The ↵Search and ⏪Search features are useful for locating a specific record or records in a panel (see *Search* in *Reference*).

Moving Through Fields

The following keystrokes can be used to move from field to field when in Browse, Create, or Edit mode.

Shift-Arrow Keys

The Shift-arrow keys on the numeric keypad move your cursor from field to field.

If you press a Shift-arrow key when the cursor is in a text field, the field value is saved and the cursor moves to the next field, as designated by the arrow key.

- Shift-Up Arrow moves the cursor to the field above.
- Shift-Down Arrow moves the cursor to the field below.
- Shift-Left Arrow moves the cursor to the field to the left.
- Shift-Right Arrow moves the cursor to the field to the right.

These keys work when defining any kind of field list (e.g., an index or link field list). They do not move the cursor when defining a panel.

With some keyboards (such as some laptop computers), the Shift-arrow keys may not work. If you encounter this problem, use the Alt key in combination with 1, 2, 3, and 4 (number keys at the top of the keyboard) to move left, right, up, or down respectively. Also, on the IBM Enhanced Keyboard, the dedicated cursor pad (i.e., the arrow keys located to the left of the numeric key pad) does not function with Shift.

Ctrl-Home

Ctrl-Home moves the cursor to the first field in the edit order (see *Panel Options (Change Edit Order)* under *Panels* in *Reference*).

Tab, Enter, or Plus (+) on the Numeric Keypad

Tab, Enter, or the plus sign (+) on the numeric keypad moves your cursor to the next field. However, if the cursor is positioned in a text field and you press Enter, a carriage return is inserted. To move the cursor to the next field from a text field, press Tab or the plus sign.

Shift-Tab or Minus (-) on the Numeric Keypad

When in Create or Edit mode, Shift-Tab or the minus sign (-) on the numeric keypad leaves the last value entered in the field and moves to the previous field in the edit order (see *Panel Options (Change Edit Order)* under *Panels* in *Reference*). In Browse mode, Shift-Tab or minus (-) moves the cursor to the previous field.

Escape

When in Create or Edit mode, Escape restores the previous value entered and moves the cursor to the beginning of the field. Pressing Escape again moves the cursor to the previous field in the edit order. In Browse mode, Escape moves the cursor to the previous field.

Down Arrow (↓) or ↓Panel (F5)

Pressing Down Arrow or ↓Panel moves you to the next data link or panel link in a panel. Once the cursor is on a link, pressing one of these keys moves you through the link (see *Links* in *Reference*). Down Arrow accesses only the related records in the destination panel. ↓Panel accesses all of the records in the destination panel.

Moving Within Fields

Use the following keystrokes to move the cursor within a field.

Left/Right Arrow Keys

Left Arrow (←) moves the cursor one character to the left. Right Arrow (→) moves the cursor one character to the right. Holding down Left Arrow or Right Arrow moves the cursor to the extreme left/right of a line of text.

Word Left/Right

Word Left (Ctrl-Left Arrow) moves the cursor to the beginning of the previous word. Word Right (Ctrl-Right Arrow) moves the cursor to the beginning of the next word.

Moving Within Non-Text Fields Use the following keystrokes to move the cursor within a non-text field (any field other than a text field).

Home

Home moves the cursor to the beginning of the field.

End

End moves the cursor to the end of the field.

Moving Within Text Fields Use the following keystrokes to move the cursor within a text field.

Up/Down Arrow Keys

Up Arrow (↑) moves the cursor up one line. Down Arrow (↓) moves the cursor down one line. Holding down Up Arrow or Down Arrow scrolls up/down through a text field.

Page Up/Down

Page Up (Pg Up) and Page Down (Pg Dn) move the cursor to the first line of displayed text (Page Up) or to the last line of displayed text (Page Down).

Home

Press Home followed by an arrow key to move the cursor to the margins of the text currently displayed in the text field. Press Home twice followed by Up Arrow (↑) or Down Arrow (↓) to move to the top or bottom of the text field.

Scrolling Through a List Use Up Arrow (↑) and Down Arrow (↓) to scroll through database lists, panel lists, report lists, lookup lists, and indexes. You can use Page Up/Page Down to move to the top/bottom of the list.

Delete

The following keystrokes may be used to delete text.

Backspace

Deletes character to the left of the cursor.

Delete

Deletes character on which the cursor is positioned.

Ctrl-Backspace

Deletes word at the cursor.

Ctrl-End

Deletes to the end of the line (or the end of the field in a non-text field).

Ctrl-Page Down

Deletes to the end of a text field.

If you want to delete a large amount of text, define the text you want to delete using Block (Alt-F4), then press Backspace or Delete and type *y* at the prompt to confirm the deletion.

Down Panel (↓Panel)

You can move the cursor to the next data link or panel link in a panel by pressing ↓Panel (F5) or Down Arrow (↓).

If the cursor is already positioned on a link, ↓Panel moves the cursor through the link to the destination panel (see *Links in Reference*). Pressing ↓Panel while the cursor is on a link accesses all of the records in the destination panel.

Pressing the Down Arrow (↓) while the cursor is positioned on a link moves the cursor through the link to the destination panel. However, by doing this you will access only the related records in the destination panel.

To return to the source panel, press Exit (F7).

Enter

Use Enter (↵) to do the following:

- Move from field to field when you are in a panel (except in text fields).
- Insert a carriage return when you are typing in a text field.
- Select the highlighted item when you are in a list (panel list, database list, etc.).
- Exit most menus when the selection default is zero (0).

Escape

When in Create or Edit mode, pressing Escape after you have typed in the field restores the previous value entered and moves the cursor to the beginning of the field. Pressing Escape again moves the cursor to the previous field. In Browse mode, pressing Escape moves the cursor to the previous field.

Exit

Use Exit (F7) to do the following:

- Save the record you are editing and return to the panel list.
 - Return to the Report menu while you are editing a report form.
 - Return to the report list when you are at a Report menu.
 - Return to the panel from a report list.
 - Return to the source panel from the destination panel after going through a link.
 - Exit a menu and return to the panel.
 - Move from the panel to the panel list.
 - Move from the panel list to the database list.
 - Exit the database list and, subsequently, the program.
-

Help

Help (F3) is used to display a help message for a specific field. You can also press Help to display information about a feature you are using. You can define additional help information to give the user more specific instructions about each application.

Help Messages The four levels of help messages are:

- *Custom Help*—Optional messages you can create to give instructions to users of a particular database.
- *Program Help*—Information concerning the feature you are using.

- *Template Help*—An on-screen representation of the function keys with template labels.
- *Feature List Help*—A list of DataPerfect features and keystrokes.

Custom Help

When Auto-Help is on, any messages you have entered to assist database users are automatically displayed in the instruction box (see *Auto-Help* under *Screen* in *Reference*).

The screenshot shows a database screen with a help message and customer information. The help message is displayed in a box at the top, and the customer information is displayed in a table below it.

Note
This is a numeric field for the customer's phone number.
Enter only numbers. Parentheses and hyphens are not necessary.

Help-F3 Exit Help-Enter
CUSTOMER.PER-30

CUSTOMER INFORMATION			
Customer ID	00001	First	Jane
Last Name	Burnett	Middle	M.
Address	378 Garden Park Drive	City	Pueblo
		ST	CO
		Zip	81002-0000
		Home Phone	(719)555-9000
		Work Phone	(719)555-8370
Comments		Last Inv Date	
		Balance Due	\$0.00
		Payments	☒
		Invoices	☒

When Auto-Help is off, pressing Help once while on a field displays any help message you may have entered for users of that particular database (see *Defining a Help Screen Using Edit Help* under *Fields* in *Reference*). If the message continues beyond the first screen, the user can press any key except Enter to see additional information (pressing Enter exits Help).

Program Help

If Help is pressed a second time (or first time, if there are no custom help messages), information about the feature currently in use is displayed. For example, if the cursor is in a menu, information about the menu is displayed. If the cursor is in a

field, information about editing a field is displayed. If the message is longer than six lines, press any key except Enter to see more of the message.

```

You are positioned on a panel link to another panel. Press Down Arrow (↓) to
go to the other panel and see the related records in the destination panel.
Press ↑Panel (F5) to go to the destination panel and view all records in that
panel.
-----
Help-F3 Exit Help-Enter Continue this Help-Any other Key
-----
CUSTOMER.PER-30
-----
CUSTOMER INFORMATION
Customer ID 00001
Last Name Burnett First Jane Middle M.
Address City ST Zip
378 Garden Park Drive Pueblo CO 81002-0000
Hm Phone (719)555-9000 Wk Phone (719)555-8370
Comments Last Inv Date
Balance Due $0.00
-----
Payments ☒ Invoices ☒

```

Template Help

Pressing Help a third time (or second time, if there are no custom help messages) displays a graphic representation of the features available on the function keys.

```

DataPerfect 2.01 September 1, 1989
Ctrl Go to Shell
F1 Shift Get Field from Clipboard F2 Shift Reverse Search
Alt Get Record from Clipboard Alt Search
F1 Cancel F2
Ctrl Screen Ctrl Move
F3 Shift Edit Help F4 Shift ---
Alt Reveal Alt Block
F3 Help F4 Select
Ctrl Import Ctrl ---
F5 Shift Remove F6 Shift Report Attributes
Alt Multiple Record Remove Alt ---
F5 ↓Panel F6 Edit
Ctrl Report Options Ctrl Define Index
F7 Shift Report/Export F8 Shift Define Field
Alt Single Record Report Alt Define Panel
F7 Exit F8 Lookup
Ctrl --- Ctrl Put Panel to Clipboard
F9 Shift System Operations F10 Shift Put Field to Clipboard
Alt --- Alt Put Record to Clipboard
F9 Create F10 Save_

```

Feature List Help

If Help is pressed a fourth time (or third time, if there are no

custom help messages), a list of DataPerfect features and keystrokes for each feature is displayed.

Support: 800-321-3249; 801-225-5700			
Move to next field	Tab	Cancel	F1
Move to previous field	Shift-Tab	Create record	F9
Go to subset records	↓	Edit record	F6
Go to linked panel	F5	Save	F10
Return from panel	F7	Save & Exit	F7
PRINTING & REPORTS		DEFINE	
Select & Print Report	Shift-F7	Panel	Alt-F8
Export Panel/File	Shift-F7	Field	Shift-F8
Report Options	Ctrl-F7	Index	Ctrl-F8
Select Field	F4	Edit user help Shift-F3	
Reveal Field	Alt-F3		
SHELL/CLIPBOARD		BLOCK MOVE	
Go to Shell	Ctrl-F1	Block On/Off	Alt-F4
Get Field from Clipboard	Shift-F1	Move	Ctrl-F4
Get Record from Clipboard	Alt-F1		
Put Field to Clipboard	Shift-F10	SEARCH	
Put Record to Clipboard	Alt-F10	Search	F2
Put Panel to Clipboard	Ctrl-F10	Reverse Search	Shift-F2
SCREEN OPTIONS Ctrl-F3		SYSTEM OPTIONS Shift-F9	
Colors, Auto-Help, Date/time display		Index generation, Format Defaults	
Alt and Ctrl key Maps		Character Sort Order, Uppercase Map	

Exiting Help Messages

Press Enter to exit a help message.

Lookup

Lookup (F8) is a feature used to look through, locate, and retrieve records in a database. When you press Lookup (also accessed by pressing Up Arrow), a sorted list of records appears at the top of the screen. This list is called a lookup list. A lookup list displays one or more fields from a record on one line. The record currently displayed in the panel is highlighted in the lookup list.

```
--Beginning--
BURNETT      Jane      R.      00001
Caldiero    Allen     R.      00002
Cameron     Marshall  H.      00003
Corrales    Joseph Jr.  H.      00026
Criddle     H.        Jay     00004
```

CUSTOMER PER-30		CUSTOMER INFORMATION	
Customer ID 00001	First Jane	Middle M.	
Last Name Burnett			
Address	City	ST	Zip
378 Garden Park Drive	Pueblo	CO	81002-0000
	Ha Phone (719)555-9000	Wk Phone (719)555-8370	
Comments		Last Inv Date	
		Balance Due	\$0.00
Payments ☐		Invoices ☐	

Do not confuse this lookup list with a lookup *field* list. A lookup field list defines the order in which the fields appear horizontally across the lookup list. See *Lookup Field List* under *Field Lists and Indexes in Reference* for more information.

Using a Lookup List

You can move through the lookup list by using the following keystrokes:

Up Arrow (↑)/Down Arrow (↓)

Moves up/down to the next record.

Home, Up Arrow/Down Arrow

Moves up/down through the records a few at a time.

Page Up/Page Down

Moves up/down through the records a few at a time.

Plus (+)/Minus (-) on Keypad

Moves up/down through the records a few at a time.

Home, Home, Up Arrow/Down Arrow

Moves to the beginning/end of the list of records.

You can also type any letter (or series of letters) while in the lookup list to move to the first record that starts with that letter (or series of letters). When you type a letter while the cursor is in the lookup list, that letter appears at the top of the instruction box, and DataPerfect searches the first field in the lookup's index. When a field value is found that begins with the same letter you typed, the cursor highlights that record. If no record matching the typed letter(s) is found, the cursor moves to the closest match. You can press any arrow key to reset the search and type a different pattern.

For this type of search to work properly, the first field in the lookup field list should be the same as the first field in the index (see *Lookup Field Lists* under *Field Lists and Indexes in Reference*). This kind of search may be performed on any type of field (alphanumeric, date, time, etc.).

Retrieving a Record

When you are browsing through records in the lookup list and have located the desired record, press Enter to retrieve it.

When you perform a lookup and then press Enter to retrieve a record, DataPerfect uses that record as the new *background record* (the most recently displayed record). For more information, see *Select* under *Data Entry Keystrokes and Features in Reference*.

If you want to return to the panel from the lookup list without retrieving a record, press Cancel (F1).

If you are unable to reference a particular record, or cannot proceed past a record in the lookup list, or cannot delete a record in the lookup list, the index file may be corrupted. You should be able to correct these problems by regenerating the index. For more information, see *Using Index Recovery to Recreate an Index* under *System in Reference*.

Lookups on Links

Usually you can press Lookup (F8) or Up Arrow (↑) on a field to view the lookup list for the current field. However, these keys function differently when the cursor is positioned on a data link or a panel link. If you press Lookup or Up Arrow on a link while you are in Create or Edit Mode, the lookup list displays data from the linked panel (the destination panel). In Browse mode, Lookup displays only the related records from the destination panel and Up Arrow displays data from the current panel (the source panel).

You can use Lookup or Up Arrow to assist you when entering data. If you are creating a new record in a source panel which includes a data link, you can press Lookup or Up Arrow when the cursor is on the data link to view the records in the destination panel. After locating the desired record from the destination panel, press Enter to retrieve the common fields (fields specified when you defined the link) into the source panel. Then continue creating the record in the source panel.

Move

Move (Ctrl-F4) is used to move a block of text in a text field or in a report (see *Block* under *Data Entry Keystrokes and Features in Reference*). It is also used to move fields when in Define Panel mode. After you have defined a block using Block (Alt-F4),

1 Press **Move** (Ctrl-F4).

The block is saved in a separate buffer and disappears from the screen.

- 2 Move the cursor to the position where you want to insert the block and press **Move** again.

The block reappears in the new position.

You can press Move to restore copies of the block as many times as you want. However, only one block may be defined at a time. If you define and cut another block, the previous block is eliminated from the buffer (whether you have restored it or not).

Save

Use Save (F10) to do the following:

- Save on a disk any changes that have been made to a record.
- Save the current field when in Edit mode.
- Copy a defined block of text into a separate buffer. The block can then be retrieved to another position using Move.
- Save a panel definition to disk.
- Save a report form and return you to the Report menu.

Select

Select (F4) is used to bring data into the current field from a previously displayed field. It is also used to select fields for formulas, reports, and field lists.

Data

You can use Select (F4) to enter data quickly into a field. If you are creating a record, you can press Select to fill in a field with information from the most recently displayed record in the panel (the *background record*). You can change this *background record* by performing a lookup and pressing Enter on the desired record.

Fields

When you are creating a formula or report, Select lets you insert a field from the current panel (or a linked panel) into the formula or report (see *Using Formulas* under *Formulas and Functions* and *Custom Reports* under *Reports* in *Reference*).

Select is also used to select fields for any type of field list (see *Field Lists and Indexes* in *Reference*).

Tab

When entering data, press Tab to move the cursor to the next field. Enter can also be used to move the cursor to the next field. However, in a text field, pressing Tab saves the text field and moves the cursor to the next field, while pressing Enter simply inserts a carriage return.

In a report form, Tab is used to designate the column to which you want to move the cursor.

Underline

Underline (F8) can be used both in a report and in a text field.

Reports

When sending a report to the printer, designated text and fields will be underlined only if the report is in WordPerfect format and you are using the DataPerfect Printer Program (see *DataPerfect Printer Program* under *Reports* in *Reference*).

When sending a report to a disk file, save the file in WordPerfect format. A DOS text format does not underline when the file is printed.

You can underline text or fields while creating a report or in an existing report.

To underline text or a field as you type,

- 1 From a panel, press **Report/Export** (Shift-F7) to access the report list.
- 2 Move the cursor to the desired report and press **Enter** to access the Report menu.

or

Press **Insert** to create a new report.

- 3 Select Edit Report Form (8).
- 4 In the report form, position the cursor where you want Underline to begin.

5 Press **Underline** (F8) to turn on Underline.

or

Press **Attributes** (Shift-F6), then select Underline On/Off (2).

6 Type the desired text.

or

Press **Select** (F4) to select the desired field.

7 Press **Underline** again to turn off Underline.

or

Press **Attributes**, then select Underline On/Off again.

To underline existing text or a field that has already been selected in a report,

1 Be sure the report form is on the screen, then move the cursor to the beginning of the text or field you want to underline.

2 Block the desired text or field (see *Block* under *Data Entry Keystrokes and Features* in *Reference*).

3 Press **Underline** (F8) to underline the blocked text or field.

Text Field

To underline text in a text field as you type,

1 Press **Underline** (F8) to turn on Underline.

2 Type the text.

3 Press **Underline** again to turn off Underline.

To underline existing text,

1 Block the text you want to underline (see *Block* under *Data Entry Keystrokes and Features* in *Reference*).

2 Press **Underline** (F8) to underline the text.



Introduction

The Reports feature in DataPerfect is both powerful and versatile. Using reports, you can print data from a database, send data to a disk file, modify database records, and perform many other useful options (see *Common Uses of Reports* below).

This section describes the two different kinds of reports: built-in short reports and custom reports. Information is provided about using the DataPerfect Printer Program to print these reports. The many options associated with custom reports are also discussed. In addition, several sample reports have been included showing some of the common uses of reports.

Passwords and Reports

If no passwords have been assigned in a database, any user can create, edit, delete, and save reports. If passwords have been assigned, the following information is applicable (see *Defining Passwords* under *System Operations* in *Reference*).

Database Definers, Supervisors, and Read/Write Users

Database definers, supervisors, and read/write users can create, edit, and run reports. Reports created by these users are saved when they exit the database.

Only one database definer, supervisor, or read/write user can make changes in a report at one time. When one of these users is creating or editing a report form, the report is locked from use by others. However, as soon as a report form is exited, other users have access to the report.

More than one definer, supervisor, or read/write user can run the same report at the same time.

Read-Only Users

Although read-only users cannot create reports, they can temporarily modify and run reports created by a database definer, supervisor, or read/write user. All of the settings on the Report menu except Edit Report Form (option 8) and Edit Report Name (option 9) can be modified. Any modifications made to reports by read-only users are deleted when the report is exited.

Common Uses of Reports

DataPerfect reports offer a number of options for arranging your data in printed form. You can print data from your database, send data to a disk file, or print to Clipboard (if you have WordPerfect Library or WordPerfect Office). Also, by running a report you can create, edit, or delete records in the database.

The most common uses of reports are listed below.

- Print a simple list of data.
- Export data to a disk file.
- Create database records.
- Search for existing data in the database and replace it with new data (edit records).
- Delete database records.
- Print on pre-printed forms, such as invoices, receipts, checks, etc.
- Compile data into specific groups (two-level reports).
- Print calculated totals, including variable totals.
- Create a WordPerfect merge file.
- Create mailing labels.
- Create form letters.
- Archive information to another panel (so that the current panel runs at optimum speed).
- Export data to another database software program.
- Use variable search conditions to print only certain records.
- Arrange data to simulate the appearance of a spreadsheet.

DataPerfect Printer Program

The DataPerfect Printer Program can be used when running reports. The printer program is included on the DataPerfect Program diskette, and is called DPPRINT. DPPRINT is a TSR (Terminate Stay Resident) program separate from DataPerfect. This program lets you select a printer definition that is specifically tailored to your printer. This printer definition includes the proper control strings for bolding and underlining.

This program uses the same printer drivers as WordPerfect Library. If you need to edit a printer driver's definition, you must use the WPOPTR program found in WordPerfect Library.

Loading the Printer Program

DPPRINT is found on three program files: DPPRINT.COM, DPPRINT.SYS, and DPPRINT.QUE. Each printer driver has its own file (see *Program Files* in the *Appendix*). These files should be installed when you install DataPerfect. If you have not installed the printer files, refer to *Installation* for directions.

Once the printer program files are installed on your computer, you can load the printer program into memory by entering DPPRINT at the DOS prompt. After entering DPPRINT, you are returned to the DOS prompt. The program now is resident in memory until you turn off the computer. To move directly to the Printer Control menu, enter DPPRINT/C at the DOS prompt. If you want to remove it from memory without restarting your computer, enter DPPRINT/R at the DOS prompt.

Append DPPRINT to the AUTOEXEC.BAT File

To save time, you can place DPPRINT in your AUTOEXEC.BAT file, which contains commands that DOS executes each time the computer is turned on.

If you are not using WordPerfect Library/Office Shell, follow the steps below to add the DPPRINT command to your AUTOEXEC.BAT file.

- 1 Begin with the DOS prompt on the screen.
- 2 Type **cd** at the DOS prompt and press **Enter** to change to the root directory.
- 3 Type **copy autoexec.bat+con autoexec.bat** and press **Enter** to append to the existing AUTOEXEC.BAT file.

If your AUTOEXEC.BAT file already contains a PATH= command, proceed with steps 4 through 6. If your AUTOEXEC.BAT does not contain a PATH= command, you must exit the file and follow the steps for users who are operating under the WordPerfect Library/Office Shell.

- 4** Type **c:\data\dpprint** to add the DPPRINT command to the AUTOEXEC.BAT file. The "DATA" directory contains the DataPerfect program files. This directory name may be different for your system.
- 5** Press **F6** to include the code which ends the AUTOEXEC.BAT file (^Z), then press **Enter**.
- 6** Turn off the computer, then turn it on again for the edited AUTOEXEC.BAT to take effect.

If you are using the WordPerfect Library/Office Shell, follow the steps below to add the DPPRINT command to your AUTOEXEC.BAT file.

- 1** Begin with the DOS prompt on your screen.
- 2** Type **cd** at the DOS prompt and press **Enter** to change to the root directory.

You must use a text editor to modify the AUTOEXEC.BAT file.

- 3** If you use WordPerfect Program Editor, type the letter on the Shell menu which accesses the program editor.

or

If you use another text editor, access that editor.

Be sure the screen is blank.

- 4** If you use WordPerfect Program Editor, retrieve the AUTOEXEC.BAT file by pressing **Retrieve** (Shift-F10), then enter **c:\autoexec.bat**.

or

If you use another text editor, retrieve the AUTOEXEC.BAT file by performing the necessary steps.

- 5** Position the cursor at the beginning of a line in the file. Be sure the line is *before* the Shell command at the end of the file.
- 6** Type **cd\directory** and press **Enter** (*directory* represents the name of the directory in which the DataPerfect Printer Program is located).
- 7** Type **dpprint** and press **Enter**.

- 8 Press **Exit** (F7) to save the document.
- 9 When prompted, type **y** and press **Enter** to confirm the replacement of the old AUTOEXEC.BAT file.
- 10 Turn off the computer, then turn it on again for the edited AUTOEXEC.BAT file to take effect.

Selecting the Printer Driver

Once DPPRINT is loaded, you will notice a difference in the DataPerfect program only when you press Report/Export (Shift-F7).

To select a printer driver,

- 1 Be sure the cursor is in the desired panel.
- 2 Press **Report/Export** (Shift-F7) to access the report list.
- 3 Move the cursor to the desired report.

or

Press **Insert** to create a new report.

You will notice some new settings to the right of the Printer On/Off option. See *Custom Reports* under *Reports in Reference* for more information about Printer On/Off.

```

REPORT: New Report
Destination:
1 - Printer On/Off          Screen Only
2 - Disk File On/Off       Using DP Print Driver
                          Press P to go to Printer Control Screen
3 - Index Number          1
4 - Search Conditions      No Search
5 - Sort Direction         Forward
6 - Disk File Mode WP/DOS  No Disk File
7 - Print Margins          Top      Bottom   Left      Text Lines
                          6        0        0        54
8 - Edit Report Form
9 - Edit Report Name

Selection: (Press Shift-F7 to begin the report) 0

```

The first message displayed is "Using DP Print Driver." This setting cannot be changed. It is displayed to inform you that DataPerfect is using the printer drivers.

The setting beneath "Using DP Print Driver" is "Press P to go to Printer Control Screen."

4 Press **p** to access the Printer Control menu.

```
Printer Control Menu

Printer queue

Print queue is empty

Definition for LPT1: GENERIC
Definition for LPT2: GENERIC
Definition for COM1: GENERIC
Definition for COM2: GENERIC

Select printer, Exit printer control: _
```

The Printer Control menu lets you view and/or delete the print jobs in the printer queue. To delete a print job, move the cursor to the print job you want to delete, then press Delete. This screen also displays the current printer driver for each port in the lower left part of the screen. From this menu, you can also select a printer driver or exit the Printer Control menu.

5 Press **s** to access the Printer Selection menu.

```
Printer Selection Menu

Printer drivers:

1) CANON          2) DIABLO        3) EPSON         4) GENERIC
5) HPLASER       6) OTHERDM      7) OTHERLO      8) TOSHIBA
9) DIABLODT     10) DIABLOFN    11) DIABLOFR    12) DIABLOGR
13) DIABLONR    14) DIABLOSP   15) DIABLOSW   16) DLR-CLI
17) HP_II       18) IBMPROXL

Definition for LPT1: GENERIC
Definition for LPT2: GENERIC
Definition for COM1: GENERIC
Definition for COM2: GENERIC

Selection for LPT1: 0
```

From the Printer Selection menu, you can change the setting for the printer drivers in the current directory. The printer driver currently selected for LPT1 is highlighted. You must first enter the desired printer driver for LPT1.

- 6** Enter the number that corresponds to the type of printer connected to LPT1 (the default setting is GENERIC). For example, if an Epson printer is connected to LPT1, enter a 3.

If the menu does not list a driver for your printer, select OTHERDM if you have a dot matrix printer, or select OTHERLQ if you have a letter quality printer.

After you select a printer driver for LPT1, the currently selected printer driver for LPT2 is highlighted.

- 7** If desired, repeat step 6 for LPT2, COM1, and COM2.
- 8** Press **Exit** (F7) at any time to return to the Printer Control menu.

When you exit the Printer Selection menu, the names of the printer drivers you just selected are displayed in the lower left part of the screen.

- 9** Press **Exit** (F7) or **e** to return to the Report menu.

Printer drivers can only be used if the report is formatted in WordPerfect format.

- 10** Be sure the setting for Disk File Mode WP/DOS (6) is WordPerfect (not DOS).

**Network
Information**

When installing this program on a network, each station should maintain its own copy of the printer program files. These files need to be kept together in the same directory. The printer port needs to be spooled (redirected), whether or not you use the printer program. Refer to your network documentation to learn how to spool a port.

Built-In Short Reports

DataPerfect contains a "built-in short report" that can be used in each panel you define. You can use a built-in short report to export records from a panel for backup purposes or for use in other programs (see *Exporting Data from a Database to a Disk File* under *Exporting and Importing Data in Reference*). You can also use a built-in short report to print a simple list of data.

Before you run a built-in short report, make sure the cursor is in the panel you want the report to access. If you want to export or print fields that have been selected in a particular lookup field list, move the cursor to that field before running the report. Once the cursor is in the panel and on the appropriate field, you can run the report.

To run a built-in short report,

- 1 Enter the panel that contains the data you want to use in the report. If necessary, move the cursor to the desired field (to print the fields from a lookup field list).
- 2 Press **Report/Export** (Shift-F7).
- 3 Be sure the cursor is positioned on Built-In Short Reports, then press **Enter**.

The Built-In Report/Export menu appears.

```

                                     BUILT-IN REPORT/EXPORT
Destination:                          Create Disk File
 1 - Printer On/Off
 2 - Disk File On/Off
   Filename: SCRATCH.REP
 3 - Index Number                       1
 4 - Search Conditions                   No Search
 5 - Sort Direction                      Forward
 6 - Disk File Mode WP/DOS               WordPerfect
 7 - Print Margins                       Top      Bottom   Left      Text Lines
                                     6          0          0          54
 8 - Report/export format:               WordPerfect Merge (Can be imported)
Fields to be Included:                  All Real Fields (Including Hidden)
 9 - Lookup Fields
 A - All Display Fields
 B - All Real Fields
Selection: (Press Shift-F7 to begin the report) 0
```

The current settings are bolded and are displayed to the right of each menu option. At the prompt, you may select 1-9, A, or B to change any of the corresponding settings.

4 Select the menu options you want for your report.

5 Press **Report/Export** again to begin the report.

When the report is finished, the message "Report finished—Press any key to continue" is displayed, and the computer beeps.

To cancel a report, press Cancel (F1) or Escape. Pressing either of these keys cancels the report as soon as the record currently being run is finished. If you are printing the report, the printer stops as soon as its buffer is empty.

6 Press any key to return to the report list.

Menu Options

The Built-In Report/Export options are described below. At the selection prompt, type the number or letter of the setting you want to change.

Destination

This option lets you select the destination of the report. You can send the report to the printer, to a disk file, to both the printer and a disk file, or just to the screen.

To send the report to the printer,

1 From the Report menu, select Report/Export format (8).

2 Select one of the following Report/Export formats: Columns, Single Line (1), Columns, Text Wrap (2), or List (3).

These are the only formats you can use to print a built-in short report. If you attempt to set the printer destination for an invalid report format, the computer beeps. For more information, see *Menu Options (Report/Export Format)* below.

3 Select Printer On/Off (1).

4 When prompted, type the number that corresponds to your printer port. If you do not know the number of your printer port, consult your dealer.

If you are using the DataPerfect Printer Program (DPPRINT), two settings are displayed to the right of Printer On/Off: "Using DP Print Driver" and "Press P to go to Printer Control Screen." For detailed information about these settings, see *DataPerfect Printer Program* under *Reports in Reference*.

If you are running DataPerfect on a network, you can redirect your print job to a network printer. Refer to your network documentation for the specific command.

If the printer is not turned on or is not on-line, a message appears prompting you either to fix the printer or to press Escape (Esc) to cancel the report.

To save the report to a disk file,

- 1 From the Report menu, select Disk File On/Off (2).
- 2 Select Create File (1) if you want to create a new file.

or

Select Append to File (2) if you want to append the report to an existing file (this is the default setting).

- 3 Enter the name of the disk file to which you want to send the report. The default filename is SCRATCH.REP.

If the disk file is being sent to another drive or directory, type the full pathname before typing the filename.

Select Disk File On/Off again to turn off the disk file selection.

The printer and disk file options can both be on at the same time. The current settings are displayed to the right of the Destination options.

To send the report only to the screen,

- 1 From the Report menu, select Report/Export Format (8).
- 2 Select one of the following Report/Export formats: Columns, Single Line (1), Columns, Text Wrap (2), or List (3).

Although you can use these three formats for any destination, you must select one of these to send a report *only* to the screen.

- 3 If you have selected the Printer destination, press Printer On/Off (1) again to turn off the printer selection.

and/or

If you have selected the Disk File destination, press Disk File On/Off (2) again to turn off the disk file selection.

The Screen Only setting is displayed to the right of the Destination options.

- 4 Select any other desired options.
- 5 Press **Report/Export** (Shift-F7) to run the report.

The report is sent only to the screen.

All reports are sent to the screen regardless of the selected setting. To display one screen at a time, turn on Scroll Lock. Press any key to scroll through the report from one screen to the next. If, after viewing a few screens, you want to run the remainder of the report without viewing each screen, press Scroll Lock again, then press any key to continue.

You can also send a report to Clipboard. Clipboard is part of the WordPerfect Library or WordPerfect Office Shell program, and is not shipped with DataPerfect (see *Using the Shell Options Menu* under *Shell* in *Reference*).

Index Number

When you run a report, the records are sorted according to the specified index. The index determines the order in which the records—not the fields—are exported.

If more than one index exists, and you want to change the selection,

- 1** From the Report menu, select Index Number (3).

The currently selected index is displayed.

- 2** Use **Up Arrow** (↑) and **Down Arrow** (↓) to find the desired index, then press **Select** (F4).

The Report menu appears with the selected index number in bold to the right of the option.

Search Conditions

This option first lets you set the search conditions, and then specify whether you want to include or exclude the records which match the search condition. If you select Include, only those records matching the currently defined search conditions are included in the report. If you select Exclude, the records matching the search conditions are excluded from the report.

The default setting is No Search. If you leave the setting at No Search, all records in the file are included in the report.

If you want to designate specific search conditions,

- 1** From the Report menu, select Search Conditions (4).
- 2** Select the desired search option(s).

For more information about each search option, see *Search* in *Reference*.

Sort Direction

This option determines the sort direction for the report. When sorting, DataPerfect follows the selected index, either from the beginning to the end (forward) or from the end to the beginning (backward). The default setting is forward.

- 1 From the Report menu, select Sort Direction (5) to change the direction to backward.

Select Sort Direction again to switch the direction to forward.

Disk File Mode (WP/DOS)

This option refers to the format used when creating the disk file and can be used only if the report is sent to disk. The two possible formats are WordPerfect and DOS Text. The default setting is WordPerfect mode.

If you want the file in DOS Text format,

- 1 From the Report menu, select Disk File Mode (WP/DOS) (6).

If the report is not being sent to disk, the setting reads No Disk File.

Print Margins

This option is used to set the margins and the number of text lines per page. Print margins are ignored if the report is sent to a WordPerfect disk file.

- 1 From the Report menu, select Print Margins (7).

Four options are available for editing:

- Top Margin
- Bottom Margin
- Left Margin
- Text Lines

If you press Enter without typing a new value, DataPerfect accepts the current value and moves the cursor to the next option.

The top margin determines the number of blank lines which appear at the top of each page.

The bottom margin determines the number of blank lines at the bottom of each page. If the bottom margin is set to zero (0), a form feed is issued after printing the last line of text on each page. If you do not want this form feed, calculate a bottom margin using the following equation:

Top margin + text lines + bottom margin = total number of lines on a page

(66 typed or printed lines on an 11 inch page using a dot matrix printer, 60 typed or printed lines on an 11 inch page using a laser printer)

For example, using one inch top and bottom margins (6 lines each) with a dot matrix printer,

$$6 + 54 + 6 = 66 \text{ (66 lines on an 11 inch page)}$$

Using top and bottom margins of 3 lines each with a laser printer (and taking into account the unprintable zone of 3 lines at the top and 3 lines at the bottom),

$$3 + 54 + 3 = 60 \text{ (60 available lines on an 11 inch page)}$$

If the bottom margin is set between 1 and 98, line feeds are issued for the remaining text lines, and for the number of lines specified for the bottom margin. If the bottom margin is set at 99 or greater, line feeds are issued for the remaining text lines only.

The left margin determines the number of blank spaces at the left edge of the paper. If the printer is printing in 10 pitch and you desire a one inch left margin, enter 10 as the setting for the left margin (pitch = characters per inch).

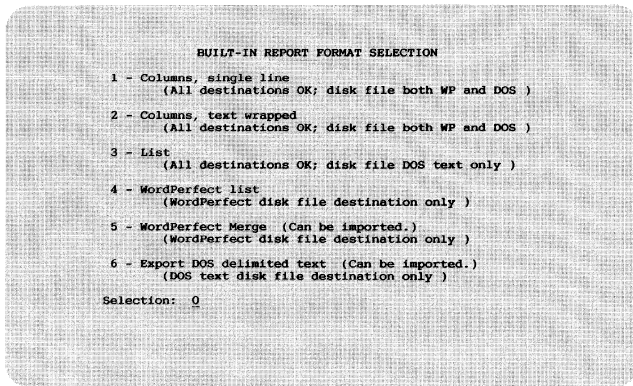
Notice that no right margin is indicated. The fields print according to the field formats designated in the panel and where <CR><LF> (carriage return, line feed) codes have been placed.

Text Lines designates the number of lines to be printed on each page of the report. If Text Lines is set to zero (0), the report is printed using a continuous feed (no page break). The top and bottom margins are ignored on subsequent pages. The First Page Header and the Final Footer will be printed (if specified).

While setting the print margins, press Cancel (F1) to erase changes, or press Exit (F7) to save the changes.

Report/Export Format

When you select Report/Export Format (8), the Built-In Report Format Selection menu is displayed. The default setting is WordPerfect Merge format.



The Columns, Single Line report is much like a lookup on the screen. Each record is displayed on one line with spaces between each field, giving the report a columnar look. Only the first line of a text field is printed. This report can be sent to any of the possible destinations (see *Menu Options (Destination)* above).

Burnett	Jane	(719)555-9500
Caldero	Aileen	(719)555-9276
Cameron	Marshall	(303)555-5890 Give him 10% discount on
Correas	Joseph Jr.	(212)568-1200
Croddie	H.	(303)555-3895 Do not accept any
Dance	Saantia	(617)564-5220
Dunn	Holly	(303)555-7800
Fancy	Marilyn	(719)555-3859
Frane	Karen	(303)555-8934 Pays off her balance
Friska	Stonley	(719)555-9380
Grant	Thomas	(303)555-4057 Give him a 10% discount
Greenen	Tom	(718)249-7770
Jacobson	Rosaline	(303)555-9847
Johnson	Hedra	(303)555-1083 She buys supplies for her
Martin	Ted	(303)552-8700
Mitchell	Troy	(303)555-1447
Olson	Lisa	(303)555-9767
Oliphant	Jane	(303)555-7676
Palmer	Lakia	(719)555-9274 Send her bills monthly
Quenton	Bryce	(303)555-4058
Roband	Stephan	(303)555-3390
Reid	Emily	(303)555-9078
Richardia	Meribel	(303)555-4039
Sergeant	Christiane	(303)555-4884 Do not send an invoice to
Toiman	David	(303)555-2344 Mr. Toiman is w/only
Warren	Jay	(719)555-3895
Williams	Sita	(303)555-3324 Be sure to let Sita know
Wolfe	V.	(719)555-2524 This customer spends the

The Columns, Text Wrapped report is similar to the single line report, except that all text in a text field is printed. This report can be sent to any of the possible destinations.

Burnett	Jane	(719)555-9000	
Caldiero	Allen	(719)555-9376	
Cameron	Marshall	(303)555-5890	Give him 10% discount on purchases over \$100.00.
Corrales	Joseph Jr.	(212)668-1200	
Cristle	H.	(303)555-3895	Do not accept any personal checks from him. Only accept checks from his business account.
Dance	Samantha	(617)068-5320	
Dunn	Holly	(303)555-7800	
Facer	Wendy	(719)555-3859	
Frane	Karon	(303)555-8934	Pays off her balance quarterly.
Fritske	Stanley	(303)555-3890	
Grant	Thomas	(719)555-9386	
Grayson	Tue	(303)555-4557	Give him a 10% discount on purchases over \$100.00.
Jacobson	Rosanna	(718)049-7770	
Johnson	Reidi	(303)555-5947	
Martin	Michelle	(303)555-1082	She buys supplies for her church; give her the appropriate discount.
Moyntinhal	Tud	(301)052-8700	
Oakos	Troy	(303)555-1497	
Oliphant	Lisa	(303)555-5767	
Poulsen	Jana	(303)555-9076	
Quenton	Leslie	(719)555-9274	Send her bills monthly and any information on new products. She likes to be kept up to date.
Rastand	Drew	(303)555-4555	
Reid	Stephen	(303)555-5300	
Rhoton	Carly	(303)555-6878	
Richards	Meredith	(303)555-4075	
Sergment	Christian	(303)555-4884	Do not send an invoice to him until his bill totals more than \$50.00.

The List report displays one field per line, except for text fields which may have many lines. This report can be sent to any of the possible destinations.

Burnett	Jane	(719)555-9000
Caldiero	Allen	(719)555-9376
Cameron	Marshall	(303)555-5890
Grant	Thomas	(719)555-9386
Corrales	Joseph Jr.	(212)668-1200
Cristle	H.	(303)555-3895
Dance	Samantha	(617)068-5320
Dunn	Holly	(303)555-7800
Facer	Wendy	(719)555-3859
Frane	Karon	(303)555-8934
Fritske	Stanley	(303)555-3890

The WordPerfect List report creates a WordPerfect file which looks like a List report, but can be used in WordPerfect. The List report cannot be printed—it can only be sent to disk.

The WordPerfect Merge and Delimited DOS Text reports are used to export data (see *Exporting Data from a Database to a Disk File* under *Exporting and Importing Data in Reference*).

Fields Included

When you run a built-in short report, you can include Lookup Fields, All Display Fields, or All Real Fields.

If you select Lookup Fields (9), DataPerfect uses the lookup list for the field on which the cursor was positioned when you pressed Report/Export. It exports only those fields in the lookup list.

If you select All Display Fields (A), DataPerfect exports all fields displayed in the panel.

If you select All Real Fields (B), DataPerfect exports all real fields, including hidden fields.

Custom Reports

A custom report is created according to your specifications, and is based on information in the panel in which it is created.

Creating a Custom Report

To create a custom report,

- 1 Be sure the cursor is in the panel on which you want to base the report.
- 2 Press **Report/Export** (Shift-F7) to access the report list.

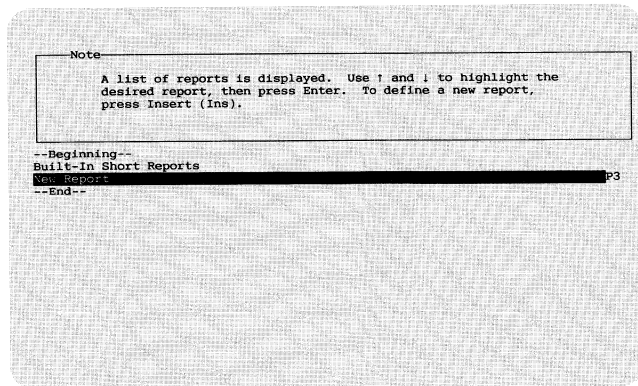
If no custom reports have been defined, Built-In Short Reports will be the only item displayed on your screen.

- 3 Move the cursor to Built-In Short Reports in the report list.

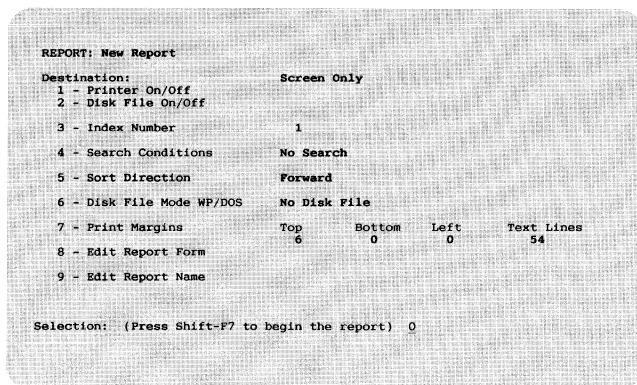
A custom report created from a Built-In Short Report will contain all of the default settings, along with an empty report form.

- 4 Press **Insert** to add a new report.

When you create a new report, it is added to the report list. To the far right of the report name is the letter P, followed by a number which indicate the panel number on which the report is based.



After pressing Insert to add a new report, the Report menu appears on the screen.



This screen is similar to the Built-In Report/Export menu. However, this screen lets you edit the report name and define a report form. The report form shows the organization of the data which will be included in the report (see *Report Form* under *Reports in Reference*).

Using a Previously Defined Report as a Model

You may use a previously defined report as a model, providing both the model and the new report are based on data in the same panel.

- 1 From the report list, position the cursor on the report you want to use as a model.
- 2 Press **Insert** to define a new report.

DataPerfect uses the default settings and report form from the previously defined report to create the new report.

A report which was defined for another panel cannot be used as the model for a report in a new panel. Reports are based on information in the panel in which they were created.

Menu Options

The Report menu options are used to customize a report. At the selection prompt, type the number or letter of the setting you want to change.

Destination

This option lets you select the destination of the report. You can send the report to the printer, to a disk file, to both the printer and a disk file, or just to the screen. The default setting is Screen Only.

To send the report to the printer,

- 1 From the Report menu, select Printer On/Off (1).
- 2 When prompted, type the number that corresponds to your printer port. If you do not know the number of your printer port, consult your dealer.

Select Printer On/Off again to turn off the printer selection.

If you are using the DataPerfect Printer Program (DPPRINT), two settings are displayed to the right of Printer On/Off: "Using DP Print Driver" and "Press P to go to Printer Control Screen." For detailed information about these settings, see *DataPerfect Printer Program* under *Reports in Reference*.

If you are running DataPerfect on a network, you can redirect your print job to a network printer. Refer to your network documentation for the specific command.

If the printer is not turned on or is not on-line, a message appears prompting you either to fix the printer or to press Escape (Esc) to cancel the report.

To save the report to a disk file,

- 1 From the Report menu, select Disk File On/Off (2).
- 2 Select Create File (1) if you want to create a new file.

or

Select Append to File (2) if you want to append the report to an existing file.

- 3 Enter the name of the disk file to which you want to send the report. The default filename is SCRATCH.REP.

If the disk file is being sent to another drive or directory, type the full pathname before typing the filename.

Select Disk File On/Off again to turn off the disk file selection.

The printer and disk file options can both be on at the same time. The current settings are displayed in bold to the right of the Destination options.

All reports are sent to the screen regardless of the selected setting. To display one screen at a time, turn on Scroll Lock. Press any key to scroll through the report from one screen to the next. If, after viewing a few screens, you want to run the remainder of the report without viewing each screen, press Scroll Lock again, then press any key to continue.

You can also send a report to Clipboard. Clipboard is part of the WordPerfect Library or WordPerfect Office Shell program, and is not shipped with DataPerfect (see *Using the Shell Options Menu* under *Shell* in *Reference*).

Index Number

See *Built-In Short Reports (Menu Options)* under *Reports* in *Reference*.

Search Conditions

See *Built-In Short Reports (Menu Options)* under *Reports* in *Reference*.

Sort Direction

See *Built-In Short Reports (Menu Options)* under *Reports* in *Reference*.

Disk File Mode (WP/DOS)

This option refers to the format used when creating the disk file, and can be used only if the report is sent to disk. The two possible formats are DOS Text and WordPerfect. The default setting is DOS Text.

If you want the file in WordPerfect format,

- 1 From the Report menu, select Disk File Mode (WP/DOS) (6).

If the report is not being sent to disk, the setting reads No Disk File.

Print Margins

See *Built-In Short Reports (Menu Options)* under *Reports* in *Reference*.

Edit Report Form

This option (8) lets you create/edit the report form (see *Report Form* under *Reports* in *Reference*).

Edit Report Name

This is the name of the report that appears in the report list. When you first define a new report, this line says New Report. Select Edit Report Name (9) to enter a description of the report.

Bold and Underline

You can bold and/or underline text and fields within a report (see *Bold* and *Underline* under *Data Entry Keystrokes and Features in Reference*).

Editing Field Formats

You can modify field formats in a report. This is often done to enhance the appearance of the printed page. For example, the field format A20 can be modified to A20;;T to truncate any unused space in the field. You can also edit a field format to force data to be vertically aligned in a certain way, or you can change the format of a text field to display a fewer number of long lines or a greater number of short lines.

You cannot change a field type (e.g., an alphanumeric field can't be changed to a date field). For more information on the available field format options, see *Field Formats* under *Fields in Reference*.

When you select a field from a panel to be included in the report, the field retains the same format it had in the panel. To change the field format in the report,

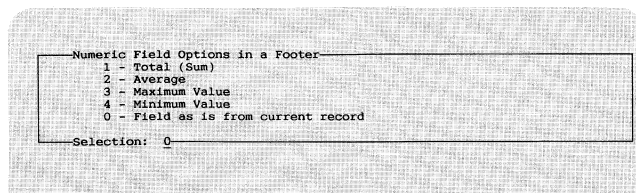
- 1 Be sure the Report menu is on the screen, then select Edit Report Form (8).
- 2 Position the cursor on the field you want to edit in the report form, then press **Edit** (F6).

The field format is displayed.

- 3 Use the arrow keys, the **Space Bar**, and **Backspace** to change the field format to accommodate the report requirements, then press **Enter** to return to the report form.

Selecting Numeric Fields Within Footers

If a G Type numeric field or a time field is selected within any of the three report footers (Two-Level Footer, Page Footer, Final Footer), the following menu appears:



Selecting any of these options keeps a specified value in the footer.

**Right Margins
in Reports**

There is no preset right margin in a custom report. When entering text in the report form, you can use the column position number at the top of the screen to determine the right margin. As you approach the desired column position, press Enter to move the cursor to the next line. DataPerfect does not wrap to the next line in the report form.

**Tab Versus
Space Bar in
Report Form**

If you press Tab when entering text or fields in the report form, you are prompted to enter the column number to which you want to move the cursor. This is useful when you want to align the report vertically. For example, if the cursor is in the left margin, you can press Tab and enter the number 6. This moves the cursor from the first column position to the sixth.

While Tab moves text or fields to an absolute position in a report, the Space Bar moves text or fields to a variable position (e.g., 10 spaces from where the previous field ended).

If you use the Space Bar to position fields in the report form, be aware that the fields which contain ;;T print mode indicators may not align properly when you print the report. The ;;T indicator causes the field sizes to vary, depending on the data in the field.

**Cancel a
Report**

To cancel the generation of a report, press Cancel (F1) or Escape. Pressing either of these keys cancels the report as soon as the record currently being run is finished. The printer stops as soon as its buffer is empty. Press any key to return to the report list.

Report Form

A report form is the layout of the data included in a custom report.

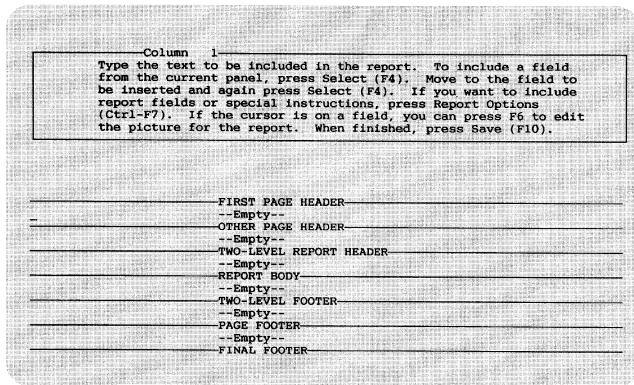
Create/Edit a Report Form

Creating or editing the report form is the process of defining fields for the report, positioning them appropriately, adding text to the report as labels for fields, page headings, etc.

To create/edit a report form,

- 1 Press **Report/Export** (Shift-F7) from the desired panel to display the Report menu.
- 2 Select **Edit Report Form** (8) to create or edit the report form.

The report form screen is divided into the following seven sections:



Report Form Sections

The following information describes the contents and uses of each section of the report form. The report options available for each section are described in *Report Options* under *Reports* in *Reference*. To see the report options for a particular section, position the cursor in the section and press Report Options (Ctrl-F7).

First Page Header

This header appears on the first page of the report and precedes any records that are printed. It can appear on a page by itself, or it can be included on the first page with the other headers, the report body, or footers.

The First Page Header is often used as a report title which requires only literal text. In this case, enter the text as you want it to appear in the report. The First Page Header might also include a date, time, or value from a field in the database.

To display a field from a panel in this header, press Select (F4) to access the panel, then move the cursor to the desired field. Press Select again to insert the field into the header.

Other Page Header

This header appears at the top of every page (except the first page). To include the Other Page Header on the first page of the report, select Include Before First Record (see *Report Options* under *Reports* in *Reference*).

Two-Level Report Header

If you choose to have a two-level report in the First Page Header, you can define a header to appear at the beginning of each two-level section. For more information on two-level reports, see *Two-Level Reports* under *Reports* in *Reference*.

Report Body

The body of the report contains the main information of the report. Typically, it might be a simple listing of the records in your file(s). Alternately, it might consist of a form letter, mailing labels, invoices, statements, etc.

To define a Report Body, you can type the literal text and select the fields you want to include. You can move, insert, or delete text and/or fields. Lines, however, do not wrap; you must press Enter when you want to end a line and begin another.

Additionally, you can choose from the available report options to further customize the layout of the Report Body.

Two-Level Footer

If you have a two-level report, this footer can appear at the end of each two-level section. Special totalling features are available for G Type numeric fields in this section (see *Report Options* under *Reports* in *Reference*). For more information, see *Two-Level Reports* under *Reports* in *Reference*.

Page Footer

Usually, this footer appears at the bottom of all but the last page. It can, however, appear on the last page as well. Special totalling features are available for G Type numeric fields in this section.

Final Footer

This footer appears on the last page of the report immediately following the last piece of data. It can also appear on a separate page at the end of the report. Special totalling features are available for G Type numeric fields in this section.

How DataPerfect Evaluates a Report

When a report is run, DataPerfect evaluates the data in each report section in the sequence specified below.

1. First Page Header.
2. Other Page Header is skipped (it usually includes data which is not processed until the second page prints).
3. Two-Level Header (if a two-level report has been specified in the First Page Header).
4. Report Body (cycles through all of the records in the report, then goes on to the footers).
5. If a new page is needed while processing the Report Body, DataPerfect processes the Page Footer, then prints the Other Page Header on the next page.
6. If the report is a two-level report, and a new level needs to be started, DataPerfect processes the Two-Level Footer, then re-evaluates the Two-Level Header before returning to the Report Body.
7. Once the entire Report Body is evaluated, the Two-Level Footer is processed if the report is a two-level report, and the Page Footer is processed if you are at the bottom of the page.
8. The Final Footer is processed and the report ends.

Report Options

You can format a custom report in a variety of ways using the report options.

To access these options,

- 1 Press **Report/Export** (Shift-F7) while in the desired panel.
- 2 Move the cursor to the desired report, then press **Enter**.
- 3 Select Edit Report Form (8).
- 4 With the cursor in the desired section of the report form, press **Report Options** (Ctrl-F7).
- 5 Select the desired option.

Various report options are available for the seven sections of the report form. Each option is discussed below. Letters in parentheses denote the section(s) to which this option applies (see the following key).

Code	Report Section
FPH	First Page Header
OPH	Other Page Header
TLH	Two-Level Report Header
RB	Report Body
TLF	Two-Level Footer
PF	Page Footer
FF	Final Footer

Conditional Page Eject (TLH, RB)

This option ensures that a multiple-line record is not split between pages.

If this code is inserted at the beginning of the Report Body section, DataPerfect checks the remaining space on the page to see if the next record will fit in its entirety. If it will not fit, DataPerfect prints the next record on the following page. If they are defined, headers and footers print as usual.

If this code is inserted at the beginning of the Two-Level Header section, each level of a two-level report is printed on the same page. If the entire level cannot fit on the page, it is moved to the following page. If used in a Two-Level Header section, this code must also be inserted at the beginning of the Report Body section.

**Create Record
from Panel List
(FPH, RB, FF)**

This option lets you create a record in the same panel or in a panel other than the current one. When you select this option, and then select the desired panel, a Create Record code and a Save Record code appear in the report form. This option is similar to Create Record Through Panel/Link (under the Subreports option), but does not require a link between the two panels.

This option must be used with a Store Report Variable in Field code (see *Report Options (Store Report Variable in Field)* under *Reports in Reference*).

**Delete Record
(RB)**

This option will delete records while running a report. When this option is used in a subreport, you can delete all of the records in a panel. When deleting records from linked panels, you must delete records in the destination panel *before* you delete related records in the source panel. If you do not follow this order, the link is destroyed, making the deletion of related records very difficult (see *Subreports* under *Reports in Reference*).

See *Sample Reports (Archiving)* under *Reports in Reference* for an example of a report which uses Delete Record in a subreport.

**Do Report in
Subgroups
(FPH)**

A subgroup may be run inside a subreport. A subgroup uses the second field of the index defined for the link (the first field is used for the subreport). For information on defining a subreport and using subgroups, see *Subreports* under *Reports in Reference*.

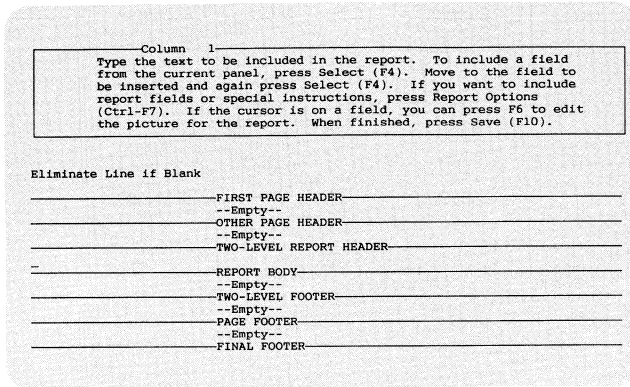
**Eliminate Line
If Blank (All
Sections)**

This option eliminates report lines that contain no data in the selected fields. For example, if you are printing addresses that may or may not include a title for an addressee, you need to allow a line in the printed address for that title. However, if a particular addressee did not have a title, the report would look better if the rest of the address were moved up one line, eliminating the blank line in the middle of the address.

To use this option,

- 1 Move the cursor to the beginning of the line you want to eliminate.
- 2 Press **Report Options** (Ctrl-F7), then select **Eliminate Line if Blank** (2).

There is no visual indication in the report form that you have selected this option. However, when you press Left Arrow, the cursor moves to the code that was inserted in the format, and a message appears above the report form: "Eliminate Line if Blank." You see this message anytime the cursor is positioned on an Eliminate Line if Blank code.



Include After Last Record (PF)

The Page Footer usually prints at the bottom of every page except the last page. If a Final Footer is defined, it prints on the last page instead of the Page Footer. If you want to force the Page Footer to print on the last page in front of the Final Footer, select this option in the Page Footer section of the report form.

When printing both footers on the last page, DataPerfect prints the Page Footer immediately after the last data record, and prints the Final Footer immediately after the Page Footer.

If you have also selected the Skip to Bottom of Page option in the Page Footer, DataPerfect prints the Page Footer at the bottom of the page, and skips to the next page to print the Final Footer (if one is defined).

Include Before First Record (OPH)

The Other Page Header usually prints at the top of every page except the first page. If you want the Other Page Header to print on every page including the first page, select this option while the cursor is in the Other Page Header section of the report form.

Labels (RB)

This option is used to create labels, and must be selected at the beginning of the Report Body section.

When you select Labels, you are prompted to specify the number of records per line to print. You are also prompted to enter the record width, and the number of lines per label. The selections made here overwrite any print margins that may be specified on the Report menu.

After entering this data, the report form is displayed again and a code appears in the Report Body section which indicates the number of records per line and the label width and depth.

You only need to insert the text and fields for the first record in the left column. DataPerfect then duplicates the layout for the chosen number of records across the page.

See *Sample Reports (Mailing Labels)* under *Reports in Reference* for an example of a report which uses this option.

**Number of
Records in
Report (FF)**

This option prints the total number of records listed in the report.

When you select this option, or either of the next two options (Number of Records on Page and Number of Records in Section), a G Type numeric field (e.g., GZZZZZ9) appears. DataPerfect tallies the number of records in the report and prints the number in this field.

To make the field format smaller, position the cursor on the G Type numeric field and press Edit (F6). Then use the arrow keys, Backspace, and Delete to modify the format. For example, an alternate format might be GZZ9.

**Number of
Records on
Page (PF)**

This option prints the total number of records listed on a page.

To make the field format smaller, see the instructions above under *Number of Records in Report*.

**Number of
Records in
Section (TLF)**

This option prints the total number of records listed in the current two-level section.

To make the field format smaller, see the instructions above under *Number of Records in Report*.

**Page Eject
(FPH, TLH,
TLF, FF)**

This option inserts a Page Eject code at the cursor position, which instructs DataPerfect to skip to the top of the following page.

This option is useful whenever you want to start a new page. For example, you might want to print the First Page Header as a title page. Selecting this option at the end of the First Page Header tells DataPerfect to print the First Page Header, then skip to the following page before printing subsequent data.

**Prompt for
Report Variable
(FPH)**

This option prompts the user to enter a value in response to a prompt designated by the definer of the report.

For example, you might want to list the records of all customers in a database who have not placed an order since a certain date. Because the date changes from report to report, it is more convenient to enter the date in response to a prompt than to change the search specifications each time the report is run.

When you select this option, you are prompted to enter the number of the report variable (a number between 1 and 255), the text for the prompt (such as "Enter Date"), and a field format for the variable (e.g., D99/99/9999).

The field format must be appropriate to the type of data which should be entered. Text fields are not allowed.

The report form is displayed again, and the following code is displayed in the First Page Header section: "Prompt for Value of Report Variable *n*" (*n* represents the report variable number you specified).

When the report is run, the prompt appears on the screen, and DataPerfect waits for a value to be entered.

See *Sample Reports (Variable Search Conditions)* under *Reports in Reference* for an example of a report that uses this option.

**Record Number
(RB)**

This option numbers the records in the report.

When you select this option, a G Type numeric field (e.g., GZZZZZ9) appears.

If you want to make the field format smaller, position the cursor on the G Type numeric field and press Edit (F6). Then use the arrow keys, Backspace, and Delete to modify the format. For example, an alternate format might be GZZ9.

When the report is printed, DataPerfect numbers each record and prints that number in the field specified above.

**Select Report
Field (All
Sections)**

This option lets you insert a specific field into the report, or lets you specify report variables. The available options are listed below. Field formats may be edited the same as any other field.

Date

This option inserts a date field with a field format of D99/99/99 at the cursor position. Each time the report is run, the current date is inserted into the field. Be sure the system date in your computer is correct.

Time

This option inserts a time field with a field format of T99:99 at the cursor position. Each time the report is run, the current time is inserted into the field. Be sure the system time in your computer is correct.

Page Number

This option inserts a numeric field with a field format of GZZZZZ9 at the cursor position. When the report is run, the current page number is printed in this field.

If you want to make the field format smaller, position the cursor on the G Type numeric field and press Edit (F6). Then use the arrow keys, Backspace, and Delete to modify the format. For example, an alternate format might be GZZZ9.

Store Value in Report Variable

This option lets you insert a formula into a report variable. When you select this option, DataPerfect prompts you to "Enter Report Variable Number." After you enter the variable number, you are prompted to enter a formula. The operators, operands, functions, and syntax for formulas are documented in *Using Formulas under Formulas and Functions in Reference*. Also see *Report Variables under Reports in Reference*.

See *Sample Reports (Archiving and Search and Replace) under Reports in Reference* for examples of reports that use this option.

Print Report Variable

This option lets you print the result of a report variable at the cursor position. When you select this option, DataPerfect prompts you to "Enter Report Variable Number." After you enter the number, you are prompted to enter a field format for the variable. A field of the specified length then is inserted into the report form. The field format must correspond to the type of data returned by the report variable. For example, if you store a name in the report variable, the field format should be for an alphanumeric field. If you store a date in the report variable, the field format should be for a date field.

Skip if Start of Two-Level (OPH)	<p>This option skips the data in the Other Page Header if a Two-Level Header is ready to print at the top of a page.</p> <p>When you select this option, the Two-Level Header prints at the top of the page in place of the Other Page Header (if the record being printed does not continue past the page break). This option is usually used with the Conditional Page Eject code.</p>
<hr/>	
Skip Record if RV is False (RB)	<p>This option lets you include or exclude records in a report based on a formula.</p> <p>When you select this option, you are prompted to enter the report variable (RV) number to be used in the report.</p> <p>After entering the report variable number, the following message appears in the Report Body section: "Skip Record if 0 (False) is in Report Variable <i>n</i>" (<i>n</i> represents the report variable number you selected).</p> <p>The report variable used with this option must include a formula. The formula evaluates one or more fields in the record for certain values or a certain combined value, and returns a 1 if the value is true, or returns a 0 if the value is false.</p> <p>For example, you might want to print only those records that have an account balance greater than \$25,000. If the account balance is stored in field P2F7, you would assign the following formula to the report variable:</p> <pre style="margin-left: 40px;">IF P2F7 > 25,000 THEN 1 ELSE 0 ENDIF</pre> <p>If the value in P2F7 is less than or equal to 25,000, the result of the formula is 0 (false). If the value is greater than 25,000, the result is 1 (true). When you assign this option to the report variable which contains the above formula, every record with a value less than 25,000 in this field is skipped. See <i>Using Formulas</i> under <i>Formulas and Functions in Reference</i> for more information on setting up formulas.</p> <p>See <i>Sample Reports (Search and Replace and Variable Search Conditions)</i> under <i>Reports in Reference</i> for examples of reports that use this option.</p>
Skip to Bottom of Page (FPH, RB, TLF, PF)	<p>Selecting this option inserts a Skip to Bottom of Page code at the cursor position. This code instructs DataPerfect to skip to the footer at the bottom of the current page.</p>

Normally, DataPerfect prints the Page Footer immediately following the last text in the Report Body on each page. For example, on the last page of a report, there may only be a few lines of data to be printed. The footer would print immediately after those lines.

If you want to ensure that the footers always print at the bottom of the page, select this option at the beginning of the Page Footer.

Store Report Variable in Field (RB)

This option lets you change record information in a panel by storing report variables in fields.

When you select this option, you are prompted for the report variable number to store, and for the field where you want to store it. The report variable you select should have a formula assigned to it that produces the desired result.

When the report is run, the formula is calculated and the result is stored in the designated field for each record which matches the search conditions.

Modifying a record may cause the record to be indexed in a different location. DataPerfect does this without losing the record's place in the index.

Specific steps for including this option in a report are found in *Report Variables (Storing a Report Variable in Field)* under *Reports in Reference*.

Subreports (RB)

This option lets you access the Subreports and Record Creation menu. This menu provides four options. See *Subreports* under *Reports in Reference* for detailed information.

Include Subreport

This option tells DataPerfect to include a subreport within the Report Body. When you select this option, the current panel is displayed. You must select the data link or panel link which leads to the destination panel you want to use for the subreport. After you select the desired link, a new report form is inserted into the main Report Body. At this point, you can define the sections of the subreport.

Create Record Through Link

This option creates a record when the report is run. The record you create is saved in the destination panel through a link you select.

When you select this option, the current panel is displayed, and you must select the link through which you want to create the record. After selecting the link, a Create Record code and a Save Record code are inserted into the body of the subreport.

This option must be used with a Store Report Variable in Field code (see *Store Report Variable in Field* above).

Create Record from Panel List

This option is similar to Create Record Through Link. However, this option lets you create a record for any panel in the database (whether the panel is linked to the current panel). When you select this option, the panel list is displayed. After selecting the desired panel, a Create Record code and a Save Record code are inserted into the Report Body.

This option must be used with a Store Report Variable in Field code (see *Store Report Variable in Field* above).

Return to Edit

This option returns the cursor to the report form.

Two-Level Report (FPH)

This option is used to define a two-level report. See *Two-Level Reports* under *Reports* in *Reference* for detailed information.

Report Variables

A report variable designates a point in a report where you want an evaluation to occur. Report variables are used to perform calculations, create running totals, modify data, and select certain records to be used in the report.

A report variable contains a formula. A formula may contain values, fields, expressions, and other report variables.

A report can have a maximum of 255 report variables. You can assign any number between 1 and 255 to a report variable, as long as each report variable has a different number. Each report variable you create is applicable only for the current report; it cannot be transferred to another report.

Creating a Report Variable

You can create a report variable in any section of the report form.

To create a report variable,

- 1 Be sure the cursor is in the panel from which you want to run the report.
- 2 Press **Report/Export** (Shift-F7) to access the report list.
- 3 If you are creating a new report, be sure the cursor is on Built-In Short Reports, then press **Insert**.

or

If you are adding a report variable to an existing report, move the cursor to that report, then press **Enter**.

The Report menu is displayed.

- 4 From the Report menu, select Edit Report Form (8).
- 5 Position the cursor in the section where you want to store a value in the report variable, then press **Report Options** (Ctrl-F7).
- 6 Choose Select Report Field (1).
- 7 Choose Store Value in Report Variable (4).

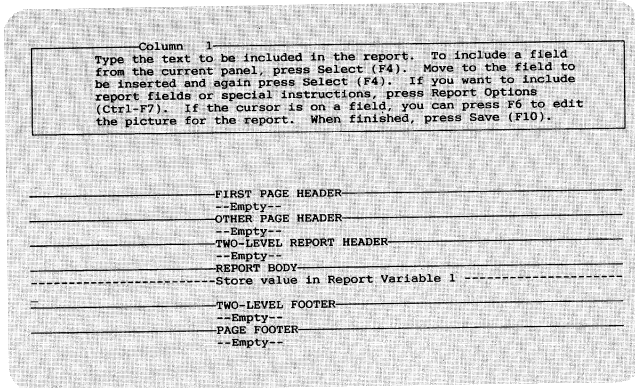
Store Value in Report Variable simply stores a value. It does not print any values. When you select this option, you are prompted to enter the report variable number. This is the number that can be used to refer to this report variable later in the report.

- 8 Enter the report variable number you have chosen.

The Specify Formula screen is displayed.

- 9 Type the formula for the report variable entered in step 8. Use Select (F4) to select any necessary fields. Do not press Enter when you finish.
- 10 Press **Exit** (F7) or **Save** (F10) to save the report and return to the report form.

After you have created the report variable, a code appears in the report form: "Store Value in Report Variable n."



Editing a Report Variable

You can use Reveal to edit an existing report variable, or to check the formula for a specific report variable number.

- 1 Be sure the report form is on the screen.
- 2 Position the cursor on the line containing the report variable code.
- 3 Press **Reveal** (Alt-F3).

The Specify Formula screen displays the formula for the report variable.

- 4 Edit the formula for the report variable.

If you want to see which field in the panel is represented by a field number (e.g., P1F9), move the cursor to the field number and press Reveal.

- 5 Press **Exit** (F7) or **Save** (F10) to save the formula and return to the report form.

Printing a Report Variable

You can use the Print Report Variable option to print the resulting value of a report variable. This option can be used in any section of the report form (see *Report Options* under *Reports* in *Reference*).

To print a report variable,

- 1 Be sure the report form is on the screen.
- 2 Position the cursor where you want to print the report variable, then press **Report Options** (Ctrl-F7).
- 3 Choose Select Report Field (1).
- 4 Choose Print Report Variable (5).
- 5 Enter the number of the report variable which you want to print.
- 6 Enter the format of the report variable field you want to print. The format you specify must be the same as the type of data being returned from the report variable. For example, if the report variable returns a date, you must enter a date field format.

The field format you specified now appears at the cursor position. When you run the report, the report variable will be printed.

Prompting for a Report Variable

This option is available only within the First Page Header section of the report form. It provides a way to change the search conditions each time a report is run.

To include a Prompt for Report Variable code,

- 1 Be sure the cursor is in the report form in the First Page Header section.
- 2 Press **Report Options** (Ctrl-F7).
- 3 Select Prompt for Report Variable (6).
- 4 Enter the desired number for the report variable.

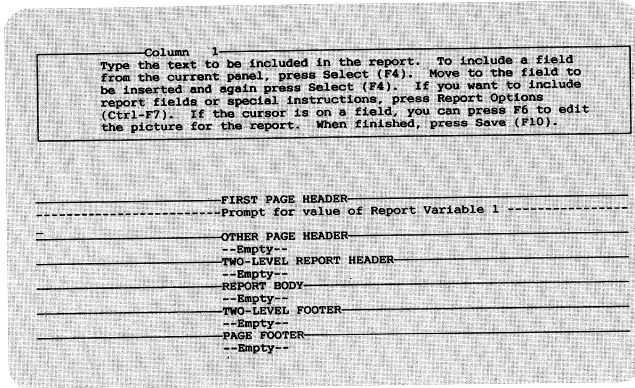
The number you enter can be used to refer to this report variable later in the report.

A reverse video bar is displayed. You must enter the desired prompt information. For example, if you want to prompt the user to enter a certain item purchased, you might enter "Item Purchased:" for the prompt.

- 5 Enter the message you want to use to prompt a user for the necessary data.

- 6 Enter the field format that will accept the data entered at the prompt. For example, if you enter "Item Purchased:" as the prompt, an appropriate format might be A30 because the descriptions of most items would use less than 30 alphanumeric characters.

A code appears in the report form: "Prompt for Value of Report Variable *n*."



Prompts are most commonly used to perform calculations or to define search conditions in conjunction with other report variables.

The value stored in the report variable can be used later to select certain records for use in the report (see *Report Options* in *Reference*).

For example, you may want to list all of the customers who have purchased a certain item. You can prompt for the item in a report variable, then use a formula that checks to see if that item appears in the Item Purchased field. If it does, the report includes that record. If it does not, the report excludes that record (you must use a Skip Record if False code).

See *Sample Reports (Variable Search Conditions)* under *Reports* in *Reference* for a report which prompts for a report variable.

Storing a Report Variable in Field

After a report variable has been calculated, you may want to store it in a field in a record. A report variable can be stored only in a field in the current panel. You cannot store a report variable in a linked panel unless you use a subreport (see *Subreports* under *Reports* in *Reference*).

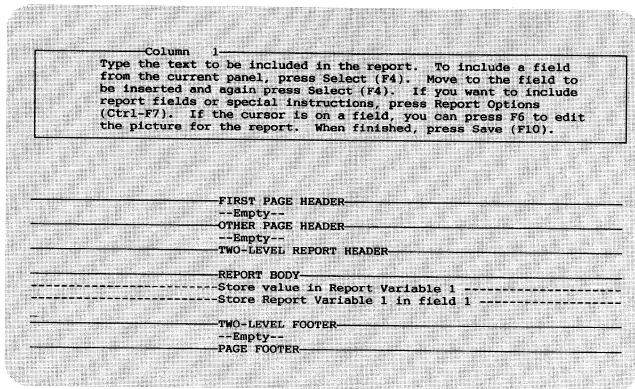
To store a report variable in a field,

- 1 Be sure the report form is on the screen.
- 2 Position the cursor in the Report Body section.
- 3 Press **Report Options** (Ctrl-F7).
- 4 Select Store Report Variable in Field (8).
- 5 Enter the report variable number you have chosen.

The current panel is displayed.

- 6 Move the cursor to the field in which you want to store the report variable, then press **Select** (F4) to select the field.

The code appears in the Report Body section: "Store Report Variable *n* in Field *m*."



When the report is run, the value in the report variable is stored in the designated field.

See *Sample Reports (Search and Replace and Archiving)* under *Reports in Reference* for reports which store a report variable in a field.

Initializing a Report Variable

You can initialize a report variable so that its value is reset each time the report is run.

To initialize a report variable,

- 1 Be sure the report form is on the screen.
- 2 Position the cursor in the section where you want to add the report variable (usually in the First Page Header section).

- 3 Follow the steps for *Creating a Report Variable* above. When you are prompted to enter a formula, enter zero (0) as the formula.
- 4 Press **Exit** (F7) or **Save** (F10) to save the formula and return to the report form.

This report variable is reset to zero (0) each time the section which contains the report variable (e.g., First Page Header section) is evaluated.

Creating Running Totals

A running total is a total that is updated as each record is processed in the report.

For example, if you are running a report that lists all of the employees of a company and their ages, you could create a running total at the end of the report to show how many employees are over 30 years of age.

To create a running total using report variables,

- 1 Be sure the report form is on the screen in the First Page Header section.
- 2 Initialize RV1 to a value of zero (0). See *Initializing a Report Variable* above for specific instructions.
- 3 Move the cursor to the Report Body section, then create another RV1. See *Creating a Report Variable* above for specific instructions. For the example above, type the following formula:

```
IF P1F2 > 30 THEN RV1 + 1 ELSE RV1 ENDIF
```

P1F2 represents the field containing an employee's age.

This formula tells DataPerfect: "If the value in the field containing the employee's age is greater than 30, then add the number 1 to the report variable. If the value in the field is equal to or less than 30, then leave the report variable as it is."

Now you need to assign the running total to print at the end of the report.

- 4 Move the cursor to the Final Footer section of the report form.
- 5 Follow the steps for *Printing a Report Variable* above.

When the report is run, the total number of employees over 30 is printed at the end of the report.

Using a Report Variable as an Operand

A report variable can be used in a formula as an operand. For example, a report variable is used as an operand in the following formula:

```
IF P1F4 = RV1 THEN 1 ELSE 0 ENDIF
```

See *Sample Reports (Variable Search Conditions)* under *Reports in Reference* for an example of a report that uses a report variable as an operand.

Deleting a Report Variable

To delete a report variable,

- 1 Be sure the cursor is in the report form.
 - 2 Position the cursor on the line which contains the code for the report variable you want to delete.
 - 3 Press **Delete**.
-

Nonfunctioning Report Variables

If the report variables you have assigned do not calculate correctly, the following suggestions may help you determine what is wrong.

- Be sure the formula in the report variable is accurate. See *Editing a Report Variable* above for help.
- Be sure the report variable you assigned is in the appropriate section of the report form. For example, a report variable placed in the First Page Header section is only evaluated once, whereas a report variable placed in the Report Body section is evaluated for each record in a panel (see *Report Options* under *Reports in Reference*).
- Print the report variable (see *Printing a Report Variable* above) in the Report Body. This may give you a clue what is wrong. For example, suppose you are attempting to print a running total of the number of company employees over the age of 30. If the number of employees shown to be over 30 is consistently inaccurate, then you know you need to check the formula used in the report variable and/or check the location of the report variable in the report form.

If you do not want the report variable to print after you have located the problem, delete it from the Report Body, then run the report again.

Report Attributes

Text and fields in a report may be bolded and/or underlined using Report Attributes.

To bold or underline as you create a report,

- 1 Be sure the cursor is in the report form.
- 2 Position the cursor where you want to begin to bold or underline, then press **Attributes** (Shift-F6).
- 3 Select **Bold On/Off (1)** to turn on Bold.

or

Select **Underline On/Off (2)** to turn on Underline.

- 4 Type the text or select the field(s) which you want to bold or underline.
- 5 Press **Attributes** again to turn off Bold or Underline.

To bold or underline existing text or a previously selected field,

- 1 Be sure the cursor is in the report form.
- 2 Move the cursor to the text or field you want to bold or underline.
- 3 Block the desired text or field(s) (see *Block* under *Data Entry Keystrokes and Features* in *Reference*).
- 4 Press **Attributes** (Shift-F6).
- 5 Select **Bold On/Off (1)** to bold the block.

or

Select **Underline On/Off (2)** to underline the block.

Also see *Bold* and *Underline* under *Data Entry Keystrokes and Features* in *Reference*.

Parallel Text Fields in a Report

In reports, DataPerfect prints one entire text field (even if it is multiple lines long) before it prints a field on the next line. The following illustration shows how a report would look if the Dissertation field and the Address field were text fields.

<p>Dissertation: Because loudspeaker cables are interactive with both audio amplifiers and loudspeakers, they should be considered a critical component of audio reproduction. Resistance, impedance, capacitance, and inductance affect both amplifier performance and sound reproduction. Phase-shift of frequency extremes due to their varying transmission times through most conductors can be shown by laboratory analysis, and may alter the spacial details necessary for true stereophonic sound.</p>	<p>Author: Warren C. James</p> <p>School: Colorado State University Address: Electrical Engineering Dept. Fort Collins, CO 80521</p>
--	---

However, suppose you want the report to look like the illustration below, with the text fields printed parallel to the other fields.

<p>Dissertation: Because loudspeaker cables are interactive with both audio amplifiers and loudspeakers, they should be considered a critical component of audio reproduction. Resistance, impedance, capacitance, and inductance affect both amplifier performance and sound reproduction. Phase-shift of frequency extremes due to their varying transmission times through most conductors can be shown by laboratory analysis, and may alter the spacial details necessary for true stereophonic sound.</p>	<p>Author: Warren C. James School: Colorado State University Address: Electrical Engineering Dept. Fort Collins, CO 80521</p>
--	--

To do this, DataPerfect provides a format which is specified by editing each line of the text field format(s) to end with *AI* (e.g., A25A1).

To print the report as shown in the second illustration, the fields you select for the report form should look like this:

- A A25A1
- B A40A1
- C A40A0
- D A30
- E A30
- F A30A0

For each line of a text field you want to print parallel to another field, you must select the field once for each line, and edit the field format to end with *AI* each time you select it. In the report form above, the Dissertation field was selected three times. The field format was changed to A25A1 on the first selection, to A40A1 on the second, and to A40A0 on the third.

The text field formats which end with *A0* (A40A0 and A30A0) tell DataPerfect to print the remainder of the fields' contents.

If you want to use the same text field twice in a report, you have two options.

- In the first use of the text field, the format must end with something other than *AI* (e.g., A0, A2, A3, etc.). DataPerfect then resets its internal pointer back to the beginning of the field. When the text field is selected for the second use, DataPerfect prints the field from its beginning.
- If, with the first use of the text field, you end the last format with *AI*, the internal pointer for that field remains immediately after the last character printed after the first use of the field. If you select the same text field again, DataPerfect continues printing from that point.

To reset the DataPerfect internal pointer to the beginning of the field, you must change the text field format in the second use to include the ;N print mode indicator (see *Print Mode Indicators in a Field Format* under *Fields in Reference*). This indicator tells DataPerfect that it has a new occurrence of the field, and the field will be printed from the beginning.

Subreports

A subreport is used inside a main report form to group related information from two linked panels. A subreport saves time and space by printing the data in the source panel only once at the beginning of all the related records, rather than before each related record.

For example, suppose you are using an Accounts Receivable database which has a Customer Information panel and a Transactions panel. The Customer Information panel contains a link to the Transactions panel.

As shown in the illustration below, the main report lists the customers' names, addresses, and phone numbers (from the Customer Information panel). The subreport lists each customer's transactions (from the Transactions panel). Without a subreport, the Customer Information would print before every transaction, and related data would not be grouped together.

<u>Company/Contact</u>		<u>Address/Phone</u>	<u>City, State, Zip</u>	
Acme Parts House John Acme		1234 Commercial Way, (333) 444-5555	Big Town, MI 44444	
<u>Date</u>	<u>Qty</u>	<u>Item</u>	<u>Unit Price</u>	<u>Total</u>
04/13/90	25	Widgets	.41	10.25
04/13/90	200	Gadgets	.86	172.00
04/21/90	15	Big Widgets	121.95	1,829.25
04/22/90		Payment		(1,500.00)
Total Due				511.50
Smith's Parts House John Smith		5678 Industrial Way, (444) 555-6666	Other Town, MI 44444	
<u>Date</u>	<u>Qty</u>	<u>Item</u>	<u>Unit Price</u>	<u>Total</u>
04/19/90	52	Widgets	.41	21.32
04/21/90	120	Gadgets	.86	103.20
04/23/90	65	Big Widgets	121.95	7,926.75
Total Due				8,051.27
Total of all outstanding balances				8,562.77

Creating a Subreport

A subreport can be created only in the Report Body section of the report form.

To create a subreport,

- 1 Be sure the cursor is in the panel from which you want to run the report.
- 2 Press **Report/Export** (Shift-F7) to access the report list.

- 3 If you are creating a new report, be sure the cursor is on Built-In Short Reports, then press **Insert**.

or

If you are adding a subreport to an existing report, move the cursor to that report, then press **Enter**.

The Report menu is displayed.

- 4 From the Report menu, select Edit Report Form (8).
- 5 Move the cursor to the Report Body section of the report form.

First define the part of the report that uses data from the current panel.

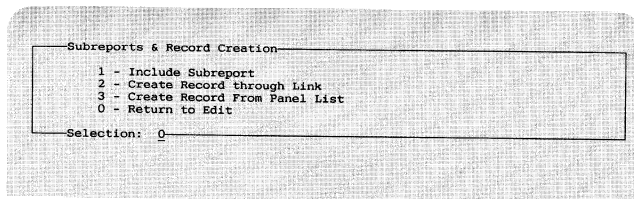
- 6 Enter the text and select the fields you want to include in the report from the current panel. Using the example above, you would select the Customer Name field, Address field, Phone Number field, etc.

Now add the subreport to the main Report Body section.

- 7 Move the cursor to the end of the Report Body section, then press **Report Options** (Ctrl-F7).

- 8 Select Subreports (6).

The Subreports and Record Creation menu is displayed.



Menu Options

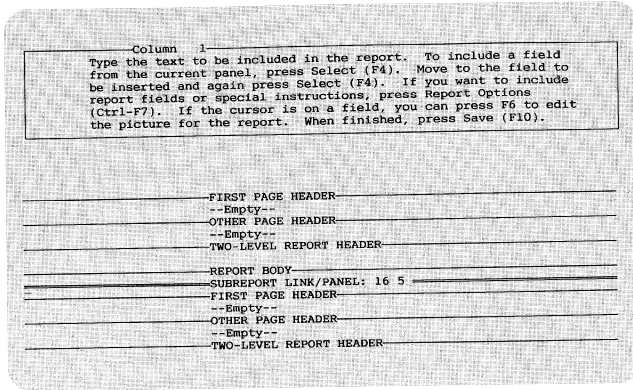
Access the Subreports and Record Creation menu by placing the cursor in the Report Body section of the report form. Then press **Report Options** (Ctrl-F7), and select Subreports (6). A description of each Subreport menu option is given below.

Include Subreport

This option inserts the subreport form into the main Report Body section. When you select Include Subreport (1), the current panel is displayed, and the cursor is positioned on the first link in the panel.

- 1 If necessary, move the cursor to the link you want to use in the subreport.
- 2 Press **Select** (F4) to select the link.

The report form returns to the screen, with a new report form inserted in the main Report Body section. The code "Subreport Link/Panel" is now included in the Report Body section.



- 3 Define the sections for the subreport.

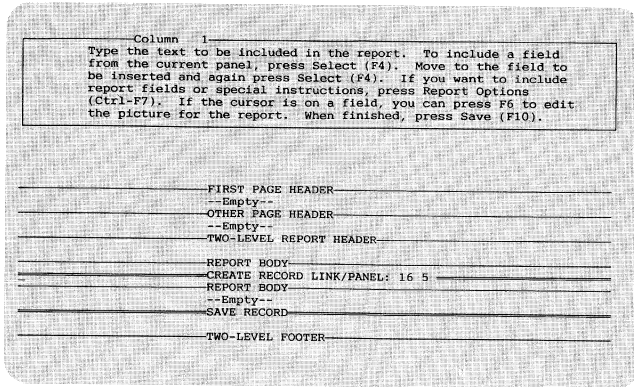
When you use Select to select fields in this new report form, the destination panel appears on the screen, instead of the source panel.

Create Record Through Link

This option creates a record in the destination panel when the report is run. When you select Create Record Through Link (2), the current panel is displayed, and the cursor is positioned on the first link in the panel.

- 1 If necessary, move the cursor to the link through which you want to create records.
- 2 Press **Select** (F4) to select the link.

Two codes appear in the Report Body section: "Create Record Link/Panel" and "Save Record."



This option must be used with report variables and the Store RV in Field option (see *Sample Reports (Archiving)* under *Reports in Reference*).

When you run the report, a record is created in the destination panel according to the specified report variable(s).

Create Record from Panel List

This option is similar to Create Record through Link (2), except no link between the panels is required. Use this option to create a record in another panel. When you select Create Record from Panel List (3), the panel list appears on the screen and you are prompted to select a panel from this list.

- 1 Move the cursor to the name of the panel through which you want to create records, then press **Enter**.

Two codes appear in the Report Body section: "Create Record Link/Panel" and "Save Record."

This option must be used with report variables and the Store RV in Field option (see *Sample Reports (Archiving)* under *Reports in Reference*).

When you run the report, a record is created in the selected panel, according to the specified report variable(s).

Nested Subreports

Subreports can be nested inside another subreport when several levels of records in the panels need to be grouped. Nested subreports are defined by selecting the Subreports option from within the Report Body section of another subreport.

The following illustration shows an example of a nested subreport. The data comes from a Company panel, an Employees panel, and a Children of Employees panel. The subreport for the Children of Employees panel is nested inside the subreport for the Employees panel.

COMPANY HOTLIST	
Company: ABC Company	
Employees:	
Dan Rogers, Accounting	
Children:	
Beth	
Brett	
Matthew	
Wendy	
Lisa Harrison, Marketing	
Children:	
Alan	
Tom	
William Smith, Sales	
Children:	
Janet	
Company: Widget Inc.	
Employees:	
Jeff Patrick, Accounting	
Children:	
James	
Kevin	

Parallel Subreports

You can define parallel subreports in the main report body to accommodate multiple panels linked to the main panel. Parallel subreports are defined by selecting the Subreports option more than once from within the Report Body section of the main report.

The following illustration shows an example of a parallel subreport. The data comes from a Customer Information panel, an Invoices panel, and a Payments panel. The Invoices panel and the Payments panel are parallel subreports.

ACCOUNT RECEIVABLE STATUS		
Customer: Caldiero, Allen		
<u>Invoice#</u>	<u>Invoice Date</u>	<u>Invoice Amount</u>
00043	05/01/89	\$198.00
Total Invoices:		\$198.00
	<u>Payment Date</u>	<u>Payment Amount</u>
	05/05/89	\$123.00
	06/05/89	\$75.00
Total Payments:		\$198.00
Customer: Cameron, Marshall		
<u>Invoice#</u>	<u>Invoice Date</u>	<u>Invoice Amount</u>
00044	07/27/89	\$25.34
00045	08/01/89	\$225.00
Total Invoices:		\$250.34
	<u>Payment Date</u>	<u>Payment Amount</u>
	08/10/89	\$250.34
Total Payments:		\$250.34

Do Report in Subgroups

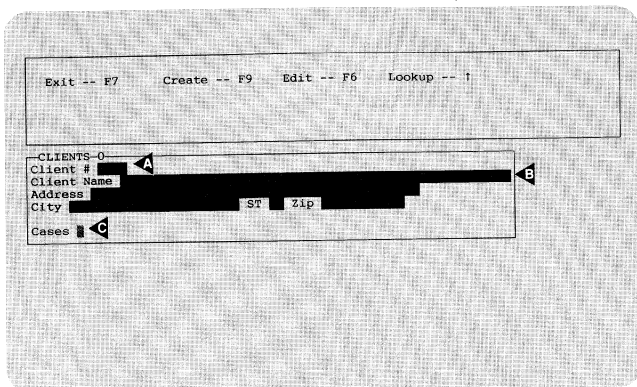
This option is accessed by placing the cursor in the First Page Header section of the report form. Then press Report Options (Ctrl-F7), and select Do Report in Subgroups (7).

You may use this option if a subreport is not defined. When used in the First Page Header of a main report, it functions in the same manner as a two-level report, sorting on the second field in the selected index.

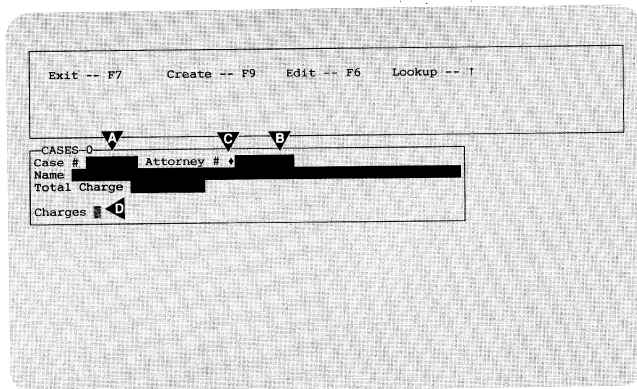
However, this option is most often used to further classify your subreports into subgroups. When you defined a link between two panels, you selected an index in the destination panel (see *Links in Reference*). Any records in the Report Body section of the subreport are sorted according to the first field in the index you selected for the link. If you select Do Report in Subgroups from the First Page Header section of your subreport, the records in the Report Body section of the subreport are *subgrouped* according to the second field of the index used to define the link.

For example, suppose you have created a database for your law office. The database contains four panels: the Clients panel, the Cases panel, the Attorney Panel, and the Charges panel. You could link these panels and define the indexes as indicated in the illustrations below:

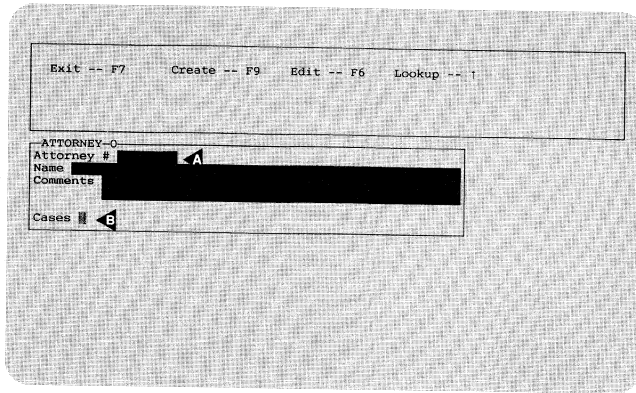
- A** INDEX FIELD 1
- B** INDEX FIELD 2
- C** PANEL LINK TO CASES PANEL



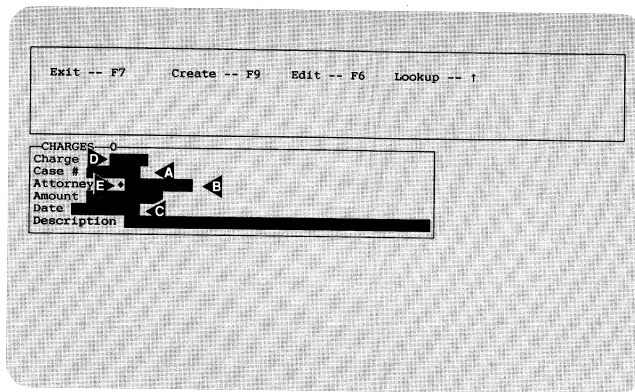
- A** INDEX FIELD 1
- B** INDEX FIELD 2
- C** DATA LINK TO ATTORNEY PANEL
- D** PANEL LINK TO CHARGES PANEL



- A** INDEX FIELD 1
- B** PANEL LINK TO CASES PANEL



- A** INDEX FIELD 1
- B** INDEX FIELD 2
- C** INDEX FIELD 3
- D** INDEX FIELD 4
- E** DATA LINK TO ATTORNEY PANEL



To include subgroups as a part of your subreport definition,

- 1 From the Clients panel, then **Report/Export** (Shift-F7).
- 2 With the cursor on Built-In Short Reports, press **Insert** to create a new report.
- 3 From the Report menu, select Edit Report Form (8).
- 4 In the Report Body section, use **Select** (F4) to select the Client Number field and the Client Name field from the Clients panel.
- 5 At the end of the Report Body, press **Report Options** (Ctrl- F7).
- 6 Select Subreport (6), then select Include Subreports (1).
- 7 Select the Cases panel link as the link for the subreport.

A new report form appears on the screen.

- 8 Move the cursor to the Report Body section of the subreport, then use **Select** to select the Case Number field and the Name (Case Description) field from the Cases panel.
- 9 At the end of the Report Body section for the subreport, define another subreport (select the Charges panel as the link for the subreport).

Now you are ready to select Do Report in Subgroups. The data from the Charges panel will be in the subgroups.

- 10 Move the cursor to the First Page Header section of the second subreport, then press **Report Options**.
- 11 Select Do Report in Subgroups (7).
- 12 Add the rest of fields needed from the Charges panel (see the illustration below).

The report form would then appear as follows:

```

-----Column 1-----
Type the text to be included in the report. To include a field
from the current panel, press Select (F4). Move to the field to
be inserted and again press Select (F4). If you want to include
report fields or special instructions, press Report Options
(Ctrl-F7). If the cursor is on a field, you can press F6 to edit
the picture for the report. When finished, press Save (F10).
-----

REPORT BODY
Client# [REDACTED] Name: [REDACTED]
SUBREPORT DOOR/PANEL: 1 2
FIRST PAGE HEADER
--Empty--
OTHER PAGE HEADER
--Empty--
TWO-LEVEL REPORT HEADER
--Empty--
REPORT BODY
Case: [REDACTED] [REDACTED]
-----Store value in Report Variable 1-----
SUBREPORT DOOR/PANEL: 13 1
-----

```

```

-----FIRST PAGE HEADER-----
-----Do Report in Subgroups-----
-----OTHER PAGE HEADER-----
Attorney: [REDACTED] Charge
Date Description [REDACTED]
-----Include header before data.-----
-----TWO-LEVEL REPORT HEADER-----
--Empty--
REPORT BODY
-----Store value in Report Variable 1-----
[REDACTED] [REDACTED] [REDACTED]
-----TWO-LEVEL FOOTER-----
--Empty--
PAGE FOOTER
--Empty--
FINAL FOOTER
Charges for [REDACTED] [REDACTED]
-----END OF SUBREPORT-----
Charges for Case [REDACTED] [REDACTED]
TWO-LEVEL FOOTER
--Empty--

```


When generated, the report would appear as follows:

- ▲ MAIN REPORT BODY
- ▲ FIRST SUBREPORT
- ▲ SECOND SUBREPORT
- ▲ FINAL FOOTER OF FIRST SUBREPORT

▲	Client# 10-005 Name: Good-Enough Insurance Co.
▲	Case: 10-005-0086 Phillips ads Johnson
▲	Attorney: Ronald M. Smith
	Date Description Charge
	01/11/90 CORRESPONDENCE \$14.00
	Letter requesting property titles
	01/12/90 CONFERENCES \$35.00
	Meeting concerning possible settlement
	Charges for Ronald M. Smith \$49.00
	Attorney: John C. Miller
	Date Description Charge
	01/05/90 OPEN FILE \$150.00
	01/10/90 TELEPHONE \$7.00
	Called witness A. Jones
	01/15/90 PREPARATION FOR HEARING \$70.00
	DEPOSITIONS \$14.00
	Charges for John C. Miller \$241.00
	Charges for Case 10-005-0086 \$290.00 ▲

If you did not include the message "Do Report in Subgroups" in the above report form, the report would appear as follows:

Client# 10-005	Name: Good-Enough Insurance Co.	
Case: 10-005-0086	Phillips ads Johnson	
Attorney: Ronald M. Smith		
Date	Description	Charge
01/11/90	CORRESPONDENCE	\$14.00
	Letter requesting property titles	
01/12/90	CONFERENCES	\$35.00
	Meeting concerning possible settlement	
01/05/90	OPEN FILE	\$150.00
01/10/90	TELEPHONE	\$7.00
	Called witness A. Jones	
01/15/90	PREPARATION FOR HEARING	\$70.00
01/16/90	DEPOSITIONS	\$14.00
	Charges for John C. Miller	\$290.00
	Charges for Case 10-005-0086	\$290.00

Subreports and Two- Level Reports

A two-level report can be included inside of a subreport (see *Two-Level Reports* under *Reports in Reference*). If you choose to do this, the information in the two-level report will be arranged in the same way that it is when you do the report in subgroups. The field selected as the sort field for the two-level report must be the second field in the index used by the link (see *Do Report in Subgroups* above).

Also, a subreport can be included in a two-level report.

Delete a Subreport

To delete a subreport,

- 1 Be sure the cursor is in the report form and on the line containing the code for the subreport you want to delete.
- 2 Press **Delete**.
- 3 Type **y** at the prompt to confirm the deletion.

Two-Level Reports

A two-level report categorizes records from one panel into groups. The records can be sorted first by group (designated by a sort field) and then by the index selected on the Report menu.

For example, if a database contains employee records for many different companies, and the company name is stored in each employee record, you can sort a report by company name and then alphabetically list all employees of each company as follows:

Aerospace Laboratories		
Davis	Mr. Matthew	800/555-2121
Johnson	Mrs. Susan	800/555-2121
Hawkins	Mr. Kevin	800/555-2121
Jones	Ms. Kathy	800/555-2121
Smith	Ms. Jennifer	800/555-2121
Smith	Mr. Paul	800/555-2121
		Number of Persons: 6
D & M Engineering		
Knudsen	Mr. Steve	801/555-6767
Muirbrook	Ms. Wendy	801/555-6767
Sabins	Mr. Steve	801/555-6767
		Number of Persons: 3
Heathcliff Insurance		
Brady	Mr. Charles	900/555-3434
Brown	Ms. Christine	900/555-3434
Edwards	Mr. Raymond	900/555-3434
Prestwich	Mrs. Kellie	900/555-3434
		Number of Persons: 4

This type of report saves time and space by listing the sort field (in this case, the company name) only once for all the records in that group.

In the above example, the company name is part of the Two-Level Report Header, while the number of employees is part of the Two-Level Footer. Each record listed under the company name is part of the Report Body section of the report form.

A two-level report is generated most quickly if an index exists in the panel which first contains the sort field, and then contains the fields in the index currently selected on the Report menu (in the same order as they are selected for the index).

If no index exists with the above specifications, DataPerfect builds a temporary index. This temporary index is used for the two-level report until you exit the database.

A temporary index cannot be used when a two-level report is defined within a subreport. The two-level report must sort on the index used for the link in the subreport.

To define a two-level report,

- 1 Be sure the cursor is in the panel from which you want to run the report.
- 2 Press **Report/Export** (Shift-F7) to access the report list.
- 3 Be sure the cursor is on **Built-In Short Reports**, then press **Insert** to create a new report.
- 4 From the Report menu, select **Edit Report Form (8)**.
- 5 With the cursor in the **First Page Header** section of the report form, press **Report Options** (Ctrl-F7) to display the **Report Options** menu.
- 6 Select **Two-Level Report (5)**.

The panel is displayed. You are prompted to select the sort field. All records are sorted into groups based on this field.

- 7 Move the cursor to the sort field. For example, if you want to group the records according to the company name, move the cursor to the **Company Name** field.
- 8 Press **Select** (F4) to select the field.

The report form is displayed again on the screen. In the **First Page Header** section, the following is displayed: "Two-Level Report sorted by Field: *n*" (*n* represents the number of the field you selected to group your records).

- 9 Move the cursor to the **Two-Level Report Header** section of the report form.

At the beginning of each group, the **Two-Level Report Header** prints the value or name of that group. This is not a **Page Header**; it prints immediately before a new group, regardless of its position on the page.

If you want the **Two-Level Report Header** to print consistently at the top of the page, insert a **Conditional Page Eject** code at the beginning of the **Two-Level Report Header** and the **Report Body** (see *Report Options (Conditional Page Eject)* under *Reports in Reference*). Be sure the **Other Page Header** and the **Two-Level Header** contain identical information. Also, include the **Skip if Start of Two-Level** code in the **Other Page Header** (see *Report Options (Skip if Start of Two-Level)* under *Reports in Reference*).

- 10 Select the fields and type the text you want to appear in the Two-Level Report Header.
- 11 Move the cursor to the Report Body section of the report form and define the layout of the report body.
- 12 Move the cursor to the Two-Level Footer section of the report form and define the layout of the footer.

You can place a group total in the footer or simply make the footer an extra blank line to provide more space between groups. A Page Eject code can also be placed in the footer.

The following illustration shows what the report form would look like for the two-level report shown above.

Column 1

Type the text to be included in the report. To include a field from the current panel, press Select (F4). Move to the field to be inserted and again press Select (F4). If you want to include report fields or special instructions, press Report Options (Ctrl-F7). If the cursor is on a field, you can press F6 to edit the picture for the report. When finished, press Save (F10).

FIRST PAGE HEADER

Two-Level Report sorted by Field: 5 -----

OTHER PAGE HEADER
--Empty--

TWO-LEVEL REPORT HEADER

REPORT BODY

TWO-LEVEL FOOTER

Number of Employees: [shaded box]

In the above example, you could list the companies (sorted by name) without listing all of the additional data. Simply specify that you want a two-level report while the cursor is in the First Page Header, select the field while in the Two-Level Header, and omit the fields from the Report Body section.

Two-Level Reports and Sub-reports

A two-level report can be included in a subreport. Also, a subreport can be included in a two-level report (see *Subreports* under *Reports* in *Reference*).

Printing a Single Record

DataPerfect will print a single record without setting a search condition. Single Record Report (Alt-F7) prints a single record using either built-in short reports or custom reports.

Before printing a single record, select the report with the format you want to use.

To select a report,

- 1 From the panel list, use the arrow keys to locate the panel from which you want to print, then press **Enter**.
- 2 Press **Report/Export** (Shift-F7) to access the report list.
- 3 Use the arrow keys to locate the report containing the format you want DataPerfect to use when the record is printed, then press **Enter**.

The Report menu appears.

- 4 Press **Exit** (F7) twice to return to the panel.
- 5 Use **Lookup** or **Page Up** and **Page Down** to locate the record you want to print, then press **Enter**.
- 6 When the desired record is displayed in the panel, press **Report Record** (Alt-F7).

The record is printed.

If no custom reports are designed, or one has not been selected to be used to process a record, DataPerfect uses the current settings in the built-in short report when printing the record.

If you have accessed a report during the current database session, but do not follow the steps above, Single Record Report defaults to the settings of the last report that was entered.

Exporting and Importing Reports

You can export reports from one database and import them into another database, providing the two database structures are identical.

This feature lets database definers and supervisors who have several computers with the same database structure to have the same reports in each database.

Specific instructions for exporting and importing reports are found in *Report Descriptions* under *Description Language* in the *Appendix*.

Sample Reports

This section consists of six commonly used custom reports: Archiving, Custom WordPerfect Merge Files, Export Data to Other Database Programs, Form Letters, Mailing Labels, Search and Replace, and Variable Search Conditions. These sample reports demonstrate the variety of report options that are available to you. The instructions for the sample reports can be modified to fit your particular application.

Archiving

Depending on the size of your database, you may want to archive (store) records which you access infrequently. For example, a business office may want to retain invoices for the past three months in the current panel, and send all invoices prior to that period to a floppy diskette or to an Archive panel. This keeps the current panel clean and operating at maximum efficiency.

For larger databases, create a Custom WordPerfect Merge File report (see *Custom WordPerfect Merge Files* below), and place a Delete Record code at the end of the Report Body section. Then, store the report on a floppy diskette.

For smaller databases, create a report using the steps below. This report moves records from the current panel to an Archive (or storage) panel.

Begin by creating an Archive panel that contains the fields that you want to preserve from the current panel (see *Defining a Panel* under *Panels* in *Reference*). Be sure the field formats are the same in both panels.

To create a report which archives records,

- 1 Be sure the cursor is in the panel from which you want to run the report.
- 2 Press **Report/Export** (Shift-F7) to access the report list.
- 3 With the cursor on Built-In Short Reports, press **Insert** to create a new report.
- 4 Select Edit Report Name (9), then enter the desired report name (e.g., Move Records to Archive Panel).
- 5 Select Edit Report Form (8) to define the report form.

You can monitor a report in progress by selecting a field from the current panel that will track the data as it is archived. For example, if you select the Invoice Number field, each invoice number will flash on the screen as it is being archived.

To select this field,

- 6** Move the cursor to the Report Body section, then press **Select** (F4) to display the current panel.
- 7** Move the cursor to the desired field (e.g., the Invoice Number field), then press **Select** again.

You must create a report variable for each field you want to archive. If you want to transfer three fields to the Archive panel, create a report variable for each one by repeating steps 8 through 12 three times.

- 8** Press **Report Options** (Ctrl-F7), then choose **Select Report Field** (1).
- 9** Select **Store Value in Report Variable** (4), then enter **1** for the report variable number.

The Specify Formula screen is displayed.

- 10** Press **Select** to display the current panel, then move to the first field you want to transfer to the Archive panel and press **Select** again.
- 11** Press **Exit** (F7) or **Save** (F10) to save this field as the formula and return to the report form.

The code "Store Value in Report Variable 1" is displayed in the Report Body section.

- 12** Repeat steps 8 through 11 for each field you want to archive, using a different report variable number each time (2, 3, 4, etc.).

After the desired fields have been saved, the data in those fields needs to be archived.

- 13** Press **Report Options**, then select **Subreports** (6).
- 14** If no link exists between the current panel and the Archive panel, select **Create Record from Panel List** (3).

or

If a link does exist between the current panel and the Archive panel, select **Create Record Through Link** (2).

In this example, assume that no link exists, and select **Create Record from Panel List**.

The panel list is displayed on the screen.

15 Move the cursor to the Archive panel, then press **Enter**.

The report form returns to the screen. The codes "Create Record Link/Panel" and "Save Record" are displayed in the Report Body section.

16 With the cursor still in the Report Body section, move the cursor below the Create Record code, then press **Report Options**.

17 Select Store Report Variable in Field (8), then enter **1** for the name of the first report variable to be stored in the Archive panel.

The Archive panel is displayed.

18 Move the cursor to the field in which you want the value of the report variable displayed, then press **Select**.

Remember that the field formats must be the same in both panels.

The report form returns to the screen. The code "Store Report Variable 1 in Field *n*" is displayed in the Report Body section (*n* represents the number of the field you selected).

19 Repeat steps 16 through 18 for each report variable.

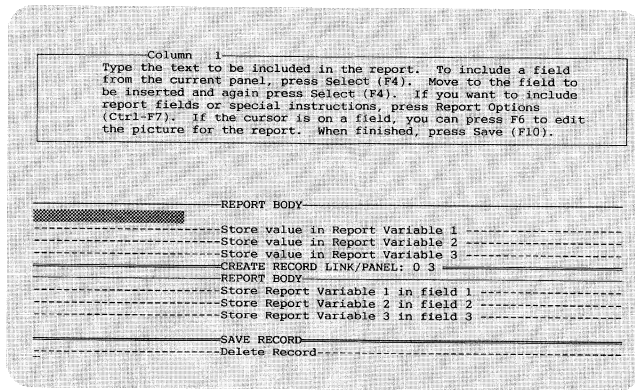
Next, add a code which deletes the record from the current panel.

20 Move the cursor below the Save Record code, then press **Report Options**.

21 Select Delete Record (A).

The code "Delete Record" is displayed in the Report Body section.

The report form should look like this:



22 Press **Exit** or **Save** to save the report form and return to the Report menu.

23 Press **Report/Export** to run the report.

The screen clears and the message "Report in Progress" is displayed. As each record is transferred to the Archive panel, the field you selected in step 7 is displayed on the screen.

When the report is finished, the message "Report Finished—Press Any Key to Continue" is displayed.

24 Press any key to return to the report list.

Custom WordPerfect Merge Files

A custom WordPerfect merge file can include data from more than one panel in the database.

To create a custom WordPerfect merge file,

1 Be sure the cursor is in the panel from which you want to run the report.

The panel you select for the report must contain links to the other panels you want to include in the report. Without links, your report will be limited to the data from that panel only.

2 Press **Report/Export** (Shift-F7) to access the report list.

3 With the cursor on Built-In Short Reports, press **Insert** to create a new report.

4 Select Edit Report Name (9), then enter the desired report name (e.g., WordPerfect Merge).

Because you are creating a WordPerfect merge file, the report must be sent to a disk file.

- 5** Select Disk File On/Off (2).
- 6** Select Create File (1) to create a new file.
- 7** Enter the desired filename. The default filename is SCRATCH.REP.
- 8** Select Disk File Mode (WP/DOS) (6) to change from DOS mode to WordPerfect mode.
- 9** Select Edit Report Form (8) to display the report form.
- 10** Move the cursor to the section entitled Report Body.
- 11** Press **Select** (F4) to display the panel.
- 12** Use **Tab** to move the cursor to the field you want to include in the report, then press **Select** to select the field.

To select a field from another panel, move the cursor to the desired data link or panel link and press Down Arrow (↓). Use Tab to move the cursor to the desired field, and press Select to select the field.

The Report Body section now contains a field the size of the one you selected from the panel.

You can place as many fields on a line as will fit. All of the fields on the same line are concatenated to read as one field (see step 14 below). For example, you could place a City field, State field, and ZIP Code field all on one line. When you add the Merge R code, these three fields are read as one field.

- 13** Select any additional fields you want on this line.
- 14** With the cursor immediately to the right of the field(s), press **Ctrl-r** to insert a Merge R (displayed as ↓ instead of ^R).
- 15** Press **Enter** to move to the next line of the report.
- 16** Repeat steps 11 through 15 for subsequent lines of the record.
- 17** Once you have selected the last field, and have placed a Merge R and a hard return after it, press **Ctrl-e** to insert a Merge E (displayed as ♣ instead of ^E).

Be sure the Merge E code is on a line by itself.

Merge R denotes the end of a field in a secondary WordPerfect merge file. Merge E denotes the end of a record.

Editing a Field Format

All alphanumeric fields should have the ;;T print mode indicator placed at the end of their formats to truncate any trailing blanks (see *Print Mode Indicators in a Field Format under Fields in Reference*). To eliminate hard returns, text fields should be formatted as A0A0. Thus, when retrieved into WordPerfect, the text field is formatted with soft returns.

To edit a field format for a custom merge file,

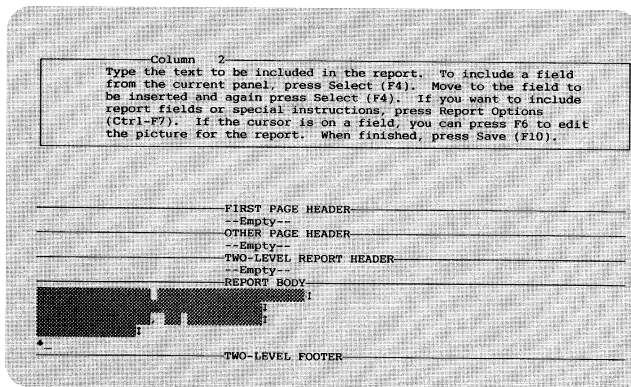
- 1 Be sure the cursor is in the Report Body section of the report form.
- 2 Position the cursor within the reverse video blocks representing the alphanumeric field or text field you want to edit, then press **Edit (F6)**.
- 3 If you are editing an alphanumeric field, change the field format to include the ;;T print mode indicator.

or

If you are editing a text field, change the field format to A0A0.

- 4 Press **Enter** to enter the information in the field format.

The report form will look similar to this:



Column 2

Type the text to be included in the report. To include a field from the current panel, press Select (F4). Move to the field to be inserted and again press Select (F4). If you want to include report fields or special instructions, press Report Options (Ctrl-F7). If the cursor is on a field, you can press F6 to edit the picture for the report. When finished, press Save (F10).

FIRST PAGE HEADER
--Empty--

OTHER PAGE HEADER
--Empty--

TWO-LEVEL REPORT HEADER
--Empty--

REPORT BODY

TWO-LEVEL FOOTER

- 5 Press **Exit (F7)** or **Save (F10)** to save the report form and return to the Report menu.
- 6 Press **Report/Export** to run the report.

The screen clears and the message "Report in Progress" is displayed.

Using the report form shown above, the report will look like this when it is retrieved into WordPerfect:

```

      Jim Burnett R
      378 Garden Park Drive R
      Pueblo, CO 81002 R
      (719)555-9000 R
      E
      Alton Calistano R
      1023 4th Avenue R
      Pueblo, CO 81002 R
      (719)555-9376 R
      E
      Marshall Cameron R
      1476 Park Lane Drive R
      Greeley, CO 80633 R
      (303)555-3899 R
      E
      Joseph J. Corralles R
      Washington House, #312
      176 West 34th St
      Manhattan, NY 10036 R
      (212)688-3200 R
      E
      W. Criddle R
      2026 South 500 East R
      Fort Collins, CO 80503 R
      (303)555-3895 R
      E
      Samantha Dance R
      1497 Lockwood Dr R
      New Bedford, MA 02743 R
      (617)768-3240 R
      E
      Holly Dunn R
      115 March 300 West R
      Greeley, CO 80632 R
      (303)555-9600 R
      E
      Wendy Fawcett R
      190 West Dublin Avenue R
      Pueblo, CO 81002 R
      (719)555-3899 R
      E
      Karen Frame R
      1808 East Bonner Circle R
      Denver, CO 80203 R
      (303)555-3824 R
      E
      Stanley Fritscke R
      276 Mountlake Drive R
      Golden, CO 80401 R
      (303)555-3890 R
      E

```

When the report is finished, the message "Report Finished—Press Any Key to Continue" is displayed.

7 Press any key to return to the report list.

You can now use this file with a primary file in WordPerfect.

Export Data to Other Database Programs

Data exported from a DataPerfect report to other database programs must be in a delimited file format. In the steps below, a comma (,) is used as a field delimiter, a carriage return and line feed (<CR><LF>) are used as a record delimiter, and alphanumeric fields are enclosed in quotation marks (" "). These are only *general* instructions. You must use the required delimiters for the database program into which you import data. Refer to the documentation for the other database program for more information.

- 1** Be sure the cursor is in the panel from which you want to run the report.
- 2** Press **Report/Export** (Shift-F7) to access the report list.
- 3** With the cursor on Built-In Short Reports, press **Insert** to create a new report.
- 4** Select Disk File On/Off (2) to turn on Disk File, then select Create File (1).

- 5 Enter the desired filename. The default filename is SCRATCH.REP.
- 6 If Disk File Mode (6) is not set to DOS Text, select this option to change the setting to DOS Text.
- 7 Select Edit Report Name (9), then enter the desired report name (e.g., Export to Other).
- 8 Select Edit Report Form (8).
- 9 Move the cursor to the Report Body section of the report form.

Now select the fields you want to export. Each field must be separated by a comma (,) which serves as a field delimiter. Alphanumeric fields must be enclosed in quotation marks.

- 10 Press **Select** (F4) to display the current panel.
- 11 Move the cursor to a field you want to include in the export, then press **Select**.

A series of reverse video blocks is displayed to represent the field you selected.

- 12 If you selected an alphanumeric field, enclose the field in quotation marks.
- 13 Type a comma after all non-alphanumeric fields, and after the quotation marks in alphanumeric fields.
- 14 Repeat steps 10 through 13 for each field you want to include in the export. You must place all of the fields on the same line in the report body.

If necessary, the screen will shift to the left to accommodate all of the fields.

- 15 When all desired fields have been selected for the export, press **Enter**. This hard return serves as the record delimiter (<CR><LF>).

The report form will look similar to this:

```

Column 1
Type the text to be included in the report. To include a field
from the current panel, press Select (F4). Move to the field to
be inserted and again press Select (F4). If you want to include
report fields or special instructions, press Report Options
(Ctrl-F7). If the cursor is on a field, you can press F6 to edit
the picture for the report. When finished, press Save (F10).

-----
FIRST PAGE HEADER
--Empty--
OTHER PAGE HEADER
--Empty--
TWO-LEVEL REPORT HEADER
--Empty--
REPORT BODY
-----
TWO-LEVEL FOOTER
PAGE FOOTER
--Empty--

```

16 Press **Exit (F7)** or **Save (F10)** to save the report form and return to the Report menu.

17 Press **Report/Export** to run the report.

The screen clears and the message "Report in Progress" is displayed.

Using the report form shown above, the report will look like this when it is run:

"Jane	"Burnett	"Pueblo	"(719)555-9000
"Allen	"Caldiero	"Pueblo	"(719)555-9376
"Marshall	"Cameron	"Greeley	"(303)555-5890
"Joseph Jr.	"Corrales	"Manhattan	"(212)068-1200
"H.	"Criddle	"Fort Collins	"(303)555-3895
"Samantha	"Dance	"New Bedford	"(617)068-5320
"Holly	"Dunn	"Greeley	"(303)555-7800
"Wendy	"Facer	"Pueblo	"(719)555-3859
"Karen	"Frame	"Denver	"(303)555-8934
"Stanley	"Fritzke	"Golden	"(303)555-3890
"Thomas	"Grant	"Grand Junction	"(719)555-9386
"Tom	"Grayson	"Fort Collins	"(303)555-4657
"Rosanne	"Jacobsen	"Brooklyn	"(718)049-7770
"Heidi	"Johnston	"Golden	"(303)555-3947
"Michelle	"Martin	"Denver	"(303)555-1082
"Ted	"Mortinthal	"Silver Spring	"(301)052-8700
"Troy	"Oakes	"Denver	"(303)555-1947
"Lisa	"Oliphant	"Denver	"(303)555-9767
"Jane	"Poulsen	"Denver	"(303)555-7676
"Leslie	"Quenton	"Pueblo	"(719)555-9274
"Drew	"Rasband	"Pueblo	"(303)555-4555
"Stephen	"Reid	"Golden	"(303)555-3390
"Cecily	"Rhoton	"Denver	"(303)555-9878
"Wendell	"Richards	"Greeley	"(303)555-4035
"Christian	"Sergeant	"Golden	"(303)555-4884
"David	"Tolman	"Fort Collins	"(303)555-2344
"Jay	"Warren	"Grand Junction	"(719)555-3890
"Sita	"Williams	"Denver	"(303)555-3324
"T.	"Woolf	"Grand Junction	"(719)555-2561

When the report is finished, the message "Report Finished—Press Any Key to Continue" is displayed.

18 Press any key to return to the report list.

For instructions on importing this file into another database program, refer to that program's documentation.

Form Letter

A report can be used to create a form letter. Form letters can be printed from DataPerfect, or can be saved as a WordPerfect file and printed from WordPerfect.

The following sample report describes how to create a form letter. This report uses data from a panel which contains the following fields: First Name, Last Name, Address, City, State, ZIP Code, and Balance Due.

- 1** Be sure the cursor is in the panel from which you want to run the report.
- 2** Press **Report/Export** (Shift-F7) to access the report list.
- 3** With the cursor on Built-In Short Reports, press **Insert** to create a new report.
- 4** Select Edit Report Name (9), then enter the desired report name (e.g., Collection Form Letter).
- 5** Select Edit Report Form (8).
- 6** Move the cursor to the Report Body section of the report form.

Select the fields for the inside address (customer's name and address).

- 7** Press **Select** (F4) to display the current panel.
- 8** Move the cursor to the First Name field, then press **Select** to include the field in the report form.
- 9** Press the **Space Bar** once, repeat steps 7 and 8 for the Last Name field, then press **Enter**.
- 10** Repeat steps 7 and 8 for the Address field, then press **Enter**.
- 11** Repeat steps 7 and 8 for the City field, then type a comma (,) and press the **Space Bar** once.
- 12** Repeat steps 7 and 8 for the State field, then press the **Space Bar** twice.
- 13** Repeat steps 7 and 8 for the ZIP Code field, then press **Enter** twice to insert a blank line.

If the First Name field and the City field do not include the ;T print mode indicator in their formats, you need to add it to these fields now. This will truncate any trailing blanks.

If you need to add ;;T to these field formats,

- 14 Move the cursor to the First Name field, then press **Edit** (F6) to edit the field format.
- 15 Add ;;T to the end of the field format, then press **Enter** to return to the report form.
- 16 Repeat steps 14 and 15 for the City field.
- 17 Move the cursor to the end of the ZIP Code field, then press **Enter** twice.

Now type the body of the letter.

- 18 Type **Dear** and then press the **Space Bar** once.
- 19 Press **Select** to display the current panel, then move the cursor to the First Name field.
- 20 Press **Select** again to select the field, then type a comma (,).
- 21 If the First Name field you just selected does not include a ;;T print mode indicator, follow steps 14 and 15 above.
- 22 Press **Enter** twice to insert a blank line.
- 23 Type the following text:
Our records indicate that you have an outstanding balance of
- 24 Press the **Space Bar** once to include a space at the end of the phrase.
- 25 Press **Select** to display the current panel, then move the cursor to the Outstanding Balance field.
- 26 Press **Select** again to select the field, then type a period (.) and press the **Space Bar** twice.
- 27 Type the following text:
Please send the balance due as soon as possible or contact our office if you have any questions.
- 28 Press **Enter** twice to begin a new paragraph.
- 29 Type the following text:
Please disregard this notice if payment has already been sent. We thank you for your patronage.
- 30 Press **Enter** twice, then type **Sincerely**, and press **Enter** four times.
- 31 Type **Fred Jones** and then press **Enter**, and type **Collection Department**.

Now insert a Skip to Bottom of Page code. This code prints one letter, then ejects the page from the printer, then prints another.

32 Press **Report Options** (Ctrl-F7) to access the Report Options menu.

33 Select Skip to Bottom of Page (4).

The code "Skip to Bottom of Page" is displayed.

The report form should look like this:

Column 1

Type the text to be included in the report. To include a field from the current panel, press Select (F4). Move to the field to be inserted and again press Select (F4). If you want to include report fields or special instructions, press Report Options (Ctrl-F7). If the cursor is on a field, you can press F6 to edit the picture for the report. When finished, press Save (F10).

REPORT BODY

Dear _____,

Our records indicate that you have an outstanding balance of _____.
Please send the balance due as soon as possible or contact our office if you have any questions.

Please disregard this notice if payment has already been sent. We thank you for your patronage.

Sincerely,

Fred Jones
Collection Department

-----Skip to Bottom of Page-----

TWO-LEVEL FOOTER
--Empty--
PAGE FOOTER
--Empty--

34 Press **Exit** (F7) or **Save** (F10) to save the report form and return to the Report menu.

35 Press **Report/Export** to run the report.

The screen clears and the message "Report in Progress" is displayed.

The report should look like this when it is run:

```
Jane Burnett
378 Garden Park Drive
Pueblo, CO 81002

Dear Jane,

Our records indicate that you have an outstanding balance of
$150.00. Please send the balance due as soon as possible or
contact our office if you have any questions.

Please disregard this notice if payment has already been sent. We
thank you for your patronage.

Sincerely,

Fred Jones
Collection Department
```

When the report is finished, the message "Report Finished—Press Any Key to Continue" is displayed.

36 Press any key to return to the report list.

Mailing Labels

The instructions below are for printing labels which are 3-across on a page and one inch long. These labels can be printed on laser and continuous-feed printers. These are general instructions. You may need to modify the settings for your particular printer.

- 1** Be sure the cursor is in the panel from which you want to run the report.
- 2** Press **Report/Export** (Shift-F7) to access the report list.
- 3** With the cursor on Built-In Short Reports, press **Insert** to create a new report.
- 4** Select Edit Report Name (9), then enter the desired report name (e.g., Mailing Labels).
- 5** If you want to send the report to the printer, select Printer On/Off (1), then type the appropriate port number.

and/or

If you want to send the report to a disk file, select Disk File On/Off (2), select Create a File (1), and enter the desired filename. The default name is SCRATCH.REP.

- 6 Select Edit Report Form (8).
- 7 Move the cursor to the Report Body section of the report form, then press **Report Options** (Ctrl-F7).
- 8 Select Labels (5).
- 9 Enter 3 as the number of labels across the page.
- 10 Enter 25 as the width in characters of each label.
- 11 Enter 6 as the number of lines per label (one inch labels provide six typing lines).

The code for the label specifications is displayed in the Report Body section.

- 12 Use **Select** (F4) to select the fields needed for the labels (e.g., Name, Address, City, State, ZIP Code). Be sure that the field length on each line is 25 characters or less, and that the alphanumeric fields are edited to include the ;;T print mode indicator (see *Print Mode Indicators in a Field Format* under *Fields in Reference*).

If the Address field includes a field format of more than one line (e.g., A30A2), you may want to include an Eliminate Line if Blank code at the beginning of this field. Because some addresses contain two lines of information, while others contain only one line, this code is used to enhance the appearance of the mailing labels.

- 13 If desired, add an Eliminate Line if Blank code by positioning the cursor at the beginning of the Address field, pressing **Report Options**, then selecting Eliminate Line if Blank (2).

The Eliminate Line if Blank code does not appear on the screen unless you press Up Arrow while the cursor is positioned on the code.

The report form should look like this:

```

-----Column 1-----
Type the text to be included in the report. To include a field
from the current panel, press Select (F4). Move to the field to
be inserted and again press Select (F4). If you want to include
report fields or special instructions, press Report Options
(Ctrl-F7). If the cursor is on a field, you can press F6 to edit
the picture for the report. When finished, press Save (F10).

-----
FIRST PAGE HEADER
--Empty--
OTHER PAGE HEADER
--Empty--
TWO-LEVEL REPORT HEADER
--Empty--
REPORT BODY
-----3 Records per line. Record width & depth: 25 6-----
-----
TWO-LEVEL FOOTER
--Empty--

```

14 Press **Exit (F7)** or **Save (F10)** to save the report form and return to the Report menu.

15 Press **Report/Export** to run the report.

The screen clears and the message "Report in Progress" is displayed.

The report should look like this when it is run:

Jane Burnett 278 Saconan Park Drive Pueblo, CO 81002	Allen Calderero 1021 Pte Avenue Pueblo, CO 81002	Marshall Cameron 1475 Park Lane Drive Greeley, CO 80631
Joseph Jr. Corrales Kensington House, #312 176 West 45th Manhattan, NY 10036	H. Criddle 2025 South 500 East Fort Collins, CO 80521	Samantha Darce 1487 Lockwood Dr New Bedford, MA 02743
Holly Dunn 115 North 300 West Greeley, CO 80631	Mindy Facer 199 West Dublin Avenue Pueblo, CO 81002	Karen Frana 1859 East Dunsmuir Circle Denver, CO 80201
Stanley Fritske 270 Mountlands Drive Golden, CO 80401	Thomas Grant 1818 South Parkway Blvd Grand Junction, CO 81501	Tom Grayson 1313 South 2550 East Fort Collins, CO 80521
Rosanne Jacobsen 255 Lafayette Ave. Brooklyn, NY 11205	Heidi Johnson 413 Center Street #19 Golden, CO 80401	Michelle Martin 2688 Appleton Range St Denver, CO 80201
Ted Morsenthal 1380 Georgia Ave Silver Spring, MD 20910	Troy Dukes 45 West Richens Street Greeley, CO 80631	Lisa Olight 234 S Froederick Ave Denver, CO 80201
Jane Poulsen 45 W. Nottingham St Glenncr, CO 80201	Lewie Quenton 3222 Mojave Lane Pueblo, CO 81002	Drew Rasbhd 233 South 700 East Pueblo, CO 81002
Stephen Reid 1875 North 650 East Golden, CO 80401	Cecily Shoton 34 East Highland Drive Apt 30-405 Denver, CO 80201	Wendell Richards 129 Tomere Way Greeley, CO 80631

If an address is too long to fit on a label, it continues to print onto the next label. If this occurs at the bottom of a page, the address which is too long for just one label prints on the next page.

When the report is finished, the message "Report Finished—Press Any Key to Continue" is displayed.

16 Press any key to return to the report list.

Search and Replace

This type of report lets you search for specific conditions in the records, and then update (replace) the data in the records.

A "search and replace" report is not sent to the printer or to a disk file. It simply makes changes to the database.

In the following example, a search is performed for all customers who have been billed and who paid for services. Assume a Status field exists in the database which initially contains the value "BILLED." This report changes the Status field to "PAID."

- 1** Be sure the cursor is in the panel from which you want to run the report.
- 2** Press **Report/Export** (Shift-F7) to access the report list.
- 3** With the cursor on Built-In Short Reports, press **Insert** to create a new report.
- 4** Select Edit Report Name (9), then enter the desired report name (e.g., Replace BILLED with PAID).
- 5** Select Edit Report Form (8) to define the report form.
- 6** Be sure the cursor is in the First Page Header section of the report form.
- 7** Press **Report Options** (Ctrl-F7), then choose Select Report Field (1).
- 8** Select Store Value in Report Variable (4), then enter **1** as the report variable number.

The Specify Formula screen is displayed.

- 9** Type the following formula:

"PAID"

- 10** Press **Exit** (F7) or **Save** (F10) to save the formula and return to the report form.

Report Variable 1 is now equal to "PAID." The code "Store Value in Report Variable 1" is displayed in the First Page Header section.

11 Move the cursor to the Report Body section.

12 Press **Report Options**, then choose Select Report Field.

13 Select Store Value in Report Variable, then enter **2** for the report variable number.

The Specify Formula screen is displayed.

14 Type the following formula:

```
IF P1F8 = "BILLED" THEN 1 ELSE 0 ENDIF
```

P1F8 represents the alphanumeric field that contains the value "BILLED."

15 Press **Exit** or **Save** to save the formula and return to the report form.

Report Variable 2 will be equal to either a 1 (true) or a 0 (false), depending upon the evaluation of the record.

The code "Store Value in Report Variable 2" is displayed in the Report Body section.

16 With the cursor in the Report Body section, press **Report Options**.

17 Select Skip Record if RV is False (9), then enter **2** as the report variable number.

This code tells DataPerfect to skip the record if the evaluation in report variable 2 produces a 0 (false) value.

The code "Skip Record if 0 (False) is in Report Variable 2" is displayed in the Report Body section.

18 Press **Report Options**, then select Store Report Variable in Field (8).

19 Enter **1** as the report variable number.

The current panel is displayed.

20 Move to the field that you want to update from "BILLED" to "PAID," then press **Select** (F4) to select this field to be replaced by the report variable.

The code "Store Report Variable 1 in Field *n*" is displayed in the Report Body section.

When the report is run, the entire field blanks out and is replaced by the new value in the report variable. This option will not move through a data link or panel link to store a value in a field. If you need to select a field from a destination panel, you must use a subreport (see *Subreports* under *Reports* in *Reference*).

The report form should look like this:

```

-----Column 1-----
Type the text to be included in the report. To include a field
from the current panel, press Select (F4). Move to the field to
be inserted and again press Select (F4). If you want to include
report fields or special instructions, press Report Options
(Ctrl-F7). If the cursor is on a field, you can press F6 to edit
the picture for the report. When finished, press Save (F10).

-----FIRST PAGE HEADER-----
-----Store value in Report Variable 1 -----
-----OTHER PAGE HEADER-----
-----Empty-----
-----TWO-LEVEL REPORT HEADER-----
-----Empty-----
REPORT BODY
-----Store value in Report Variable 2 -----
-----Skip record if 0 (False) is in Report Variable 2 -----
-----Store Report Variable 1 in field 1 -----
-----Empty-----
-----TWO-LEVEL FOOTER-----

```

21 Press **Exit** or **Save** to save the report form and return to the Report menu.

22 Press **Report/Export** to run the report.

The screen clears and the message "Report in Progress" is displayed. Because no fields are being printed, no data is displayed as the program searches and replaces the appropriate records in the database.

When the report is complete, the message "Report Finished—Press Any Key to Continue" is displayed.

23 Press any key to return to the report list.

Variable Search Conditions

Variable search conditions are specified by the user at the time a report is run. When creating the report, you should define a prompt that specifies which search condition(s) to enter.

The following sample report searches for dates within a specific range (March 1, 1989 through June 9, 1989).

1 Be sure the cursor is in the panel from which you want to run the report.

2 Press **Report/Export** (Shift-F7) to access the report list.

- 3 With the cursor on Built-In Short Reports, press **Insert** to create a new report.
- 4 Select Edit Report Name (9), then enter the desired report name (e.g., Variable Date Search).
- 5 Select Edit Report Form (8) to define the report form.

You need to define two prompts that will appear when the report is run. These prompts are for entering the beginning date and the ending date of the search.

- 6 Be sure the cursor is in the First Page Header section of the report form.
- 7 Press **Report Options** (Ctrl-F7), then select Prompt for Report Variable (6).
- 8 Enter **1** as the report variable number.
- 9 Type **Enter Beginning Date:** then press **Enter**.

Now enter the format of the field being evaluated.

- 10 Enter **D99/99/99** as the field format.

The code "Prompt for Value of Report Variable 1" is displayed in the First Page Header section.

- 11 Press **Report Options**, then select Prompt for Report Variable (6).

- 12 Enter **2** for the report variable number.

- 13 Type **Enter Ending Date:** then press **Enter**.

- 14 Enter **D99/99/99** as the field format for the data to be entered at the prompt.

The code "Prompt for Value of Report Variable 2" is displayed in the First Page Header section.

Now create column headings for the Invoice Number, Invoice Date, and Amount.

- 15 Move the cursor to the Other Page Header section of the report form.
- 16 Press **Report Options**, then select Include Before First Record (3).

The code "Include Header Before Data" is displayed in the Other Page Header section. This code forces the header to print on every page of the report, including the first page.

- 17 Type **Invoice Number**, then press the **Space Bar** ten times.

- 18** Type **Invoice Date**, press the **Space Bar** ten times, then type **Amount** and press **Enter**.

To assign a report variable which searches for all invoice dates that fall within the specified dates,

- 19** Move the cursor to the Report Body section.
- 20** Press **Report Options**, then choose Select Report Field (1).
- 21** Select Store Value in Report Variable (4), then enter **3** as the report variable number.

The Specify Formula screen is displayed.

- 22** Type the following formula:

```
IF P1F5 >= RV1 AND P1F5 <= RV2 THEN 1 ELSE 0  
ENDIF
```

P1F5 represents the date field which contains the invoice date.

This formula tells DataPerfect: "If the invoice date is greater than or equal to the beginning date, and if the invoice date is less than or equal to the ending date, then print the specified fields."

- 23** Press **Exit** (F7) or **Save** (F10) to save the formula and return to the report form.

The code "Store Value in Report Variable 3" is displayed in the Report Body section. RV3 will be evaluated as either true (1) or false (0), depending on whether the invoice date is between the specified dates in the prompts.

Next, insert a code which tells DataPerfect to skip the record if the value in report variable 3 is false (0).

- 24** Press **Report Options**, then select Skip Record if RV is False (9).

- 25** Enter **3** for the report variable number.

The code "Skip Record if 0 (FALSE) is in Report Variable 3" is displayed in the Report Body section.

You are now ready to select the fields you want to include in the report.

- 26** Press **Select** (F4) to display the current panel, then move the cursor to the Invoice Number field.

- 27** Press **Select** to select the Invoice Number field for the report.

A series of reverse video blocks appears, representing the size of the Invoice Number field.

- 28 Use the **Space Bar** to move the cursor beneath the Invoice Date column, then repeat steps 26 and 27 for the Invoice Date field.
- 29 Use the **Space Bar** to move the cursor beneath the Amount column, then repeat steps 26 and 27 for the Amount field.

The report form should look like this:

```

--Column--
Type the text to be included in the report. To include a field
from the current panel, press Select (F4). Move to the field to
be inserted and again press Select (F4). If you want to include
report fields or special instructions, press Report Options
(Ctrl-F7). If the cursor is on a field, you can press F6 to edit
the picture for the report. When finished, press Save (F10).

Prompt: Enter Beginning Date
Format: D99/99/99
-----FIRST PAGE HEADER-----
-----Prompt for value of Report Variable 1-----
-----Prompt for value of Report Variable 2-----
-----OTHER PAGE HEADER-----
-----Include header before data.-----
Invoice #      Invoice Date      Amount
-----TWO-LEVEL REPORT HEADER-----
--Empty--
REPORT BODY
-----Store value in Report Variable 3-----
-----Skip record if 0 (False) is in Report Variable 3-----

```

- 30 Press **Exit** or **Save** to save the report form and return to the Report menu.

At this point, a user can run the report.

- 31 Press **Report/Export**.

The screen clears and the message is displayed: "Report in Progress." The first prompt (Enter Beginning Date:) is displayed.

- 32 Enter **03/01/89** as the beginning date.

The second prompt (Enter Ending Date:) is displayed.

- 33 Enter **06/01/89** as the ending date.

When the report is finished, a message is displayed: "Report Finished—Press any key to continue."

- 34 Press any key to return to the report list.

Deleting a Report

If passwords have been assigned to the database, only database definers, supervisors, and read/write users can delete reports (see *Defining Passwords* under *System Operations* in *Reference*).

To delete a report,

- 1 From the panel, press **Report/Export** (Shift-F7) to access the report list.
- 2 Place the cursor on the name of the report you want to delete.
- 3 Press **Delete** to delete the report.

or

Press **Remove** (Shift-F5) to delete the report.

or

Press **Multiple Remove** (Alt-F5) to delete the report.

After you press Delete or Remove, you are prompted to confirm the deletion.

- 4 Type **y** to delete the report.

If you do not want to delete the report, type **n** at the confirmation prompt.

Important: *Once a report is deleted, it cannot be restored.*



Introduction

Data can be exported from DataPerfect to another database program or to WordPerfect. An exported file must be sent to a disk file, and must contain delimiters. These delimiters allow the file to be imported back into DataPerfect or into another database program.

Data can be imported into DataPerfect from an exported file or from another database program.

In this section, you will learn how to perform an export and an import, and how to use the options available in each of these features.

Exporting Data from a Database to a Disk File

An export copies, but does not delete, records from a data file and saves them under another filename. This file can be in WordPerfect or DOS Delimited Text format. The file can then be imported into another program or used in WordPerfect.

Performing an export is different than generating a report, even though these two features share the same menu (the Built-In Report/Export menu). An export must be sent to a disk file; a report can be sent to a disk file, to the screen, or to the printer. An export is not usually in an easily readable format; a report is usually easy to read. An export can be imported back into a database; a report cannot be imported (see *Importing Data into a Database* under *Export and Import Data in Reference*).

Uses for an Export

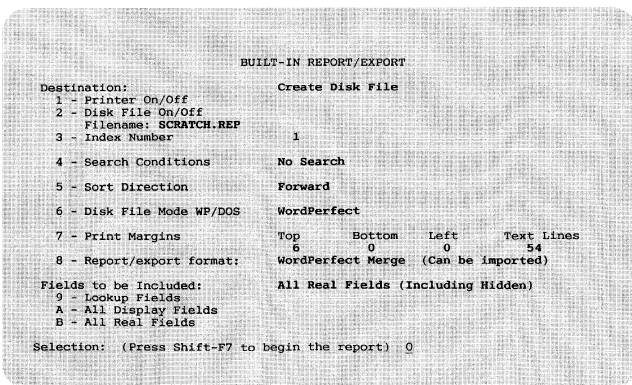
An export is valuable when you want to transfer a copy of data to another program or location.

An export can also act as an additional backup of your database, but should not be used in place of the regular backup (see *Backup* in the *Appendix*). Be sure to export the records from all of the files (panels) you want to save.

The data from each panel must be exported separately. You cannot export an entire database at once. Each export file must have a unique filename (different from any panel name, any database name, and any other export filenames).

Menu Options

The menu options on the Built-In Report/Export menu (Shift-F7) are listed and explained below.



Printer On/Off (1)

This option is not available when performing an export. An export must be sent to a disk file and cannot be printed.

Disk File On/Off (2)

This option lets you send an export to a disk file. Once this option is selected, you need to determine whether you want to create a new disk file (option 1) or append to an existing disk file (option 2). Then you are prompted to enter a filename for the export (the default filename is SCRATCH.REP). In naming the file, you may want to include .EXP as a three-letter extension to help you identify it as an export file.

Index Number (3)

This option determines the order in which the records—not the fields—are exported. If more than one index has been defined for the current panel, and you want to change the index selection for the export, select this option. The panel appears, displaying the currently selected index. Use Up Arrow and Down Arrow to move to the desired index, then press Select (F4). The selected index number is displayed to the right of this option.

Search Conditions (4)

This option first lets you set the search conditions. Then if you select Include (1), only those records matching the currently defined search conditions are included in the export. If you select Exclude (2), the records matching the search conditions are excluded from the export.

The default setting is No Search. If you leave the setting at No Search, all records in the file are included in the export.

Once you select this option, the Report Search Options menu is displayed. See *Search* in *Reference* for information about each search option.

Sort Direction (5)

This option determines the sort direction for the export. When sorting, DataPerfect follows the selected index, either from the beginning to the end (forward), or from the end to the beginning (backward). The default setting is forward.

Disk File Mode WP/DOS (6)

This option cannot be changed manually when setting export options. The setting is determined by the option you select for the Report/Export format (8). If you select the WordPerfect Merge format, this option is set to WordPerfect. If you select the DOS Delimited Text format, this option is set to DOS Text.

Print Margins (7)

This option has no effect when performing an export.

Report/Export Format (8)

This option contains six settings, but only the last two settings can be used in an export. You must use either WordPerfect Merge format or DOS Delimited Text format. Both of these formats contain delimiters (characters which mark the end of fields and of records) which are needed for importing a file into a database.

For example, a WordPerfect merge file contains a Merge R (^R) after each field, and a Merge E (^E) after each record. When a WordPerfect merge file is imported, DataPerfect uses Merge R (^R) to decide the boundaries of a field's data and Merge E (^E) to decide when one record stops and another begins.

A delimited DOS text file uses designated characters as delimiters for the fields and records. The delimiters you choose must be characters that are not found in any of the records. The default delimiter which separates fields is a broken vertical line (|). The default delimiters which separate records are a tilde, carriage return, and line feed (~<CR><LF>).

The setting you select for the Export format determines the setting for Disk File Mode WP/DOS (6).

Fields To Be Included (9, A, and B)

These options let you include Lookup Fields, All Display Fields, or All Real Fields in an export.

If you select Lookup Fields (9), DataPerfect uses the lookup list for the field on which the cursor was positioned when you pressed Report/Export. It exports only those fields in the lookup list for each record.

If you select All Display Fields (A), DataPerfect exports all fields displayed in the panel. This option does not export hidden fields.

If you select All Real Fields (B), DataPerfect exports all real fields in the panel, including hidden fields.

When you use the Built-In Report/Export menu to perform an export, the data is exported from one panel at a time. If you need to combine data from several files into one export, see Sample Reports (Custom WordPerfect Merge Files) under Reports in Reference.

**Exporting
Data**

To export data from your database,

- 1** Be sure the cursor is in the panel that contains the data you want to export.
- 2** Press **Report/Export** (Shift-F7) to access the report list.
- 3** Be sure the cursor is on Built-In Short Reports, then press **Enter** to access the Built-In Report/Export menu.
- 4** Select Disk File On/Off (2) to turn on Disk File.

An exported file must be sent to disk. It cannot be sent to the printer.

- 5** Select Create File (1) to create an export file.
- 6** Enter the desired filename.
- 7** Select Report/Export Format (8) to access the Built-In Short Report Format Selection menu.
- 8** Select WordPerfect Merge (5).

or

Select Export DOS Delimited Text (6).

The Built-In Report/Export menu is displayed again on the screen.

- 9** If you selected Export DOS Delimited Text, you must enter the desired delimiters or press **Enter** to accept the current delimiters.
- 10** Select All Real Fields (B) to be included in the export.
- 11** Press **Report/Export** (Shift-F7) to perform the export.

If the export's filename already exists, you are prompted with "*FILENAME* exists. Proceed? (Y/N) N." If you type **y**, the export will overwrite the existing file. If you type **n**, the cursor returns to the report list.

As the data is exported, it scrolls by on the screen. There is no way to prevent this scrolling. If the export is displayed on the screen, but stops before the export is finished, you need to turn off Scroll Lock. Press any key to finish exporting the data.

- 12** When the export is finished, press any key to return to the report list.

The settings you selected for the export are saved until they are changed.

If you do not want to retain the original records in your database, you can use Remove (Shift-F5) or Multiple Remove (Alt-F5) to delete them (see *Deleting One or More Records* under *Records in Reference*).

Important: Before you remove records, check the exported file to be sure that the data was successfully exported. Once a record has been removed, it cannot be restored except from a backup copy or from the transaction log.

Importing Data into a Database

Records in a WordPerfect 4.2 or 5.0 Merge format or a DOS Delimited Text format can be imported into a DataPerfect database.

If you want to import data from another database program (dBASE III, RBASE, etc.), that data must be in a format that DataPerfect can recognize. For help, refer to the documentation for the other database program. Also, see *Convert* in the *Appendix*.

Menu Options

Nine options are available on the Import menu (Ctrl-F5).

```
                                IMPORT
1 - Import Filename
  SCRATCH.REP
Import Type                       WordPerfect Merge
2 - WordPerfect Merge
3 - Delimited DOS Text
4 - Duplicate Records Action Copy all duplicates
5 - Copy Duplicate Records to Filename
6 - Search Conditions           No Search
7 - Create/Edit Import List
Do Import
8 - Import without disk space checking
9 - Import with disk space checking
Selection: 0
```

Import Filename (1)

This is the name of the file that contains the data you want to import. If you have performed an export during this database session, the filename used in the export is displayed on the screen.

Be sure to include the full pathname if the file is not on the default drive or directory.

Import Type (2 and 3)

WordPerfect 4.2 or 5.0 Merge (2) files and DOS Delimited Text (3) files can be imported into DataPerfect. If you select DOS Delimited Text, you are prompted for the field and record delimiters found in the import file. You can change the default delimiters if they don't match the delimiters in the import file, or press Enter to accept the existing delimiters.

If you have performed an export during this database session, the file type used in the export is displayed on the screen.

Duplicate Record Action (4)

A record is a duplicate when field values in any index and field values in the imported record are identical. In order for a record to be saved in the data file, it must be unique (see *Understanding Indexes* under *Field Lists and Indexes* in *Reference*).

When you select this option, three additional options are displayed. Determine what should be done with duplicate records from the import file by selecting one of these three options.

- Copy it to the duplicate record file.
This is the default setting. Duplicate records from the import file are sent to a filename specified in option 5 (Copy Duplicate Records to Filename). These records are saved in the format used to import them.
- Ignore it.
If you select this option, duplicate records from the import file are ignored.
- Replace the record in the database with it.
If you select this option and multiple duplicate records exist in the import file, the last record imported is the one saved in the database.

If you select this option, the indexes defined for the panel are displayed on the screen. Use Up Arrow (↑) and Down Arrow (↓) to find the index you want to use to identify duplicate records. Then press Select (F4) to select the index. For example, an index that contains only a Company Name field does not allow the same company name to be imported twice.

If a duplicate record exists in another index, DataPerfect ignores the duplicate record.

Copy Duplicate Records to Filename (5)

If you choose to have duplicate records sent to a file on disk, enter the filename here.

Search Conditions (6)

You can use this option to select records for an import. You can include or exclude each record that matches the specified search conditions (see *Search* in *Reference*).

When you select this option, you are asked to specify the search conditions. During the database session, if you have already defined a set of conditions, you are asked if you want to use the conditions already defined or specify new conditions. If you do not want to use the current conditions, type **n**, and then select Reset Conditions (5) before defining new search conditions. Type **y** to add new conditions to those already defined.

When you finish specifying the conditions, press **Search (F2)** to accept the current search conditions. Then, select either Include Records That Satisfy the Search (1) or Exclude Records That Satisfy the Search (2). If you do not want to use the search conditions at this time, press **Exit (F7)**. The search conditions will be stored, but not used.

Create Import List (7)

Import assumes that the order of the fields in the import file matches the order of the fields in the panel. This is usually the case if you have used the Export feature to create the import file. This may not be the case if you are importing data from other programs or if you have modified the database structure by changing the edit order (see *Panel Options (Change Edit Order)* under *Panels in Reference*).

Create Import List lets you define a list that indicates the order in which the fields are to be imported.

For example, the illustrations below show a file which is ready to be imported into a database. The names of the customers shown in the file below are listed by first name (field 3), then middle name (field 4), then last name (field 5). However, the Customer Information panel into which you are importing the file lists customers by last (field 2), first (field 3), and then middle (field 4) names. Because of this difference in the order of the fields, you need to designate the order in which you want to import the fields in the file.

This option also lets you skip fields in the import file and/or the panel. For example, the Salutation field (field 2) in the file is skipped when importing the file because no corresponding field exists in the Customer Information panel.

```

00001 R
Mrs. R
Jane R
M. R
Burnett R
378 Garden Park Drive
R
Pueblo R
CO R
81002-0000 R
(719)555-9000 R
(719)555-8370 R
R
E
00002 R
Mr. R
Allen R
R. R
Caldiero R
1021 Fir Avenue R
Pueblo R
CO R
81002-0000 R
(719)555-9376 R
(719)555-2014 R
R
E

```

Import List Move to the field which is to contain the next field from the Import File, then press Select (F4).	
OR 1 - Skip Field in Import File 3 - Delete Last Entry in List 2 - Delete Import List 0 - Exit to Import Menu	
13 is the next field in the import file.	
CUSTOMER.PER-30	
CUSTOMER INFORMATION	
Customer ID 1	
Last Name 5	First 3 Middle 4
Address	City ST Zip
6	7 8 9
	Hm Phone 10 Wk Phone 11
Comments	
12	Last Inv Date
	Balance Due ██████████
	Payments Invoices

Import Without Disk Space Checking (8)

Import Without Disk Space Checking is a quick import method which does not check for disk space. This option imports records until the buffers are filled, then it saves those records and continues importing. Use this method only if you are certain you have enough disk space to perform the import.

***Important:** If you select this option and enough disk space does not exist, you may destroy the database.*

Import With Disk Space Checking (9)

If you use Import With Disk Space Checking, DataPerfect checks for space on the disk before importing each record. Only five records are imported and saved at a time, then another five, and so on. This is the slowest, but safest import method.

If you select this option and enough disk space does not exist to import all of the records, a message will tell you so. Then the import stops.

If you are running DataPerfect on a network and another user is using the database, both options 8 and 9 import and save only one record at a time.

Records are imported one panel at a time. If you have more than one file to be imported into more than one panel, you need to perform an import for each panel.

You cannot import data from a file and then update that data from another imported file. If you attempt to do this, you will only add more records to the file.

Importing Data

To import records,

1 Be sure the cursor is in the panel to which you want to import records. Data can only be imported into one panel at a time.

2 Press **Import** (Ctrl-F5).

The Import screen is displayed.

3 Select Import Filename (1), then enter the name of the file you want to import.

4 If the import file is in WordPerfect Merge format, select WordPerfect Merge (2).

or

If the import file is in DOS Delimited Text format, select DOS Delimited Text (3), then type the correct field and record delimiters.

At this point, you can select options 4 through 7 on the Import menu, if desired.

- 5 If you are certain you have plenty of disk space, select Import Without Disk Space Checking (8).

or

If you are uncertain about the amount of available disk space, select Import With Disk Space Checking (9).

The status of the Import is displayed in the instruction box.

Computed Fields

If a panel contains a computed field, you see the message "Does the import file contain data for Computed Field(s)?" Type **y** if the import file includes data for a computed field. If you type **n**, the field value from the import file is skipped over, and the field value is recomputed.

If your import file was created with the Export feature, and if you chose to export All Display Fields, type **y**.

Auto-Incrementing Fields

If a panel contains an auto-incrementing field, you can select Renummer Records During Import (1) or Use the Numbers From the Import File (0).

Fields Containing Totals

If a panel contains at least one field that is totaled in another field, you can select Retotal During Import (1) or Use the Numbers From the Import File With No Totaling (0).

If a panel (Panel A) contains a field which totals to another panel (Panel B), import the data in Panel B first, then import the data in Panel A.

Initialize Fields in an Import

When a field is imported into DataPerfect, the data is placed in the field exactly as it is in the import file. If an initialization setting exists for the field into which the data is imported, that initialization is ignored during the import (see *Field Options (Initialize at Create/Save/Any Change)* under *Fields in Reference*). If you want the initialization to take effect, you must make an import list that excludes the field in the database which contains the initialization setting.

You may be importing fields which contain data in some, but not all records. If you want to initialize the imported fields that don't contain data, and preserve the imported fields which do contain data, you must perform two imports.

The first one imports the existing data in the import file. The second one initializes a specific field or fields.

The first import must include a search which imports only the records containing data in the specified field.

- 1 Be sure the Import screen is displayed (Ctrl-F5).
- 2 Select Search Conditions (6), then select Specify Formula (3).

The Specify Formula screen is displayed.

- 3 Type the following formula:

PIF4 <> " "

PIF4 represents the field you want to import which may or may not contain data. Be sure to use Select (F4) to select the field.

This formula tells DataPerfect to check this field to be sure it contains data.

- 4 Press **Exit** (F7) or **Save** (F10) to save the formula and return to the Search Options menu.
- 5 Press **F2**, then select Include Records Which Satisfy the Search (1).

The Import screen is displayed.

- 6 If you are certain you have plenty of disk space, select Import Without Disk Space Checking (8).

or

If you are uncertain about the amount of available disk space, select Import With Disk Space Checking (9).

The second import requires you to accept the same search conditions as you did for the previous import, but to exclude the records containing data in the specified field. Then, you create an Import list which skips the field(s) that you want to initialize. By doing this, the only imported records are those in which the specified field(s) are blank. Because this import list skips the fields which are blank, the blank fields will be initialized when the records are imported.

- 7 Be sure the Import screen is displayed.
- 8 Select Search Conditions.

Use the same search conditions you selected for the first import.

- 9 At the "Use Current Search Conditions? (Y/N) N" prompt, type **y**.
- 10 Select **Exclude Records Which Satisfy the Search (2)**.
The Import screen is displayed.
- 11 Select **Create Import List (7)**.
- 12 Create an Import list which includes the fields in the import file, but skips the field(s) which may be blank. Select **Skip Field in Import File (1)** to skip the desired field.
- 13 Use **Tab** to move past the same field(s) in the panel so that those fields are not included in the import.
- 14 When finished, press **Exit (F7)** to return to the Import screen.
- 15 If you are certain you have plenty of disk space, select **Import Without Disk Space Checking (8)**.

or

If you are uncertain about the amount of available disk space, select **Import With Disk Space Checking (9)**.

**Difficulties
When
Importing**

If your computer freezes when performing an import, a problem exists in the import file. Press **Import (Ctrl-F5)** to view the Import screen. Be sure an appropriate format has been selected (**WordPerfect Merge** or **DOS Delimited Text**). Be sure the delimiters are properly placed in the file, and that no delimiters are missing.

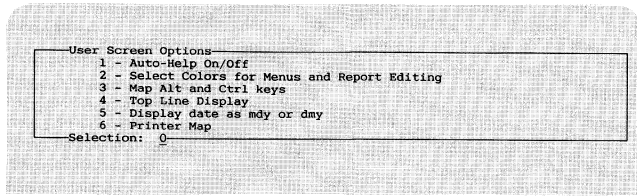
If you discover duplicate records when none should exist, you need to verify that every index in the panel to which you are importing is unique. All imported records are checked against each index in the panel to verify that they are unique.

If unwanted characters (smiling faces, triangles, question marks, etc.) appear in fields, or if fields are in the wrong place after importing, there is a discrepancy between the edit order of the panel and the order of the fields in the import file. You can correct this problem by creating an import list (option 7 on the Import screen).



Introduction

Screen (Ctrl-F3) contains the following options:



Any changes made on the Screen menu affect only the current database. When you select a setting for any option on the Screen key, that setting becomes the default for the database.

If you have set Screen option defaults for a particular database and want to use the same defaults in defining a new database, access the existing database, then exit to the database list to define the new database. All of the defaults in the database you previously accessed will be assumed for the new database you create. These defaults can be changed later if necessary.

Each menu option is discussed in the following pages of this section.

Auto-Help On/Off

Auto-Help On/Off lets the user view custom help messages which have been entered for a particular database.

The default setting for this option is Off. When Auto-Help is off, a help message does not appear on the screen until you press Help (F3).

If Auto-Help is on, the custom help messages appear in the instruction box without pressing Help.

If you want to turn on Auto-Help,

- 1** Press **Screen** (Ctrl-F3) to access the User Screen Options menu.
- 2** Select Auto-Help On/Off (1) to turn on Auto-Help.

If you select Auto-Help again, you will turn off Auto-Help.

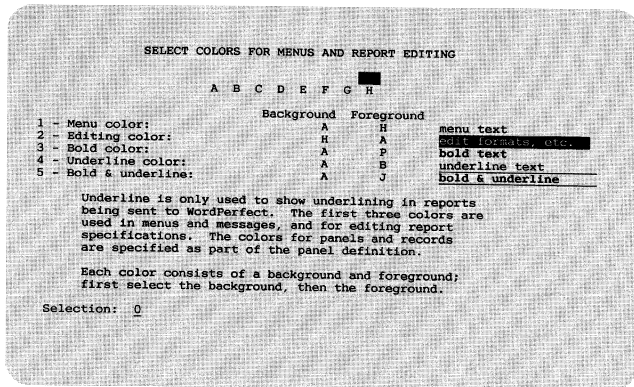
Select Colors for Menus and Report Editing

If you have a color monitor, this option lets you change the colors of menus and reports as they appear on screen.

To access Select Colors for Menus and Report Editing,

- 1 Press **Screen** (Ctrl-F3).
- 2 Choose **Select Colors for Menus and Report Editing** (2).

At this point, a menu appears containing a scale of colors with corresponding letters. Specify a background and foreground color for Menu, Editing, Bold, Underline, and Bold & Underline colors. The present settings for the current database are displayed at the right of the options.



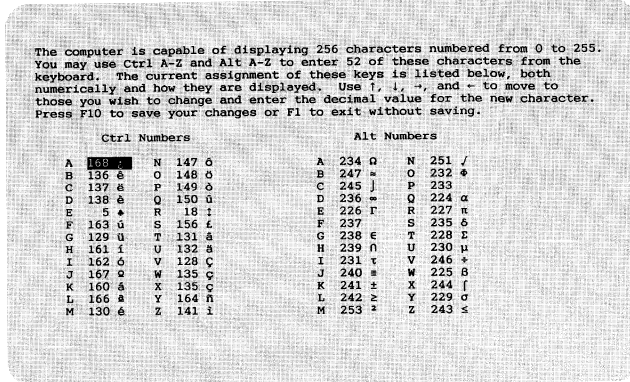
- 3 At the selection prompt, type the setting number you want to change (e.g., 1 for Menu color).
- 4 Type the letter of the color you want to use for the background color.

The selected background color is displayed behind the options for foreground color to help you select a readable color. Remember, the background and foreground colors must be different.

- 5 Type another letter for foreground color.
- 6 Press **Exit** (F7) to leave the menu.

Map Alt and Ctrl Keys

Map Alt and Ctrl Keys displays a table of on-screen characters and the keystrokes to which they are mapped. Using this feature, you can change which characters are mapped to certain keystrokes.



Most of the extended ASCII characters are mapped to a keystroke combination (Ctrl plus a letter or Alt plus a letter).

To change a character mapping,

- 1 Press **Screen** (Ctrl-F3).
- 2 Select Map Alt and Ctrl Keys (3).
- 3 Move the cursor to the key you want to change.
- 4 Enter the ASCII value of the desired character.

If you are unsure of a desired character's ASCII value, refer to the technical manual for your computer or printer.

- 5 Press **Exit** (F7) to save the changes and return to the panel or panel list.

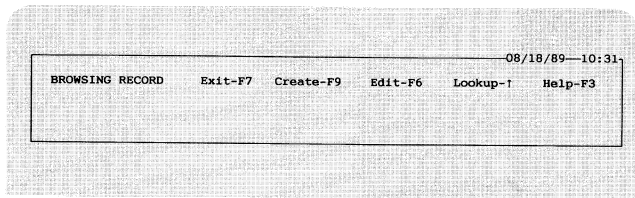
Top Line Display

Top Line Display displays the date and time on the top line of the screen. The default setting is off. If Top Line Display is turned on, the messages Caps, Num, and Scroll display on the top line when the corresponding key is pressed.

To turn on Top Line Display,

- 1 Press **Screen** (Ctrl-F3) to access the User Screen Options menu.
- 2 Select Top Line Display (4).

The current date and time are displayed on the top line of the screen.



Display Date as MDY or DMY

Display Date as MDY or DMY toggles between displaying the current date in American format (month/day/year) and displaying the current date in European format (day/month/year). The default setting is American format.

Changing this option is effective only when Top Line Display is on (see *Top Line Display* under *Screen* in *Reference*).

To use Display Date as MDY or DMY,

- 1 Press **Screen** (Ctrl-F3) to access the User Screen Options menu.
- 2 Select Display Date as MDY or DMY (5).

If you want to change the current setting, repeat steps 1 and 2.

Mapping the Printer to Include International Characters

Most printers will print many of the ASCII characters without needing any special codes or mappings sent to the printer. If your printer does not print a specific character you need (e.g., a non-English character), you can map it to the printer. Mapping a character to the printer means that you are sending the codes necessary to perform a certain function from your computer to your printer.

The Printer Map function in DataPerfect uses a simple single character map which only affects printing. It does not affect the display on the screen or in the files.

To map a character to your printer, refer to your printer manual for the character's numerical code, and then perform the following steps.

- 1** Press **Screen** (Ctrl-F3) to access the User Screen Options menu.
- 2** Select Printer Map (6).

The current mapping is displayed in its ASCII value.

- 3** Use the arrow keys to locate the number and the character you want to change.
- 4** Enter the mapping for the desired character, using as many as three digits.

Press **Cancel** (F1) to cancel an unwanted change.

- 5** Change any additional character mappings by performing steps 3 and 4 again.
- 6** Press **Exit** (F7) to leave the Printer Map screen.

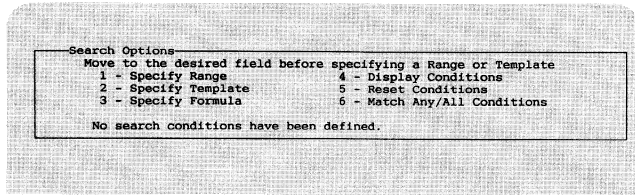
When this character is sent to the printer, the new mapping (code) is sent and the character is printed.



Introduction

DataPerfect lets you search for specific records in a forward or reverse direction. A search is used for finding a certain record, when running a report, export, or import, or when removing records from a file.

When you press ♦Search (F2) or ♦Search (Shift-F2), the Search Options menu is displayed:



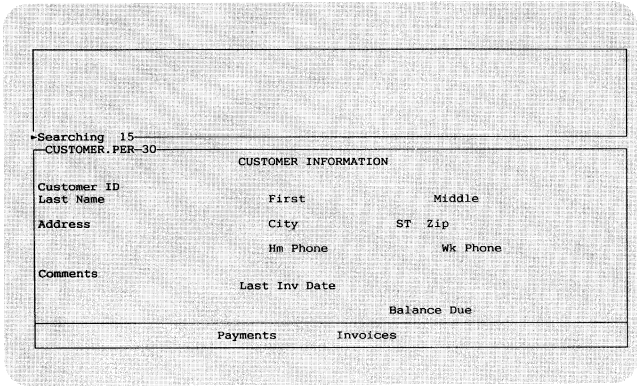
If you perform a search while in a report, Do Trial Search on Panel (option 7) is also displayed on the menu.

This section provides information about the Search feature and the options available when you perform a search.

Performing a Search

Before you perform a search, you need to specify the search conditions (the search conditions are discussed in the following pages of the *Search* section). Three kinds of searches are available: range search, template search, and formula search. After you finish specifying the conditions, press **♦Search (F2)** to search the records from the beginning of the file, or press **◆Search (Shift-F2)** to search the records from the end of the file.

You see either the message **♦Searching** or **◆Searching** in the lower left corner of the instruction box, specifying the direction of the search which DataPerfect is performing.



The screenshot shows a search result for a customer record. The instruction box in the top left corner displays "♦Searching 15" and "♦CUSTOMER.PER-30". The record is titled "CUSTOMER INFORMATION" and contains the following fields:

Customer ID	First	Middle
Last Name	City	ST Zip
Address	Hm Phone	Wk Phone
Comments	Last Inv Date	Balance Due
Payments	Invoices	

When DataPerfect finds a record, that record is displayed on the screen until you press **♦Search (F2)** to continue searching in the same direction for more matching records, or **◆Search (Shift-F2)** to search in the opposite direction.

◆Search reverses the direction of the search. If you are searching forward, it reverses the direction and searches from the end of the file. If you are searching from the end of the file, it reverses the direction and searches forward.

The search ends when the beginning or end of the file is reached. When the search ends, the last record matching the search conditions is displayed on the screen, and the message "Search to end of the file completed" is displayed in the instruction box.

Record Selection in a Search

You can use Search to select records for a report, an export, an import, or a multiple remove. In each case, you have the option to include or exclude each record that matches the search condition(s) you have specified.

If you have already defined a set of conditions during the database session, you are asked if you want to use the conditions already defined, or if you want to specify new ones.

If you type **y** (for "yes") when prompted to use existing search conditions, you bypass the Search menu and are prompted to include or exclude those records which satisfy the search.

If you type **n** (for "no") when prompted to use existing search conditions, the cursor moves to the Search Options menu. If you set new conditions, they are appended to the existing search conditions. If you want to set new conditions and not have them appended to the existing conditions, select Reset Conditions (option 5) before setting the new conditions.

When you finish specifying the conditions, press **Search (F2)** to accept and use them in the report, export, import, or multiple remove you are performing. If you do not want to use the search conditions at that time, press **Exit (F7)** to exit the Search Options menu. The search conditions are stored, but not used.

In a report, export, or import, you are prompted to set the search conditions before choosing to include or exclude the records that match. In a multiple remove, you are prompted to include or exclude the records before specifying the search conditions.

Specify Range

A range consists of a low value and a high value for a field. If the field value for a record is found within the specified range, then a search finds that record.

For example, you could search for Invoice No. 00031 by specifying a low value of 00031 and a high value of 00031 on the Invoice No. field. A search for this value would find only a record for Invoice No. 00031.

You can specify any number of ranges for each field in a panel. You cannot use a range search through a data link or panel link.

To specify a range for a search,

- 1 Press **Search** (F2) to access the Search Options menu.
- 2 Move the cursor to the desired field.
- 3 Select Range (1).

The low value defaults to whatever value was in the field when you pressed **Search**.

- 4 If you want to use the default value, press **Enter**. If you want to use a new value, type the desired low value for the range, then press **Enter**.

The high value defaults to the value you entered as the low value.

- 5 If you want to use the default value, press **Enter**. If you want to use a new value, type the desired high value for the range, then press **Enter**.

Of the three kinds of searches, a range search retrieves data the quickest, but only when the field on which the search is being performed is the first field of the index that is being used.

Specify Template

A template is a word or number pattern. You can use wildcard characters when specifying a search template. An asterisk (*) represents any number of characters in succession, while a question mark (?) represents only one character.

For example, *MIT* would search for those records that contain the letters MIT anywhere in that field. MIT* would find only those records where that field begins with MIT.

*J*ns?n would find Jensen, Jenson, Johnsen, Johnson, and Jansen. The template *New York* without any asterisks or question marks would match only those records containing "New York" in that field (not "New York City" or some other value).

You cannot perform a template search through a data link or panel link.

To specify a template for a search,

- 1 Press **Search** (F2) to access the Search Options menu.
- 2 Move the cursor to the desired field.
- 3 Select **Template** (2).
- 4 Type the template and press **Enter**.

To search for an asterisk, use "*" as the template. To search for a question mark, use "?" as the template.

You can temporarily change the wildcard characters. To do this, when prompted to enter a template, type a broken vertical line (|) followed by the character you want to replace the asterisk, and then type the character you want to replace the question mark. For example, the template |%\$ makes the percentage sign and the dollar sign wildcard characters. The original wildcard characters are restored when the search is finished.

Specify Formula

You can specify a formula in a search. Each record is examined during the search. When you specify a formula for a search, the search does not find the records which contain the formula. Instead, the search finds the records which answer the formula. If the formula statement is true, the record is a match. If the statement is false, the record is not a match (see *Using Formulas* under *Formulas and Functions* in *Reference*). IF and CASE statements are not allowed when specifying a formula for a search.

The following is an example of a formula:

PIF4 * PIF8 > 250

PIF4 represents Panel 1, Field 4. PIF8 represents Panel 1, Field 8.

A search which specifies this formula finds all of the records where PIF4 multiplied by PIF8 is greater than 250.

Functions and operators are also available in formulas. The following is an example of a formula which uses functions and operators.

(contains[PIF1];"BOB" or contains[PIF1];"LISA") and PIF6 = date[10;5;1989]

A search which specifies this formula finds all of the records where PIF1 contains the value "BOB" or "LISA" and where PIF6 contains the value "May 10, 1989."

To specify a formula,

- 1 Press **Search** (F2) to access the Search Options menu.
- 2 Select Specify Formula (3).
- 3 Type the formula.

If you need to include fields in the formula, use Select (F4) to select the fields (see *Select* under *Data Entry Keystrokes and Features* in *Reference*).

If the formula needs to include fields from a linked panel, press **Select** to display the current panel, and move the cursor to the desired link. Press **Down Arrow** (↓) to display the linked panel, then move the cursor to the desired field and press **Select**. The selected field appears in the formula with a format similar to P1F1P2F1 (P1F1 represents the field in the source panel that contains the link, and P2F1 represents the field you selected from the linked panel).

4 When you finish typing the formula, do not press **Enter**. Press **Save** (F10) or **Exit** (F7) to return to the Search Options menu.

If you want to perform a template search in a formula, you must use the *contains* function (contains[]). See *Functions Used in Formulas* under *Formulas and Functions* in *Reference*.

Display Conditions

Display Conditions lets you see all of the search conditions currently set.

To display the current search conditions,

- 1** Press **♦Search** (F2) to access the Search Options menu.
- 2** Select Display Conditions (4).

The current search conditions are displayed.

- 3** Press **Exit** (F7) to return to the Search Options menu.

Reset Conditions

Reset Conditions lets you delete the current search conditions.

To reset the search conditions,

- 1 Press **Search** (F2) to access the Search Options menu.
- 2 Select Reset Conditions (5).

A message appears in the lower part of the instruction box: "No search conditions have been defined." At this point, you can enter new search conditions.

Match Any/All Conditions

Match Any/All Conditions lets you toggle between OR and AND. When you specify more than one condition, use AND to find those records that match *all* of the conditions. Use OR to find records that match *any* of the conditions. The default setting is AND.

For example, an AND condition may look like this:

Field 5 is in the range 20 through 25
AND Field 13 matches paid
AND P1F3 = 60

Paid is the value entered in the template.

These search conditions find all of the records where the values in field 5 are between 20 and 25 AND where field 13 matches *paid* AND where P1F3 = 60.

ALL of these conditions must be met before the record is found.

An OR condition may look like this:

Field 5 is in the range 20 through 25
OR Field 13 matches paid
OR P1F3 = 60

These search conditions find all of the records where the values in field 5 are between 20 and 25 OR where field 13 matches *paid* OR where P1F3 = 60.

If ANY of these conditions are met, the record is found.

If you need to combine ANDs and ORs, a formula must be used.

Consider the conditions below:

P1F5 >= 20 and P1F5 <= 25
and P1F13 = "paid"
or P1F3 = 60

These conditions find a record where field 5 is between 20 and 25 AND where either field 13 matches *paid* OR where P1F3 = 60.

Because AND has a higher operator priority than OR, the statement would be more clearly written like this:

P1F5 >= 20 and P1F5 <= 25
and (P1F13 = "paid" or P1F3 = 60)

Match Any/All Conditions has no effect on a formula that contains AND and OR. If you want to replace AND with OR (or vice versa), you must edit the formula manually.

Do Trial Search on Panel

Do Trial Search on Panel is an option that appears on the Search Options menu when you perform a search while in a report. This option lets you test the search conditions you have specified to confirm that the correct records have been found before running the report.

To do a trial search on a panel,

- 1 Be sure the Report Search Options menu is on the screen (option 4 on the Report menu).
- 2 Select Do Trial Search on Panel (7).

DataPerfect performs a trial search on the conditions you've set. When the first matching record is found, the cursor stops on that record.

- 3 If you want to continue the trial search, press **Search** (F2).

or

If you want to abort the search, press **Cancel** (F1).



Introduction

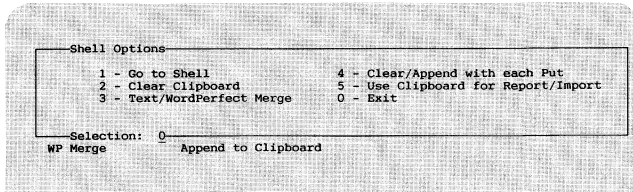
Shell is a WordPerfect Corporation program that is included with the WordPerfect Library and WordPerfect Office programs, but not with the DataPerfect program. However, DataPerfect supports Shell versions 1.1 and later. It also supports the Shell Clipboard.

For instructions on installing DataPerfect under the WordPerfect Library/Office Shell, see *Installing DataPerfect Under Shell in Installation*.

This section provides information about the Shell options you can use with DataPerfect.

Using the Shell Options Menu

If Shell is running, press Shell (Ctrl-F1) to display the Shell Options menu. If Shell is not running when you press Shell, an error message appears on the screen: "Shell is not running."



Go to Shell

If you select Go to Shell (1), DataPerfect remains resident in memory while you go to the Shell menu. From the Shell menu, you can go to another program, use other Shell features, and then return to DataPerfect.

Clear Clipboard

The Shell Clipboard is used to cut and paste information from one WordPerfect Corporation program to another. As with other programs, you can send data to and retrieve data from Clipboard.

If you select Clear Clipboard (2), all information currently in Clipboard is erased.

Text/ WordPerfect Merge

Text/WordPerfect Merge (3) lets you change the format of the data going to and from Clipboard from a WordPerfect Text format to a WordPerfect Merge format and vice versa.

The current setting is displayed in the lower part of the instruction box. The setting will say either "WP Text" or "WP Merge."

Clear/Append with Each Put

Clear/Append with Each Put (4) lets you change the Clipboard setting from Clear to Append and vice versa. If the setting is Clear, then any data already in Clipboard is erased when you put new information in Clipboard. If the setting is Append, data is appended to the information in Clipboard.

The current setting is displayed in the lower part of the instruction box. The setting will say either "Append to Clipboard" or "Clear Clipboard."

**Use Clipboard
for Report/
Import**

If you select Use Clipboard for Report/Import (5), reports are sent to Clipboard, and data for imports is retrieved from Clipboard. If you select this option again, reports and imports perform as usual.

If this option is on, a message is displayed in the lower part of the instruction box: "Report or import uses Clipboard."

**Retrieve from
Clipboard**

Retrieve from Clipboard appears as option 6 if you access the Shell menu while you are in a report, an Edit Help screen, Define Panel mode, or editing a text field. It lets you retrieve data from Clipboard into the current work area.

Data in Clipboard is not visible when moving from Clipboard to DataPerfect. To view the data in Clipboard, select Clipboard (2) from the Shell screen.

Put Field/Record/Panel into Clipboard

You can copy data from a field, record, or panel into Clipboard. The Shell Clipboard is a feature used to cut and paste information from one WordPerfect Corporation program to another. As with other programs, you can send data to and retrieve data from Clipboard.

These features are only available if Shell is running.

The following keystrokes are used to put information in Clipboard:

Put Field (Shift-F10)

Puts the data from the current field into Clipboard. The data can be retrieved using Get Field (Shift-F1).

Put Record (Alt-F10)

Puts the data from the current record into Clipboard. The data can be retrieved using Get Record (Alt-F1) if the Shell option in DataPerfect is set to WordPerfect Merge.

Put Panel (Ctrl-F10)

Puts the data and panel text from the current panel into Clipboard.

***Important:** If you copy a DataPerfect panel into Clipboard, it cannot be retrieved back into DataPerfect. It can only be retrieved into another program.*

Get Field/Record from Clipboard

You can retrieve data into a field or record from Clipboard. The Shell Clipboard is a feature used to cut and paste information from one WordPerfect Corporation program to another. As with other programs, you can send data to and retrieve data from Clipboard.

These features are only available if Shell is running.

The following keystrokes are used to retrieve data from Clipboard:

Get Field (Shift-F1)

Inserts data from Clipboard into the current field.

Get Record (Alt-F1)

Inserts data from Clipboard into the current record.

You should not be in Create or Edit mode when trying to retrieve a record.

In order to be retrieved into DataPerfect, records in Clipboard must be in WordPerfect Merge format. Each field must end with a Merge R code (^R). Each record must end with a Merge E code (^E).

Defining Macros

A macro is similar to the redial feature on the telephone. A macro records keystrokes and plays them back exactly as they were pressed. This helps to automate tasks you perform repeatedly.

DataPerfect does not contain macro features in the program itself. However, DataPerfect is designed to work with WordPerfect Library and WordPerfect Office, both of which include a memory-resident program called Shell. DataPerfect will run Shell macros.

To define a macro while Shell is resident,

- 1** From anywhere in Shell or in DataPerfect, press **Macro Define** (Shift-Ctrl-F10).
- 2** At the "Define Shell macro:" prompt, type the name you want the macro to have.

A message appears briefly at the bottom of the screen, telling you that the Shell macro is starting.

- 3** Type the series of keystrokes you want to include in the macro.
- 4** To end the macro, press **Macro Define** (Shift-Ctrl-F10) again.

A message appears briefly at the bottom of the screen, telling you that the Shell macro is ended.

To invoke a macro,

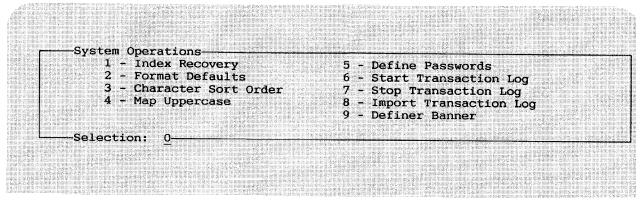
- 1** Press **Macro** (Shift-Alt-F10) and type the name of the macro.

DataPerfect ignores any remaining keystrokes in a macro following an error in DataPerfect or an Up Arrow (↑) keystroke in a lookup or a report.

See the WordPerfect Library or WordPerfect Office documentation for more information on Shell macros.

Introduction

You can access and edit system operations by pressing System (Shift-F9). The System Operations menu is displayed.



This section provides information about the options available on the System Operations menu.

If a password has been defined, only those with password privileges can access these options (see *Defining Passwords* under *System Operations in Reference*).

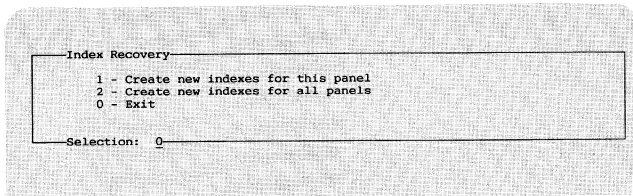
Using Index Recovery to Regenerate an Index

If many records have been added to, edited, or deleted from a database, the indexes can become inefficient. Index Recovery is designed to regenerate those indexes so that disk space is saved and access time is improved.

To access the Index Recovery menu,

- 1 Be sure the System Operations menu is on the screen.
- 2 Select Index Recovery (1).

The Index Recovery menu is displayed.



Create New Indexes for this Panel (1) creates new indexes for only the current panel. Create New Indexes for All Panels (2) creates new indexes for all panels in the database.

When a panel is being reindexed, a message appears on the screen which counts through the records being indexed in the current panel.

If you do not want to create any new indexes, press zero (0) or Exit (F7) to exit the Index Recovery menu and return to the current panel.

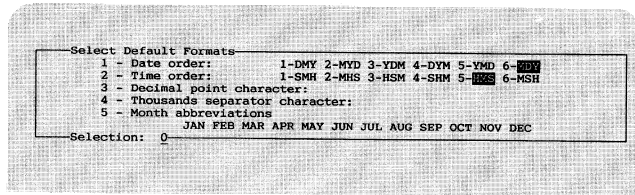
Format Defaults

Format defaults may be set for any database. You can change the default settings for date, time, decimal points, thousands separators, and month abbreviations.

To change one of these default settings:

- 1 Be sure the System Operations menu is on the screen.
- 2 Select Format Defaults (2).

The Select Format Defaults menu is displayed.



The options on the Select Default Formats menu are discussed below.

Date Order

This option includes six different settings for the order of the month, day, and year in a date field. When you select this option, the six date settings are highlighted. The default setting is MDY (option 6). Type the number of the setting you want. Your selection remains highlighted and the cursor returns to the selection prompt.

Time Order

This option includes six different settings for the order of the hour, minutes, and seconds in a time field. When you select this option, the six time settings are highlighted. The default setting is HMS (option 5). Type the number of the setting you want. Your selection remains highlighted and the cursor returns to the selection prompt.

**Decimal Point
Character**

This option lets you specify the character you want to use to represent the decimal point in G Type and H Type numeric fields. When you select this option, your cursor is positioned on the currently selected decimal point character. The default character is a period (.). The other valid choice is a comma (,). If you want to change the default, type a comma. The cursor then returns to the selection prompt.

**Thousands
Separator
Character**

This option lets you specify the character you want to use as a separator between thousands in G Type and H Type numeric fields. When you select this option, your cursor is positioned on the currently selected thousands separator character. The default character is a comma (,). The other valid choice is a period (.). If you want to change the default, type a period. The cursor then returns to the selection prompt.

**Month
Abbreviations**

This option lets you change the three-letter month abbreviations used in reports. When you select this option, the cursor is positioned on the first character in the string of month abbreviations. You can then type the characters you want to replace the default characters.

The abbreviations are limited to three characters. If you type more than three letters, only the first three letters of your abbreviation appear in the report, and all other abbreviations will be off by one character. All abbreviations must be separated by one space.

The default month abbreviations are JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, and DEC.

Modifying a Character's Sort Order in an Index

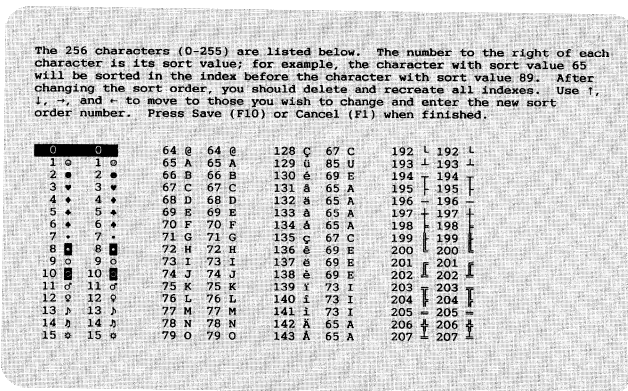
Each ASCII character has a sort value. The sort value determines the order in which the character is sorted by an index. A character with a low number will be sorted before a character with a high number.

When international characters are included in an index, they are sorted according to a table maintained in DataPerfect. This allows a true alphabetical sort order instead of the standard ASCII order. For example, if you use the predefined table, the á, â, and ä are sorted with the lower and uppercase A, rather than at the end of the list. To change the order in which index entries are sorted by the index, you must modify the sort order table.

To access the sort order table while in a panel,

1 Press **System** (Shift-F9) and select Character Sort Order (3).

The current sort order table is displayed.



As you will notice, all the A's (A, a, á, â, ä, etc.), have the sort value of 65. Therefore, they are sorted before those characters with higher values and after those with lower values.

To change the sort values,

1 Use the arrow keys to locate the character you want to reassign and enter the new decimal sort value.

After making the desired changes,

2 Press **Save** (F10) to save the new assignments.

To cancel changes made during the current session, press Cancel (F1) instead of Save. You are returned to the current panel.

If you make changes to the sort order, you must regenerate the index. See *Using Index Recovery to Regenerate an Index* under *System Operations* in *Reference*.

Mapping Uppercase Letters

This option lets you assign uppercase letters to the keyboard. When you select this option, the Uppercase table appears on the screen. The Uppercase table decides which uppercase characters appear in a field that has been defined to allow only uppercase letters. When entering text in this type of field, you can type lowercase characters and they will be converted to uppercase. For instance, if you type an "a" (character 97), an "A" (character 65) appears. This feature is most useful when using international characters (i.e., you can choose whether a "C" or a "Ç" will appear when you type a "ç").

This table is also used during searches, as all characters are converted to uppercase before search comparisons are made.

To change the Uppercase table,

- 1 Be sure the System Operations menu is on the screen.
- 2 Select Map Uppercase (4).

The current Uppercase table is displayed.

The 256 characters (0-255) are listed below. The number to the right of each character is the value assigned in an uppercase field (U2) and used during a search. For example, character 97 (lowercase 'a') is mapped to character 65 (uppercase 'A'). Use ↑, ↓, →, and ← to move to those you want to change and enter the new value. Press Save (F10) or Cancel (F1) when finished.

0	0	64	@	64	@	128	C	128	C	192	ç	192	ç
1	1	65	A	65	A	129	ü	154	ü	193	+	193	+
2	2	66	B	66	B	130	ä	144	ä	194	-	194	-
3	3	67	C	67	C	131	ä	131	ä	195		195	
4	4	68	D	68	D	132	ä	142	ä	196	-	196	-
5	5	69	E	69	E	133	ä	133	ä	197	+	197	+
6	6	70	F	70	F	134	ä	143	ä	198	-	198	-
7	7	71	G	71	G	135	ç	128	C	199	+	199	+
8	8	72	H	72	H	136	ä	136	ä	200	ü	200	ü
9	9	73	I	73	I	137	ä	137	ä	201	ü	201	ü
10	10	74	J	74	J	138	ä	138	ä	202	ä	202	ä
11	11	75	K	75	K	139	ä	139	ä	203	ä	203	ä
12	12	76	L	76	L	140	ä	140	ä	204	ä	204	ä
13	13	77	M	77	M	141	ä	141	ä	205	ä	205	ä
14	14	78	N	78	N	142	ä	142	ä	206	ä	206	ä
15	15	79	O	79	O	143	ä	143	ä	207	ä	207	ä

- 3 Use the arrow keys to select the character you want to reassign, and enter the new uppercase decimal value.

After you have made the desired changes,

- 4 Press **Save** (F10) to save the new assignments.

To cancel changes made during the current session, press **Cancel** (F1) instead of **Save**. You are returned to the current panel.

Defining Passwords

Databases can be protected with a password so that unauthorized personnel cannot access various features and information in DataPerfect. Four passwords are available in DataPerfect: definer password, supervisor password, read/write user password, and read-only user password.

Once a password has been defined for read/write users and/or for read-only users, a password is required to enter the database.

If users forget a user password, the supervisor must either set up a new one or tell the user the password. If supervisors forget the supervisor password, the database definer must either set up a new one or tell the supervisor the password. If the definer cannot recall the supervisor password, send a diskette containing a copy of the database's .STR file to the following address:

WordPerfect Corporation
DataPerfect Testing
1555 N. Technology Way
Orem, UT 84057

For a \$100 nonrefundable fee, WordPerfect Corporation will attempt to unlock the database. In most cases, the database can be recovered. However, there is no guarantee.

Create a Definer Password

A database definer is the only person who can create a definer password. A definer password allows access to all features and options in a database, including the ability to modify the structure of the database (using Define Panel, Define Field, and Define Index). Also, a definer password allows definers to create, edit, and run reports, and to save them when they exit the database.

After definers create a definer password, they are given the option to create a supervisor password, a read/write user password, and a read-only user password. If no definer password is created, the other password options remain unavailable.

To create a definer password,

- 1 Be sure the cursor is in the database for which you want to create a definer password.
- 2 Press **System** (Shift-F9) to access the System Operations menu.
- 3 Select Define Passwords (5).

The Definer Password screen appears.

- 4 At the Definer Password prompt, enter the desired definer password twice.

Because a password does not appear on the screen when it is being entered, enter the password once, then enter the same password again to verify that the correct password has been established. If the password is entered incorrectly the second time, you must redefine the password. A password may contain as many as 10 characters.

If you do not want to enter a definer password, press Cancel (F1) to return to the panel. You can also press Cancel if you make a mistake while entering the password and want to start over.

Once a definer password is established, the Supervisor Password prompt appears on the screen. At this point, you can either enter a supervisor password or press Cancel to return to the panel without setting a supervisor password.

If a supervisor password has not been created, and you want to change the definer password, press System. When the Definer Password prompt appears on the screen, enter the new password. If a supervisor password has been defined, press Define Panel (Alt-F8) and enter the old definer password. Then, press System again to create a new definer password.

Create a Supervisor Password

Supervisor passwords cannot be created unless a definer password has already been created for the database. A supervisor password lets the supervisor change the supervisor password, and assign or change the user passwords. In addition, supervisor passwords also allow access to remove multiple records (see *Deleting One or More Records* under *Records* in *Reference*).

A supervisor password lets supervisors create, edit, and run reports. It also allows access to all of the System Operations options except Format Defaults (see *System Operations* in *Reference*). When supervisors press System (Shift-F9) to access the System Operations menu, they may need to enter the supervisor password in the instruction box (if user passwords also exist in the database). If the correct supervisor password is entered, the System Operations menu appears on the screen. If an incorrect password is entered, the cursor returns to the panel. If supervisors attempt to access Format Defaults (option 2) from the System Operations menu, they are returned to the panel.

To assign or change a supervisor password,

- 1 Be sure the System Operations menu is on the screen.

- 2 Select Define Password (5) to display the Define Passwords by Supervisor screen.
- 3 At the Supervisor Password prompt, enter the desired supervisor password twice.

Because a password does not appear on the screen when it is being entered, enter the password once, then enter the same password again to verify that the correct password has been established. If the password is entered incorrectly the second time, you must redefine the password. A password may contain as many as 10 characters.

If you do not want to enter a supervisor password, press Cancel (F1) to return to the panel. You can also press Cancel if you make a mistake while entering the password and want to start over.

Once a supervisor password is established, the Read/Write User Password prompt appears on the screen. At this point, you can either enter a Read/Write User password or press Cancel to return to the panel.

**Create a Read/
Write User
Password**

A read/write user password cannot be created unless a definer password and a supervisor password have already been created for the database. A read/write user password allows a user to create, edit, and delete data from the database, and to create, edit, and run reports.

A read/write user password does not allow access to the System Operations menu (see *System Operations in Reference*) or to features that modify the structure of the database. If users attempt to access the System Operations menu, or attempt to select features that modify the database structure, they are prompted to enter an authorized password (definer or supervisor password) in the instruction box. Because users do not have a valid password for these features, they should press Enter. The cursor then returns to the panel.

To assign or change a read/write user password,

- 1 Be sure the System Operations menu is on the screen.
- 2 Select Define Password (5) to display the Define Passwords by Supervisor screen.

You need to enter a supervisor password before you can assign a read/write user password.

- 3 At the Supervisor Password prompt, enter the desired supervisor password twice.

Because a password does not appear on the screen when it is being entered, enter the password once, then enter the same password again to verify that the correct password has been established. If the password is entered incorrectly the second time, you must redefine the password. A password may contain as many as 10 characters.

- 4** At the Read/Write User Password prompt, enter the desired password twice.

If you do not want to enter a read/write user password, press Cancel (F1) to return to the panel. You can also press Cancel if you make a mistake while entering the password and want to start over. The cursor returns to the panel.

**Create a
Read-Only
Password**

A read-only user password cannot be created unless a definer password, a supervisor password, and a read/write user password have already been created for the database. A read-only user password only allows a user to browse through records in a database. This password does not allow a user to create, edit, or delete data from the database.

A read-only user password lets users run reports, but not create new reports. A user with this password can change existing reports using the options on the Report menu, but cannot edit the report form (option 8 on the Report menu) or change the report name (option 9 on the Report menu). If a user modifies an existing report option, the modified report can only be accessed during the current database session. Any modifications made to reports by read-only users are deleted once the user exits the report.

To assign a read-only user password,

- 1** Be sure the System Operations menu is on the screen.
- 2** Select Define Password (5) to display the Define Passwords by Supervisor screen.

You need to enter a supervisor password and a read/write user password before you can assign a read-only user password.

- 3** At the Supervisor Password prompt, enter the desired supervisor password twice.

Because a password does not appear on the screen when it is being entered, enter the password once, then enter the same password again to verify that the correct password has been established. If the password is entered incorrectly the second time, you must redefine the password. A password may contain as many as 10 characters.

- 4 At the Read/Write User Password prompt, enter the desired password twice.
- 5 At the Read-Only User Password prompt, enter the desired password twice.

If you do not want to enter a read-only user password, press Cancel (F1) to return to the panel. You can also press Cancel if you make a mistake while entering the password and want to start over. The cursor returns to the panel.

After creating a password, you must exit the database, then reenter it for the password to take effect.

Starting Transaction Log

A transaction log records all of the modifications made to the data in a database. It is a history of all the records that have been created, edited, or deleted (records deleted by using Multiple Remove are not included in the transaction log).

The transaction log does not take the place of performing regular backups of data. It only records the changes made to the data.

Several uses for transaction logs are listed below.

- Transaction logs can keep track of all changes made to the data in a database. If a computer failure should occur, a backup of the data could be imported back into the database, then the transaction log could be imported to recover the transactions that took place since the backup was performed.
- Transaction logs can be used to keep information current in a master database that receives its data from several identical "data entry" databases. Each of the data entry databases generates a log of all the changes made to its data. This log can then be imported into the master database. Any records that had been created, edited, or deleted in the data entry database would be created, edited, or deleted in the master database.
- Data can be exported and used externally, and then imported back into DataPerfect (see *Export and Import Data in Reference*). If the data was modified while out of DataPerfect, a log could be created manually, and then imported. The transactions would then be executed in the database, making the transaction log current.

Log Format

The transaction log file is a delimited DOS text file. This file can be created or edited in any text editor.

Three kinds of transactions are recorded by DataPerfect: Create, Edit, and Delete. Each transaction begins with a header that contains the kind of transaction, the date and time the transaction was made, and the word "user ID." The body of each transaction is different, depending on the type. Each syntax is shown below.

Create

```
#C:date time:user ID  
=panel number=field list**
```

Edit

#E:date time:user ID
=panel number=index 1+index field list++
field list**

Delete

#D:date time:user ID
=panel number=index 1+index field list>++

Create, Edit, and Delete each contain a field list with the following syntax.

**field number (e.g., 1, 2, or 3) "data to be included in the field"*

This syntax should be repeated for each field in the field list. The field list is terminated by two asterisks (**).

Field data is enclosed within double quotation marks (" "). If the data contains quotation marks, additional quotation marks are added to the existing marks. For example, assume that the sentence below was entered in a field:

Shakespeare's Hamlet said, "To be or not to be, that is the question."

Because the above sentence contains quotation marks, it would appear in the transaction log like this:

"Shakespeare's Hamlet said, ""To be or not to be, that is the question.""

Text fields are also enclosed within quotation marks. The letters *CR* (carriage return) are included in the transaction log to indicate when a carriage return has been inserted in the field. If the text has been allowed to wrap, *CR* is not inserted.

Each line of a transaction is delimited by a <CR><LF> (carriage return, line feed) in DataPerfect. However, DataPerfect imports a file containing any combinations of <CR><LF> (e.g., <CR>, <LF>, <CR><LF>, <LF><CR>). DataPerfect also accepts a page break character (ASCII 12) as an end of line marker. During an import, all of these characters are ignored. All blanks which are not part of data values are also ignored.

Both the Edit and Delete Transactions use index 1 to identify the records which have been edited or deleted.

During an import, if the panel number or index number is invalid, the import stops and you are given the option to stop or to skip the transaction and continue the import. If you choose to stop, the import ceases and you are returned to the database. You may then edit the log in a text editor and reimport. If you continue, the transaction is skipped. The same thing occurs if no record is found (in the case of an Edit Transaction) or if a duplicate Create Transaction is found.

Sample Transactions

Below is an example of a Create Transaction.

```
#C:09/18/1988 15:31:02 user ID  
=1=*1"519-42-3853"*2"Fred Q. Jones"*3"Smith's Bakery"  
CR "3059 30th Street"  
*4"Boulder"*5"CO"*6"80301"***
```

This record was created on 09/18/88 at 3:31 p.m. by a user. The record is in the first panel (=1=). Field one (*1) contains the Social Security number (519-42-3853). Field two (*2) contains a person's name (Fred Q. Jones). Field three (*3) is a text field containing the address (Smith's Bakery, 3059 30th Street). Fields four, five, and six (*4, *5, and *6) contain the city (Boulder), state (CO) and ZIP code (80301) respectively.

Below is an example of an Edit Transaction.

```
#E:09/23/1988:10:01:34 user ID  
=1=1+1"519-42-3853"++  
*3"Smyth's Bakery"  
CR "3059 30th Street"  
*4"Denver"***
```

This record was edited on 09/23/88 at 10:01 a.m. by a user. The record is in the first panel (=1=). Index 1 is used to locate this record (1+). The first field (and only field in this case) in the index field list is the Social Security Number field. From the data in this field, we know it is the same record as the one created in the previous example.

Only the fields that were modified are listed. Field three (*3) was edited to *Smyth's Bakery*, and field four (*4) was edited to *Denver*.

Below is an example of a Delete Transaction.

```
#D:10/02/1988 16:22:46 user ID  
=1=1+1"519-42-3853"++
```

In a Delete Transaction, only the field(s) in the index field list are recorded. That is enough to identify the record. Because index 1 contains only the Social Security number, two identical numbers could not be entered.

Multiple Remove

Records deleted by using Multiple Remove (Alt-F5) are not recorded in the transaction log. This enables Multiple Remove to be very fast. If you need to delete many records using a search condition, a report should be used. Any records deleted by a report are recorded in the log. For more information, see *Report Options (Delete Record)* under *Reports in Reference*.

Starting the Log

To start the transaction log,

- 1** Be sure the System Operations menu is on the screen.
- 2** Select Start Transaction Log (6).

You are prompted for a filename. This file is the log where all the transactions are stored.

- 3** Enter an appropriate filename for the log.

If a filename already exists for the transaction log, the message appears on the screen: "*Filename* exists. Proceed? (Y/N) N." If you type **y**, the information in the existing file is deleted, and the transaction log begins keeping track of new transactions.

Any changes made to the data are now recorded in the log file.

Stopping Transaction Log

To stop the transaction log,

- 1 Be sure the System Operations menu is on the screen.
- 2 Select Stop Transaction Log (7).

The log no longer records any changes made to the data. Stopping the transaction log does not erase the data in the log. You can still access the information in the log if it has not been deleted previously.

Importing Transaction Log

Should you need to recover transactions made to the data, the log can be imported into your database.

Remember, the transaction log is a recording of transactions made to data. Importing the log plays back those transactions, it does not undo them.

To import the transaction log,

1 Be sure the System Operations menu is on the screen.

The transaction log must be stopped before you can import data.

2 If the transaction log has been started, select Stop Transaction Log (7) to stop the log.

3 Select Import Transaction Log (8).

The log replays the transactions made to the data. If a duplicate Create Transaction is found, you are given the option to stop or to skip the transaction and continue the import. If you choose to stop, the import ceases and returns you to the database. You may then edit the log in a text editor and reimport. If you continue, the duplicate Create Transaction is skipped.

Logs can also be created manually in a text editor by typing the changes using the log format (see *Starting Transaction Log* under *System Operations* in *Reference*).

Definer Banner

When you first select a database from the database list, a "Please Wait" message appears in the instruction box. Then the panel list is displayed. Definer Banner lets you enter a custom message in the instruction box which replaces the "Please Wait" message.

To change the "Please Wait" message to a custom message,

- 1 Be sure the System Operations menu is on the screen.
- 2 Select Definer Banner (9).

An empty instruction box is displayed, with the message "Edit User Banner" in the lower left corner.



- 3 Enter the message you want to display in the instruction box. As many as six lines of text can be viewed.
- 4 When finished, press **Save** (F10) or **Exit** (F7) to return to the panel.

Backup

Power outages, computer failures, and disk failures can erase information in your database. To avoid losing time and data, periodically make backup copies of all database files. Ideally, a backup should be made at the end of each day, or at the end of database sessions in which records have been added or edited. To perform a backup, use the DOS Copy or Backup command at the DOS prompt. You can also perform an export as a backup. However, an export should be used in addition to, not in place of, a regular backup (see *Exporting Data from a Database to a Disk File* under *Export and Import Data in Reference*).

Database Files

Each database displayed in the database list has three files (.STR, .IND, and .TXX) and at least one data file. For example, if the database name is Customer, the three files are CUSTOMER.STR, CUSTOMER.IND, and CUSTOMER.TXX. The names of the data files are found at the top left of each panel. If the database contains more than one panel, be sure to copy the files for each panel.

When performing a backup, copy the .STR and .TXX files and all data files onto a blank, formatted diskette. The .IND file is regenerated when you enter a database and will not require a backup copy. If the files are relatively small, they will fit on one diskette. Files from a hard disk may require several diskettes. If a file is too large for one diskette, use the DOS Backup command (refer to your DOS manual for more information).

Convert

The CONVERT.EXE file is located on the DataPerfect Learning diskette. CONVERT.EXE converts files from other formats to WordPerfect merge format, and vice versa.

To use the Convert program,

- 1 From the DOS prompt, change to the drive or directory where the CONVERT.EXE file is located.

If you are using a two disk drive system (no hard disk), change to the drive or directory where the files you are converting are located and insert the DataPerfect Learning diskette into drive A.

- 2 Type **convert** and press **Enter**.

*If you are using a two disk drive system (no hard disk), type **a:convert** and press **Enter**.*

- 3 Enter the path and name of the file to be converted (input file) (e.g., NAME.TXT).
- 4 Enter the path and name for the converted (output) file (e.g., NAME.DAT). The input and output filenames must be different.

When entering the input and output filenames, you can use the question mark (?) and asterisk (*) to create a filename pattern. A question mark represents one character; an asterisk represents a series of characters. For example, to convert all of the files in a directory that end with a .DOC extension, type *.DOC for the input filename. The output filename *.WP creates conversion files using the same filenames, but with .WP extensions.

- 5 Select an option (see *Options* below).

The file now is ready to be imported into DataPerfect.

- 6 Import the output file into DataPerfect (see *Importing Data into a Database* under *Export and Import Data* in *Reference*).

Options

After entering the input and output filenames, the following options are displayed:

- 1 WordPerfect to another format
- 2 Revisable Form Text (IBM DCA FORMAT) to WordPerfect
- 3 Navy DIF Standard to WordPerfect
- 4 WordStar 3.3 to WordPerfect
- 5 MultiMate 3.22 to WordPerfect

- 6 Seven-bit Transfer Format to WordPerfect
- 7 WordPerfect 4.2 to WordPerfect 5.0
- 8 Mail Merge to WordPerfect Secondary Merge
- 9 WordPerfect Secondary Merge to Spreadsheet DIF
- A Spreadsheet DIF to WordPerfect Secondary Merge

Mail Merge (8), WordPerfect Secondary Merge (9), and Spreadsheet DIF (A) are the only formats available for use with DataPerfect.

Mail Merge

This conversion is useful for dBASE, WordStar, and other delimited files. The converted file is in WordPerfect Secondary Merge format (^R is used to separate fields and ^E to separate records).

When you select this option, CONVERT asks for the field delimiter, record delimiter, and characters to be deleted from the file. To specify a carriage return and/or line feed as part of a record delimiter, type {13} and/or {10} respectively.

WordPerfect Secondary Merge

This option converts a WordPerfect Secondary Merge file into a Spreadsheet DIF format. Records become rows, and fields become cells.

Spreadsheet DIF

This option converts a spreadsheet DIF file to a WordPerfect Secondary Merge format. Rows become records, and cells become fields.

Quick Convert

You can convert files from the DOS command line without advancing through the menus. You can also enter several command lines in a batch file to do multiple conversions.

To use Quick Convert with a hard drive system,

- 1 Be sure you are in the directory which contains the DataPerfect program files (e.g., C:\DATA).
- 2 At the DOS prompt, enter **convert** *<input filename>* *<output filename>* *<n>* *<field delimiter>* *<record delimiter>* *<delete characters>*

n represents the chosen conversion option.

To use Quick Convert with a two disk drive system,

- 1 Insert the diskette you labeled DataPerfect Learning into drive A.

- 2 At the DOS prompt, enter **a:convert** *<input filename>* *<output filename>* *<n>* *<field delimiter>* *<record delimiter>* *<delete characters>*

n represents the chosen conversion option.

Example:

```
a:convert name.txt name.dat 7 , {13}{10} "
```

The field delimiter, record delimiter, and characters to be deleted are needed only if Mail Merge is used for the input file type.

Description Language

Description Language is the term used to describe the .STE file (a text file that describes the database structure). It is produced by an export program which can be used to do the following:

- Print or view a description of a database structure.
- Export a database structure.
- Modify the database structure to produce variations of an application.
- Export and import reports.

Note to Users of Non-English Versions

Do not translate the Description Language of the .STE file into your language. By doing so, you will be unable to interchange database descriptions with users of other language versions of DataPerfect.

Exporting a Database Structure

To convert a DataPerfect database structure to the readable form of the .STE file,

- 1 Make a backup copy of your database (see *Backup* in the *Appendix*).

Be sure you are in the directory in which the DataPerfect program files are located, then follow the steps below.

- 2 At the DOS prompt, type **dpexp** and press **Enter**.

The database list is displayed.

- 3 If necessary, select Change Directory (1) to move to the directory where the desired database is located.
- 4 Move the cursor to the database you want to export, then press **Enter**.

As the file is exported, it scrolls on the screen. When the export is finished, the DOS prompt returns to the screen.

A file is created using the same name as your database, except with a .STE (structure export) extension. This .STE file is only a copy. The original structure file is retained on the disk. The copy can be retrieved into a text editor (e.g., WordPerfect Corporation's Program Editor) or directly into WordPerfect via the Text In/Out feature. The .STE file can then be edited or printed. When using Text In/Out, save the .STE file as a text file so that it can be imported properly.

Importing a Database Structure

To import a DataPerfect database structure into DataPerfect, be sure you are in the directory in which the DataPerfect program files are located, then follow the steps below.

1 At the DOS prompt, type **dpimp** and press **Enter**.

A list of exported database structures found in the current directory is displayed.

2 If necessary, select Change Directory (1) to move to the directory where the desired database is located.

3 Move the cursor to the database you want to import, then press **Enter**.

The .STE file scrolls on the screen. When the import is finished, the DOS prompt returns to the screen.

4 Start DataPerfect.

5 From the database list, move the cursor to the name of the newly imported database, then press **Enter**.

6 When prompted, re-create the .TXX and .IND files.

7 Import any data files you have exported (see *Importing Data into a Database* under *Export and Import Data* in Reference).

The database is now ready for use.

.STE File Information

The .STE file is divided into five sections:

- A description of overall database characteristics.
- Descriptions of each panel in the database.
- Descriptions of each field within a panel.
- Descriptions of each index defined for a panel.
- Descriptions of each custom report in the database.

The Description Language statements for each of these sections are described in the following sections of *Description Language*. The order of each statement is the order expected when DPIMP is run.

Database Descriptions

Once you have exported a database, and a .STE file exists for that database, you can observe the database structure in the Description Language.

The database statements consist of the following:

- Database name (informational only and treated as a comment)
- Color specifications for menus and reports
- Default specifications for numbers
- Default specifications for dates
- Default specifications for times
- Current date and time display
- Default specifications for month abbreviations
- Specifications for keyboard mapping and character sorting

Below is a sample of what the database statements might look like:

```
DATABASE: B:CUSTOMER.STR
COLORS=7 112 15 23 31
DEF_PERIOD:
DEF_COMMA:
YMD:MDY
HMS:HMS
TOP_LINE:NO
MONTHS:" JANFEBMARAPR MAYJUNJUL AUGSEP OCTNOVDEC"
```

Each of these statements can be changed within the specified parameters.

DATABASE:

Gives the name and location of the database at the time it was exported.

Example:

DATABASE:C:\DATA\CUSTOMER.STR

If the .STE file is imported using DPIMP, the new database will have the same name as the .STE file, except with a .STR extension.

COLORS=

This statement is followed by a series of numbers which specify the colors used for menus, report editing, and default colors for panels. The numbers are in decimal form and appear in this order: regular color, field edit, bold, underline, both bold and underline.

Each color is assigned a number. The available colors and their corresponding numbers are listed below.

0 = black	8 = gray
1 = blue	9 = light blue
2 = green	10 = light green
3 = cyan	11 = light cyan
4 = red	12 = light red
5 = magenta	13 = light magenta
6 = brown	14 = yellow
7 = white	15 = high intensity white

The order of the formula for numbers is:

background color * 16 + foreground color

For example, the following formula is appropriate for white on a black background:

$$0 * 16 + 7 = 7$$

The following formula is appropriate for black on a white background:

$$7 * 16 + 0 = 112$$

Example:

COLORS=7 112 15 23 31

If the database definer has not specified any colors, the default setting is the same as in the example above.

The numbers in this example specify white on a black background for regular color, reverse video (black on white) for field edit, and high intensity white on black for bold.

The last two colors depend on the monitor display. The color 23 on a monochrome monitor is regular color with underline, and the color 31 is bold with underline. On most color monitors, these numbers display as white on a blue background and high intensity white on a blue background, respectively. See *Select Colors for Menu and Report Editing* under *Screen* in *Reference*.

DEF.PERIOD:

Specifies the character to be used as the decimal marker in G Type numeric field formats (if the format does not contain that specification). A period (.) is the default decimal marker.

Example:

DEF.PERIOD:.

See *Format Defaults* under *System Operations* in *Reference* for more information.

DEF.COMMA:

Specifies the character to be used as the thousands separator in G Type numeric field formats (if the format does not contain that specification). A comma (,) is the default thousands separator.

Example:

DEF.COMMA:,

See *Format Defaults* under *System Operations* in *Reference* for more information.

YMD:

Specifies the order of the year, month, and day in date field formats (if the format does not contain that specification). The letters *YMD* may be specified in any order. *MDY* is the default order.

Example:

YMD:MDY

See *Format Defaults* under *System Operations* in *Reference* for more information.

HMS:

Specifies the order of the hour, minutes, and seconds in time field formats (if the format does not contain that specification). The letters *HMS* may be specified in any order. *HMS* is the default order.

Example:

HMS:HMS

See *Format Defaults* under *System Operations* in *Reference* for more information.

TOP.LINE:

Specifies that the current date and time are to be displayed on the top line of the instruction box. If *NO* is specified, the current date and time are not displayed.

Example:

TOP.LINE:YES

See *Top Line Display* under *Screen* in *Reference* for more information.

MONTHS:

Gives the three-letter abbreviations used in the report format DZ9MON9999. The abbreviations are delimited by tildes (~).

Example:

**MONTHS:~JANFEBMARAPRMAYJUNJULAUGSEP
OCTNOVDEC~**

See *Format Defaults* under *System Operations* in *Reference* for more information.

AUTO.HELP

If displayed, specifies that Auto-Help is on.

See *Auto-Help* under *Screen* in *Reference*.

BANNER:~message~

If displayed, specifies a custom message which appears when a user first enters a database.

Example:

BANNER:~Welcome to the CUSTOMER database.~

See *Definer Banner* under *System Operations* in *Reference* for more information.

ALT.MAP: and CTRL.MAP:

These statements specify the mapping of the Alt A-Z and Ctrl A-Z keys.

Example:

```
ALT.MAP:234 247 245 236 226 237 238 239 231 240 241 242 253 251 232 233
224 227 235 228 230 246 225 244 229 243
CTRL.MAP:168 136 137 138 5 163 129 161 162 167 160 166 130 147 148 149
150 18 156 131 132 128 135 135 164 141
```

256 character codes are recognized by DataPerfect. For example the characters 0 through 9 are represented internally by the ASCII values 48 through 57. The uppercase characters A through Z are represented by the ASCII values 65 through 90. The lowercase characters a through z are represented by the ASCII values 97 through 122. These are the codes commonly used on microcomputers (including all PC compatibles).

The example above shows the default settings for the Alt and Ctrl keys. To change the settings, use the Map Alt and Ctrl Keys option in DataPerfect. See *Map Alt and Ctrl Keys* under *Screen in Reference* for more information.

UP.CASE: and SORT:

The Index feature in DataPerfect performs two operations on characters. First, it converts all characters to uppercase for the creation of keys that are used to look up records in an index. Second, it sorts characters according to a Sort Order table.

If you are not using international characters, you do not need to alter either of these tables.

```

UP.CASE:0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79
80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95
96 97 98 99 100 101 102 103 104 105 106 107 108
109 110 111 112 113 114 115 116 117 118 119 120 121 122 123
124 125 126 127
128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143
144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159
160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175
176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191
192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207
208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223
224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255

DOWN:0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79
80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95
96 97 98 99 100 101 102 103 104 105 106 107 108
109 110 111 112 113 114 115 116 117 118 119 120 121 122 123
124 125 126 127
128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143
144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159
160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175
176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191
192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207
208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223
224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255

```

The tables above map the standard international characters correctly.

See *Modifying a Character's Sort Order in an Index and Mapping Uppercase Letters under System Operations in Reference* for more information.

PRINTER.MAP

If your printer does not print a specific character you need (e.g., a non-English character), you can map it to the printer.

The Printer Map function in DataPerfect uses a simple single character map which only affects printing. It does not affect the display on the screen or in the files.

```
PRINTER_MAP(0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79
80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111
112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127
128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143
144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159
160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175
176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191
192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207
208 209 210 211 212 213 214 215 216 217 218 219 220 221 222
223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
```

See *Mapping the Printer to Include International Characters under Screen in Reference* for more information.

Panel Descriptions

This section contains the specifications for each panel. The panel statements consist of the following:

- Panel number
- Filename
- Panel name
- Panel display location
- Panel display size
- Panel display colors
- Specifications for Auto-Save or Auto-Display Record
- Panel text and the position of fields in the panel

Below is a sample of what the panel statements might look like:

```
PANELS:
PANEL:1 FILE: CUSTOMER.PER
NAME:"Customer Information"
X=1 Y=9 WIDTH=77 HEIGHT=14 RECORD.SIZE: 109 COLORS=7 112 15 AUTO.LOOK
BROWSE.CHANGE.EDIT
PANEL.TEXT:
      CUSTOMER INFORMATION" CR
CR
~Customer ID ~ RF:1;5 CR
~Last Name ~ RF:2;20 ~ First ~ RF:3;15 ~ Middle ~ RF:4;15 CR
CR
~Address ~ City ~ ST ~ Zip ~ CR
RF:5;30 ~ RF:6;15 ~ RF:7;2 ~ RF:8;10 CR
~ Hm Phone ~ RF:9;13 ~ Wk Phone ~ RF:10;13 CR
CR
~Comments ~ CR
RF:11;45 ~ Last Inv Date ~ DF:13;8 CR
CR
~ Balance Due ~
RF:14;15 CR
~; ~ CR
Payments ~ Door:16;1 ~ Invoices ~ Door:15;1
END.PANEL.TEXT
```

Each of these statements can be changed within the specified parameters.

PANELS:

Notifies you that information about each panel in the database is shown below.

PANEL:n FILE: *filename*

Gives the panel number and the filename for the data file. The filename can be any legal DOS filename with or without a drive and path specification.

Example:

PANEL:4 FILE: CUSTOMER.PER

NAME:~panel name~

Gives the optional name for the panel. This is the name which appears on the panel list. If a panel name is not specified, the filename appears on the panel list instead. The panel name is delimited by tildes (~).

Example:

NAME:~Customer Information~

X:n Y:m

Designates the location of the upper left corner of the panel. The upper left corner of the screen is regarded as point 0,0. The uppermost left position allowed is 1,9. This position places the left window line along the left edge of the screen, and the top line of the panel begins on the ninth line (the upper third of the screen is reserved as an information box).

Example:

X=1 Y=9

WIDTH=n HEIGHT=m

Gives the width and height of the panel in characters. The maximum width is 77 (0 is a character, making 78 characters possible). The maximum height is 14 (which gives 15 lines in the panel—lines 0 through 14).

Example:

WIDTH=77 HEIGHT=7

RECORD.SIZE:n

Specifies the number of bytes DataPerfect needs for each record in the panel.

Example:

RECORD.SIZE:151

COLORS=

Specifies the colors for the panel text, field edit, and field color when not being edited. These colors use the same table specified under *Database Descriptions* above.

Example:

COLORS=7 112 15

See *Panel Options (Change Color)* under *Panels in Reference* for more information.

AUTO.SAVE and/or AUTO.LOOK

If present, *AUTO.SAVE* saves a record being created as soon as data is entered into the last field in the panel. *AUTO.LOOK* displays each record in the panel when you scroll through a lookup list.

BROWSE.CHANGE.

Specifies the selected setting when a user attempts to edit a field while in Browse mode. Possible settings are *EDIT*, *CREATE*, and *MENU*.

Example:

BROWSE.CHANGE.CREATE

See *Panel Options (Auto-Edit/Auto-Create/Menu)* under *Panels in Reference*.

PANEL.TEXT and END.PANEL.TEXT

Begins with *PANEL.TEXT* and ends with *END.PANEL.TEXT*. Between these two statements is the layout of the panel. All panel text is displayed, including spaces typed in the panel.

The panel text is delimited by tildes (~). All fields and links are displayed in their appropriate positions in the panel. A *CR* represents a carriage return at the end of a line.

Fields use the codes *RF* (real fields), *DF* (display fields), and *HF* (hidden fields). The field number and field size (in characters) follow the field codes, and are separated by a semicolon (;).

A panel link uses the code *DOOR*, and a data link uses the code *DOORWAY*.

Field Descriptions

This section contains the specifications for each field in a panel. The field statements consist of the following:

- Field number
- Location of the field
- Field format
- Field offset
- Initialization value
- Formula(s)
- Range value
- Help message
- Specifications for totals
- Fields included in the lookup field list
- Data link definition(s)
- Data checking option
- Fields included in the search field list
- Auto-incrementing field value

Below is a sample of what the field statements might look like:

```
FIELD:
FIELD:1 X=12 Y=2 FORMAT:"099999:11"
FIELD.OFFSET:0
VALUE:"0000"

FIELD:2 X=10 Y=3 FORMAT:"A20"
FIELD.OFFSET:4
LOOKUP: INDEX:1 FIELDS:2 3 4 1

FIELD:3 X=37 Y=3 FORMAT:"A15"
FIELD.OFFSET:24

FIELD:4 X=60 Y=3 FORMAT:"A15"
FIELD.OFFSET:39

FIELD:5 X=0 Y=6 FORMAT:"A30A2"
FIELD.OFFSET:74

FIELD:6 X=31 Y=6 FORMAT:"A15"
FIELD.OFFSET:57
LOOKUP: INDEX:1 FIELDS:2 6 1

FIELD:7 X=48 Y=6 FORMAT:"U2:1K"
FIELD.OFFSET:72
HELP:

NOTE
This is a two-character field for a state abbreviation.
The amount
Type the standard two-digit postal abbreviation."
LOOKUP: INDEX:3 FIELDS:7 2 3 4

FIELD:8 X=52 Y=6 FORMAT:"99999-9999:1E"
FIELD.OFFSET:74
LOOKUP: INDEX:4 FIELDS:8 1 2 3

FIELD:9 X=40 Y=7 FORMAT:"999999-9999:1E"
FIELD.OFFSET:78

FIELD:10 X=60 Y=7 FORMAT:"999999-9999:1E"
FIELD.OFFSET:86

FIELD:11 X=0 Y=10 FORMAT:"A5A3"
FIELD.OFFSET:94

FIELD:13 X=70 Y=10 FORMAT:"999/99/99:1C"
FIELD.OFFSET:10
INITIAL:ATCHANGE
FORMULA: FIELD:P1P15P2P4
FORMULA.END
```

Each of these statements can be changed within the specified parameters.

FIELDS:

Notifies you that information about each field in the panel is shown below.

The fields are listed in edit order. Each field contains a field number, field location (x-y pair), field format, and field offset. All other field specifications are optional.

FIELD:

Gives a number representing the field's creation order.

Example:

FIELD:9

This example indicates that the field was the ninth one created in the panel.

X=n Y=m

Designates the location of the field in the panel. X represents the number of spaces to the right of the panel's left edge. Y represents the line of the panel on which the field is located.

Example:

X=2 Y=0

This example shows the location of a field as two spaces to the right of the panel's left edge, on the first line of the panel (0 represents the first line).

FORMAT:

Gives the field's format. The format is delimited by tildes (~).

Example:

FORMAT:~G\$ZZ,ZZ99.99::C~

INITIAL.AT:

Gives the setting for initialization. The statement ends with *CREATE*, *EDIT*, or *CHANGE*.

Example:

INITIAL.AT:CHANGE

This example shows the statement for the setting "Automatically computed at any change and when record is saved."

If an initialization statement exists, either a value or a formula statement must also be specified.

See *Field Options (Initialize at Create/Save/Any Change)* under *Fields in Reference* for more information.

VALUE= or FORMULA:

These statements give either the initial value or the initial formula for the field. References to fields included as part of the formula begin with *FIELDS=*. Other parts of the formula are character strings, delimited by tildes (~). Carriage returns are shown as *CR*. The end of a formula is designated by the code *FORMULA.END* followed by a semicolon (;).

Example:

```
FORMULA:~66,000 ~ FIELD=P2F3  
FORMULA.END;
```

See *Field Options (Initial Value and Initial Formula)* under *Fields in Reference* for more information.

CHECK AT:

Gives the setting for validation time. The statement ends with either *CHANGE* or *SAVE*.

Example:

```
CHECK.AT:CHANGE
```

This example shows the setting for "Validated when record is edited."

If a validation time statement exists, a range must also be specified.

See *Field Options (Validation Time (Edit/Save))* under *Fields in Reference* for more information.

RANGE:~value1~ TO:~value2~

Specifies the range where the first value and the second value are delimited by tildes (~).

Example:

```
RANGE:~84601~ TO:~84604~
```

This example checks to be sure the field contains a value between 84601 and 84604.

See *Field Options (Range Check)* under *Fields in Reference* for more information.

HELP:~message~

Displays the text of a custom help message defined for this field. The message is delimited by tildes (~).

Example:

HELP:~Type the standard two-digit postal abbreviation.~

See *Defining a Help Screen Using Edit Help* under *Fields in Reference* for more information.

POSITIVE.TOTAL: FIELD= or NEGATIVE.TOTAL: FIELD=

These statements give the field number of the link and the field number in the destination panel where the total of values in the specified field is kept. *POSITIVE* adds the values together and *NEGATIVE* subtracts the values.

Example:

POSITIVE.TOTAL:FIELD=5 4

In this example, 5 represents the field number where the link is located, and 4 represents the field number in the destination panel.

See *Field Options (Keep Total)* under *Fields in Reference* for more information.

LOOKUP:INDEX:n FIELDS:

Gives the index number and the fields included in the lookup field list for this field.

Example:

LOOKUP:INDEX:1 FIELDS:1 4 6

This example indicates that fields 1, 4, and 6 should be displayed and sorted according to index 1 when a lookup is performed on this field.

See *Lookup Field Lists* under *Field Lists and Indexes in Reference* for more information.

DATA LINK.TO.PANEL:n TFIELD:m INDEX:p FIELDS:

The definition for a data link.

Example:

**DATA LINK.TO.PANEL:3 TFIELD:1 INDEX:3
FIELDS:6 7**

This example indicates that the data link connects to panel 3, the target field in the destination panel is field 1, the data link uses the third index in the destination panel, and fields 6 and 7 (in the source panel) are the common fields used in the link field list.

See *Data Links* under *Links in Reference* for more information.

NOT.FOUND.SPEC:

This statement may follow the data link statement above, and specifies an option for when a value is entered in the source panel that does not exist in the destination panel. The statement includes one of the following options: *AUTO-CREATE*, *PROMPT-CREATE*, *NO-CREATE*, or *DON'T-CHECK*. *PROMPT-CREATE* is the default setting.

Example:

NOT.FOUND.SPEC:PROMPT-CREATE

See *Data Links* under *Links* in *Reference* for more information.

SEARCHLIST:

Gives the list of fields included in a search field list specified for the field. All of the fields in the list must have the same field format. When this field is specified in a range or template search, all of the other fields in the list are also included in the search. The search is satisfied if any of the fields match the search specifications.

Example:

SEARCHLIST: 4 7 10 13 16 19 22 25

This example indicates that fields 4, 7, 10, 13, etc. are included in the search when a search is performed on this field.

See *Search Field Lists* under *Field Lists and Indexes* in *Reference* for more information.

VALUE=~value~

Specifies a value for the next created record in an auto-incrementing field. The value is delimited by tildes (~).

Example:

VALUE=~1~

This example causes the next record created to receive the number 1 in this field.

See *Field Options (Set Value for Next Created Record)* under *Fields* in *Reference* for more information.

Panel Link Descriptions

This section contains the specifications for each panel link in a panel. The panel link statements consist of the following:

- Panel link number
- Location of panel link
- Destination panel
- Target panel
- Index for destination panel
- Fields in the link field list
- Location of window

Below is a sample of what the panel link statements might look like:

```
PANEL LINK: 5 X=49 Y=3 TO.PANEL:3 TFIELD:2 INDEX:1 FIELDS:3  
AUTO.DISPLAY.TOP X=0 Y=6 WIDTH=57 HEIGHT=6 FIELDS:2 3 4 5  
PANEL LINK: 15 X=49 Y=14 TO.PANEL:2 TFIELD:4 INDEX:1 FIELDS:1
```

Each of these statements can be changed within the specified parameters.

PANEL LINK:*n* X=*m* Y=*p* TO.PANEL:*r* TFIELD:*s* INDEX:*t* FIELDS:*v*

The definition for a panel link.

Example:

```
PANEL LINK:6 X=71 Y=6 TO.PANEL:3 TFIELD:2  
INDEX:1 FIELDS:4
```

This example indicates the following:

- The panel link is the sixth field in the panel's creation order.
- The panel link is located 71 spaces to the right of the panel's left edge, and is on the seventh line of the panel (0 represents the first line).
- The destination panel is panel 3.
- The target field in the destination panel is field 2.
- The panel link uses the first index in the destination panel.
- Field 4 (in the source panel) is the only common field used in the link field list.

AUTO.DISPLAY.TOP/BOTTOM X=*n* Y=*m* WIDTH=*p* HEIGHT=*r*

Specifies information for a window (if a window has been defined) in a panel link. *TOP* or *BOTTOM* indicates which line in the window is filled first. The *X* and *Y* values indicate the location of the upper left corner of the window. The *WITH.BORDER* statement (if included) indicates that the window has a border.

Example:

**AUTO.DISPLAY.TOP WITH.BORDER X=10 Y=5
WIDTH=25 HEIGHT=6**

This example indicates the following:

- The records in the window are displayed from the top line of the window.
- The window has a border.
- The upper left corner of the window is 10 spaces from the left edge of the panel, and is on the sixth line of the panel (0 represents the first line).
- The window is 25 characters wide, and is 6 lines in height.

See *Panel Links* under *Links* in *Reference* for more information.

Index Descriptions

This section contains the specifications for each index in a panel. The index statements consist of the following:

- Index number
- Fields included in the index field list
- Field used in the exception list

Below is a sample of what the index statements might look like:

```
INDEXES:  
INDEX:1 FIELDS:2 3 4 1  
INDEX:2 FIELDS:3 2 4 1  
INDEX:3 FIELDS:7 2 3 1  
INDEX:4 FIELDS:8 1  
INDEX:5 FIELDS:1  
PANEL.END
```

Each of these statements can be changed within the specified parameters.

INDEXES:

Notifies you that information about each index in the panel is shown below.

INDEX:n FIELDS:

Specifies the index number and the fields included in the index field list. If the index contains an exception list, it follows the fields in the index field list.

Example:

```
INDEX:1 FIELDS:1 13  
INDEX:2 FIELDS:7 8 10 EXCEPTION.LIST:11
```

This example indicates that index 1 includes fields 1 and 13. Index 2 includes fields 7, 8, and 10. The exception list includes field 11.

Following the index statements is the statement:

PANEL.END

Indicates the end of all the descriptions for this panel.

Report Descriptions

The last section of the .STE file contains specifications for each custom report defined in this database. The report statements consist of the following:

- Panel on which the report is based
- Report name
- Report mode
- Index used to sort report data
- Margins used for printing
- Search specifications
- Report form specifications

Below is a sample of what the report statements might look like:

```
REPORT BASED ON PANEL:1
NAME: 'Transaction Listing'
REPORT MODE:TEXT
CREATE:DISK.FILE
REPORT:INDEX:1
TEXT: L:LINE=14 TOP.MARGIN=6 BOTTOM.MARGIN=0 LEFT.MARGIN=0
REPORT:FORM:
FIRST PAGE HEADER
TWO LEVEL REPORT ON FIELD:1
OTHER PAGE HEADER
INCLUDE: REPORT:DATA

CR
'Current Date: ' DDMM '99/99/99' Current Time: ' TIME '99/99'
Page Number: ' PAGE '022229' CR
TWO LEVEL REPORT HEADER
CONDITIONAL EJECT
NO BLANK LINE FIELD=PIF2.'ADD'
REPORT BODY
TAB TO COL:15
SUBREPORT:THRU DOOR:16 TO PANEL:5
FIRST PAGE HEADER
OTHER PAGE HEADER
TWO LEVEL REPORT HEADER
REPORT BODY
TAB TO COL:15 FIELD=PSF3;'099/99/99:1E' ' ' FIELD=PSF4;'0-822,229.99' ' '
FIELD=PSF2;'A22:1C'
TWO LEVEL FOOTER
PAGE FOOTER
FINAL FOOTER
TAB TO COL:15 'Total Transactions: ' FIELD=PSF4;'0-822,229.99':TOTAL
END SUBREPORT FOR PANEL:5
TWO LEVEL FOOTER
PAGE FOOTER
SKIP TO PAGE BOTTOM
FINAL FOOTER
'GRAND TOTAL: ' FIELD=PIF16PSF4;'0-822,229.99':TOTAL CR
'Average ' ' FIELD=PIF16PSF4;'0-822,229.99':AVERAGE CR
'Maximum ' ' FIELD=PIF16PSF1;'099999':MAXIMUM CR
'Minimum ' ' FIELD=PIF16PSF1;'099999':MINIMUM
REPORT:END;
```

Each of these statements can be changed within the specified parameters.

Report Heading

The report heading consists of general information for the report.

REPORTS:

Notifies you that information about each report in the panel is shown below.

REPORT.BASED.ON.PANEL:n

Specifies from which panel the report was created.

Example:

REPORT.BASED.ON.PANEL:2

This example indicates that the report was created from panel 2.

NAME:~report name~

Specifies the name given to the report. The report name is delimited by tildes (~).

Example:

NAME:~Variable Search Conditions on Date Field~

This example includes the report name: Variable Search Conditions on Date Field.

REPORT.MODE:

Specifies the disk file mode (DOS Text or WordPerfect) used in the report. This statement ends with either *TEXT* or *WP*.

Example:

REPORT.MODE:WP

This example indicates that the report is in WordPerfect format.

OUTPUT.FILENAME:~filename~

If displayed, specifies the disk filename to which the report should be sent. The filename is delimited by tildes (~). This statement is followed by either *CREATE.DISK.FILE* or *APPEND.DISK.FILE*.

Example:

**OUTPUT.FILENAME:~CUSTOMER.LAB~
CREATE.DISK.FILE**

REPORT.INDEX:n

Specifies which index is used to sort the data in the report.

Example:

REPORT.INDEX:3

This example indicates that the report is sorted according to index 3.

TEXT.LINES=n TOP.MARGIN=m BOTTOM.MARGIN=p LEFT.MARGIN=r

Specifies the page constraints for each page of the report.

Example:

**TEXT.LINES=54 TOP.MARGIN=6 BOTTOM.MARGIN=0
LEFT.MARGIN=0**

This example indicates that 54 lines are available for printing, 6 lines will appear at the top of the page before printing begins, and no bottom margin or left margin is set.

Search Conditions

If search conditions have been defined for the report, the search statements are displayed next.

Below is a sample of what the search statements might look like within a report description:

```
SEARCH: FORMULA: FIELD-P1F6 ~ = "Greeley"--  
FORMULA.END;  
SEARCH.END;
```

INCLUDE or EXCLUDE

Specifies whether the search includes or excludes records which match the search conditions.

SEARCH:RANGE.ON.FIELD:n ~value1~ TO ~value2~

Specifies the range of data included in the search. The first value and the second value are delimited by tildes (~).

Example:

```
SEARCH:RANGE.ON.FIELD:6 ~84601~ TO ~84604~
```

This example indicates a range search on the sixth field in the panel. The range searches for a value between 84601 and 84604.

FORMULA:

Specifies the formula to be included in the search. References to fields included as part of the formula begin with *FIELDS=*. Other parts of the formula are character strings, delimited by tildes (~). Carriage returns are shown as *CR*. The end of a formula is designated by the code *FORMULA.END* followed by a semicolon (;).

Example:

```
FORMULA:~66,000 ~ FIELD=P2F3
FORMULA.END;
```

TEMPLATE.ON.FIELD:n

Specifies the field on which a template search has been defined, and ends with the template specification (delimited by tildes).

Example:

```
TEMPLATE.ON.FIELD:9 ~Johnson~
```

This example indicates a template search on the ninth field in the panel.

SEARCH.END;

Indicates the end of the search conditions.

Report Form

The report form descriptions begin with the code *REPORT.FORM*, followed by the name of each section of the report form. The name of each section is followed by any statements for that particular section.

The codes for the sections of the report form are listed below.

```
FIRST.PAGE.HEADER
OTHER.PAGE.HEADER
TWO.LEVEL.REPORT.HEADER
REPORT.BODY
TWO.LEVEL.FOOTER
PAGE.FOOTER
FINAL.FOOTER
```

The statements in each section of the report form are for literal text (delimited by tildes), fields, or report options.

A selected field uses the following form:

```
FIELD=field number ~field format~
```

Example:

FIELD=P1F5 ~N999~

A field selected for a footer, whose value is accumulated from all of the records covered by that footer, uses the following form:

FIELD=field number ~field format-;type

The *type* can be one of the following: *TOTAL*, *AVERAGE*, *MAXIMUM*, or *MINIMUM*.

Example:

FIELD=P1F5 ~GZZ9~;TOTAL

The statements for each report option are listed alphabetically below. Letters in parentheses denote the sections of the report to which this option applies (see the following key).

Code	Report Section
FPH	First Page Header
OPH	Other Page Header
TLH	Two-Level Header
RB	Report Body
TLF	Two-Level Footer
PF	Page Footer
FF	Final Footer

For more information about any report option, see *Report Options* under *Reports* in *Reference*.

CONDITIONAL.EJECT (TLH, RB)

Specifies a Conditional Page Eject code.

CREATE.RECORD.THROUGH.LINK:n TO.PANEL:m (FPH, RB, FF)

Specifies a Create Record Through Link code or a Create Record from Panel List code.

DELETE.RECORD (RB)

Specifies a Delete Record code.

DO.IN.SUBGROUPS (FPH)

Specifies a Do Report in Subgroups code.

EJECT (FPH, TLH, TLF, FF)

Specifies a Page Eject code.

INCLUDE.AFTER.DATA (PF)

Specifies an Include After Last Record code.

INCLUDE.BEFORE.DATA (OPH)

Specifies an Include Before First Record code.

LABELS=*n* WIDTH=*m* NUMBER.OF.LINES=*p* (RB)

Specifies a Labels code.

NO.BLANK.LINE (All sections)

Specifies an Eliminate Line if Blank code.

PAGE:~*field format*~ (All sections)

Specifies the current page number of the report, and uses a G Type numeric field format.

PROMPT.FOR.VALUE.OF.RV:*n* USING FORMAT:~*field format*~ (FPH)

Specifies a Prompt for Report Variable code.

PROMPT.MSG:~*message*~

Specifies the message which appears on the screen when a report reads a Prompt for Report Variable code.

Example:

PROMPT.MSG:~Enter Beginning Date:~

RECORD: ~*field format*~ (RB, TLF, PF, FF)

Specifies one of the following codes: Record Number (RB), Number of Records in Section (TLF), Number of Records on Page (PF), or Number of Records in Report (FF). The statement is followed by the field format used to tally the records. The field format is delimited by tildes (~).

Example:

RECORD:~GZZZZZ9~

RV:*n* ~*field format*~ (All sections)

Specifies a Print Report Variable code. The format of the field being printed is delimited by tildes (~).

Example:

RV:1 ~A15~

SAVE.RECORD.IN.PANEL:*n* (FPH, RB, FF)

Specifies a Save Record code (only used in conjunction with a Create Record code).

SET.RV:*n* FORMULA: (All sections)

Specifies a Store Value in Report Variable code.

SKIP.IF.TWO.LEVEL.START (OPH)

Specifies a Skip if Start of Two-Level code.

SKIP.RECORD.IF 0=RV:n (RB)

Specifies a Skip Record if RV is False code.

SKIP.TO.PAGE.BOTTOM (FPH, RB, TLF, PF)

Specifies a Skip to Bottom of Page code.

STORE.RV:n IN.FIELD: (RB)

Specifies a Store RV in Field code.

SUBREPORT.THRU.LINK:n TO.PANEL:m (RB)

Specifies the beginning of a subreport in a report form. The code *END.SUBREPORT.FOR.PANEL:m* specifies the end of the subreport. All statements between these two statements are codes for the subreport.

TIME;~field format~ (All sections)

Specifies the time of the report, and uses a time field format.

TODAY;~field format~ (All sections)

Specifies the date of the report, and uses a date field format.

Exporting and Importing Reports

You can use DPEXP and DPIMP to export reports from one DataPerfect database and import them into another. This feature is useful if you have several computers which contain the same database structure.

***Important:** The database from which you export the reports must have the same structure as the database to which you import the reports.*

To export reports from a database and import them to another, you must first create a .STE file for the database from which you want to export the report(s). You can do this by following the steps under *Exporting a Database Structure* at the beginning of *Description Language* in the *Appendix*.

- 1 Retrieve the .STE file into a text editor (such as WordPerfect Program Editor).

Next, you need to edit the .STE file to include only the description of the report(s) you want to import. Everything else in the .STE file should be deleted.

- 2 Delete all data prior to the *REPORTS:* statement. The *REPORTS:* statement must be on the first line of the .STE file.

- 3 Delete any report which you do not want to import. The statement *REPORT.BASED.ON.PANEL:n* designates the beginning of a report. The statement *REPORT.END;* (followed by a blank line) designates the end of a report.

Once you have modified the .STE file to include only the descriptions of reports you want to import, the file should look similar to this:

```
REPORTS:
REPORT.BASED.ON.PANEL:1
NAME:"Customer Mailing Labels"
REPORT.MODE:WP
OUTPUT.FILENAME:"CUSTOMER.LAB"
CREATE.DISK.FILE
REPORT.INDEX: 1
TEXT.LINES=0 TOP.MARGIN=2 BOTTOM.MARGIN=99 LEFT.MARGIN=4
SEARCH: FORMULA: FIELD=PIF6 " = "Greeley""
FORMULA.END;
SEARCH.END;
REPORT.FORM:
FIRST.PAGE.HEADER
OTHER.PAGE.HEADER
TWO.LEVEL.REPORT.HEADER
REPORT.BODY
LABELS=2 WIDTH=35 NUMBER.OF.LINES=6
FIELD=PIF3;"A15;;1" FIELD=PIF4;"A15;;T" " " FIELD=PIF2;"A20" CR
FIELD=PIF5;"A30A0" CR
FIELD=PIF6;"A15;;T" " " FIELD=PIF7;"U2::E" " "
FIELD=PIF8;"999999-9999::E;E"
TWO.LEVEL.FOOTER
PAGE.FOOTER
FINAL.FOOTER
REPORT.END;
```

Important: The report descriptions must include a blank line after each *REPORT.END;* statement.

- 4 Save the modified .STE file and exit to the DOS prompt.

- 5 At the DOS prompt, type **dpimp** to import the reports.

A list of .STE files is displayed on the screen.

- 6 Move the cursor to the .STE file which contains the report descriptions you want to import, then press **Enter**.

The database list is displayed on the screen, along with the message: "The .STE file contains reports to be imported and added to those already in a database."

- 7 Move the cursor to the database into which you want to import the reports, then press **Enter**. (You may need to select Change Directory (1) if the database is located in another directory.)

The reports scroll on the screen and are imported into the specified database.

Error Messages

The error messages which you may encounter most often while using DataPerfect are listed below in alphabetical order. The message which appears on the screen is in bold type. It is followed by a brief explanation about the cause of the message. Possible remedies for the error are also included under some listings.

Errors which display a number are listed under *Numbered Error Messages* below, and are also followed by an explanation. Additional information about errors is available by pressing Help (F3) when the error occurs.

Error Messages

***, /, or // doesn't have a prior argument.**

A leading operand is missing in a formula. Correct the formula before exiting.

A: drive is full.

If you are saving a record or performing an import with disk space checking, this message appears when you run out of disk space. If you see this message when saving data, the record will not be saved. If you are performing an import, only those records imported before the message was displayed are saved in the data file. To make more space on the disk, you can do any of the following:

- Delete unwanted records with Remove (Shift-F5).
- Export some records to another disk and then remove the records from the original disk.
- Move one or more data files to another drive and change the filename(s) to match the new drive.

Case not preceded by CASES or END OF.

The word CASES is missing from the beginning of a formula or the word END OF is missing somewhere in the formula. Add the missing word or words to the formula (see *Using Formulas* under *Formulas and Functions* in *Reference*).

Character not a legal operator.

A character that is not a legal operator exists in a formula. Replace the character with a legal operator. For example, a carat (^) in a formula produces this error message.

DataPerfect is not able to use the DOS locking command it needs for network sharing. If you are sharing a database on a network, please exit to avoid data loss! Share must be executed on the network server, or some other network operation must be performed.

This message may appear when you are running DataPerfect from the network and accessing a database that is not on the network.

Disk full—Press any key to continue.

This message is displayed when a report is sent to a file on disk without enough disk space for the entire report. A partial report is left on the disk. After pressing any key to continue, you must either cancel the report or insert a disk with enough memory to store the entire report.

Exit from DataPerfect and add the line "FILES=40" to CONFIG.SYS.

Exit DataPerfect and add the line *files=40* to your CONFIG.SYS file (see *Set the CONFIG.SYS File in Installation*). You need to restart your computer after making the change.

File cannot be written to disk.

This message is displayed if there is an error writing to disk while a report is being sent to a disk file. If you are using diskettes, try running the report again with a different diskette. Make sure there is enough disk space available for another file.

Function brackets don't match.

A right bracket exists in a formula without a matching left bracket (or vice versa). Either add the appropriate bracket or delete the single bracket.

Illegal code combination after ::

The display mode indicator you entered cannot be used with this type of field (see *Display Mode Indicators in a Field Format* under *Fields in Reference*).

Illegal form for number.

A syntax error exists in a formula. Two decimals or a letter exist in a number. Remove the extraneous character(s).

Incorrect clause between IF and THEN.

In a formula, the characters between IF and THEN do not return a true/false value. Correct the formula so that a true/false value is returned.

Incorrect clause between THEN and ELSE.

In a formula, the characters between THEN and ELSE return a value which is inconsistent with the destination (e.g., field, report variable, or other expression).

Incorrect clause between THEN/ELSE and ENDIF.

The formula statement is incomplete or returns a value which is inconsistent with the destination. Complete the statement before saving the formula.

Incorrect form for RV n - Report Variable.

When referencing a report variable in a formula, the value for n must be an integer between 1 and 255. The abbreviation for the report variable (RV) and n must not be separated by spaces or characters.

Incorrect number of arguments for function.

The function requires x number of arguments, and more or less arguments than x exist. Add additional arguments, or delete extra arguments (see *Functions Used in Formulas* under *Formulas and Functions* in *Reference*).

Overlay file read error.

If the disk with the overlay file (DP.OVL) is removed while the program is running, or if a disk drive door is open when the overlay is needed, this message appears and the program stops. If the disk is replaced, the program can be started again.

Also, you may need to copy DP.OVL from your original DataPerfect Program diskette because the current copy has become corrupt.

Parentheses don't match.

A right parenthesis exists in a formula without a left parenthesis (or vice versa). Either add or delete a parenthesis, as needed.

Semicolon not expected.

An unnecessary semicolon was found in a formula. Delete the semicolon.

Shell is not running.

If you want to use the Shell features, start DataPerfect from the Shell menu. The Shell program is a file management program included with WordPerfect Library or WordPerfect Office—separate products available from WordPerfect Corporation.

The field value entered is not found in the other panel.

If you are at a data link and enter a value that is not found in the other panel, you are asked if you want to create a new record or look for a record with a different value. The database definer can prevent a user from creating a new record in the other panel.

The filename entered cannot be used.

A filename can consist of up to eight letters and/or numbers followed by a period and a three-character extension. You can also include a drive or path (e.g., CUSTOMER.DAT or C:\DATA\CUSTOMER.ITM).

The index file (.IND) for this database is not found.

You cannot use the database without this file. Each database must have an index (.IND) file which contains the indexes for all panels. When this error occurs, two options are displayed on the screen. You can create (regenerate) a new file for the existing data, or you can enter the pathname if the file is in another drive/directory.

The index shows that records are present in the data file, but the file is not found.

When this error occurs, a menu appears. If you know the drive/directory where the data file is located, select Change the Filename (1) and enter the complete pathname. If the data file no longer exists, you can select Delete the Index(es) (2) to delete the old index.

The program has encountered a problem and it is exiting to DOS to avoid possible damage to your database.

It is likely that you can continue if you enter DataPerfect again. If the DataPerfect program or your machine has a critical problem that might cause a loss of data, DataPerfect exits to DOS.

The text file (.TXX) is not found. You need this file to continue.

The .TXX file contains data from all text fields in the database. When this error occurs, a menu appears. If you have moved the .TXX file to another drive/directory, select Enter the Path and File of the Text File (2) and enter the pathname where the text file can be found.

***Important:** You can select Re-create the Text File (1) to re-create the text file. This option should not be selected unless you are sure the .TXX file is empty. If the file is not empty, the data which was in it will be lost.*

There is no database defined on this disk or directory.

The program cannot find a database structure (.STR) file on this disk or directory. When this error occurs, a menu appears. Select Define a New Database (1), or Change Directories (2), or select zero (0) to exit the program.

There is no index for this panel, but a file has been found which contains records.

If the .IND file is located on another disk or directory, specify its full pathname or choose to create the .IND file.

This field cannot be edited.

The database application you are using does not allow editing in this field. You can, however, perform a lookup from this field. This message appears if you attempt to edit a data link whose field has a ::N display mode indicator in the field format. It also appears if you attempt to edit a field that has a formula and a range check and the field format contains a ::N display mode indicator. If the formula produces data out of the allowed range, the cursor moves to that field and this message is displayed when the range check is validated (see *Using Formulas* under *Formulas and Functions* in *Reference*).

This record has not yet been saved.

This message appears if you are about to lose the data in a record you are creating or editing. Press Cancel (F1) to omit the error message, and then either finish editing the record and press Save (F10), or press Cancel again to cancel the changes.

This record is not unique.

This message appears if you try to save a record in which the data in the index fields is identical to that of another record. In order to save the record, data must be entered into the index field(s) to make the record unique. You may need to modify the index(es) for the panel. You can press Cancel (F1) to discard the record (see *Understanding Indexes* under *Field Lists and Indexes* in *Reference*).

Value is not in the allowed range.

This message appears on a field containing a range check which allows only certain values in a high and low range to be entered. Enter a value that is in the allowed range.

Word not recognized.

In a formula, all character strings that are not reserved words (words used as operators, used in statements, or used in formulas) must be enclosed in quotes.

Also, be sure that any fields used in the formula were selected using Select (F4). They cannot simply be typed into the formula.

Numbered Error Messages**102**

This error message is the result of corrupt or disordered indexes, and usually occurs when running reports. Regenerate the indexes (see *Using Index Recovery to Regenerate an Index* under *System Operations* in *Reference*).

103

This error message is the result of corrupt or disordered indexes, and usually occurs when running reports. Regenerate the indexes (see *Using Index Recovery to Regenerate an Index* under *System Operations* in *Reference*).

113

An error occurred while writing to a file. The disk to which you were trying to save the file may be damaged. Use a different disk.

114

An error occurred while reading a file. The specific file is named. If this occurs for the .TXX file, the .TXX file is probably out of sequence (e.g., the text file in record 1 is mistakenly read as the text file in record 2).

Export all data in the database, delete the .TXX, .IND, and all data files, and import the data (see *Export* and *Import Data* in *Reference*). The error messages encountered during export can be ignored except to note where the error in the data is located. If a read error occurs in the .IND file, delete the file and regenerate the indexes. If a read error occurs in a data file, delete the file and import a backup copy of the data (the backup must be in exported form).

115

Error in extending a file (not enough disk space). Use a disk that has more space available.

116

Not enough directory blocks on the disk to allocate another file. Back up the data and reformat the disk with more directory blocks, or place the file on another disk.

118

Access denied in network. File is flagged non-shareable. The .IND, .TXX, or one of the data files is flagged non-shareable and needs to be flagged shareable read-write.

121

The .STR file has become corrupted. First, make a backup of the database. Then export all of the data in the database, run DPEXP and DPIMP, and import the data back into the database. Check to see if formulas and links have been defined correctly.

122

Indexing error message. An index is not unique. Either edit the index so that data is unique or change the data. Press Cancel (F1) to return to the panel. Regenerate the indexes (see *Using Index Recovery to Regenerate an Index* under *System Operations in Reference*).

Recalculation

If you find field values that are calculated incorrectly,

- 1 Position the cursor in the record that contains the incorrect field value and press **Edit** (F6) to go into Edit mode.
- 2 Press **Edit** again to force the formula to recalculate.

Depending on the formula, you may need to press Edit (F6) several times until the value in the field stabilizes.

- 3 Press **Save** (F10) to save the record when you finish recalculating.

**To Prevent
Error Messages**

When many changes have been made to the structure file (.STR), some errors may occur. To prevent errors, you should reorganize the database and periodically perform an index recovery.

Reorganize the Database

A reorganization of the database eliminates wasted space and improves performance during a lookup or a report. Use an export and an import to reorganize the database.

To reorganize the database,

- 1 Export the records from each panel (see *Exporting Data from a Database to a Disk File* under *Export and Import Data in Reference*).

Create a different export file for each panel in the database.

- 2 Press **Exit** (F7) until the DOS prompt appears on the screen.
- 3 If you are not in the directory which contains the database files you want to delete, change to the appropriate directory (enter **cd\directory** at the DOS prompt).
- 4 Delete the .IND, .TXX, and all data files (enter **del filename**).

Important: Do not delete the .STR file.

- 5 Enter DataPerfect and re-create the .IND and .TXX files when prompted.
- 6 Import the data for each panel (see *Importing Data into a Database* under *Export and Import Data in Reference*).

If your database contains totals, be sure to import the data into the panel in which the totals are kept before you import data into the source panel (see *Field Options (Keep Total)* under *Fields in Reference*).

If data is corrupted due to a computer system failure, you can export the data, edit the corrupted files with a text editor (such as the WordPerfect Program Editor), and then import the data.

If error messages appear which reference the .STR file, you may want to use the structure export/import program. See *Description Language* in the *Appendix* for more information.

Index Recovery

If many records have been added to, edited, or deleted from a database, the indexes can become inefficient. Index Recovery is designed to regenerate those indexes so that disk space is saved and access time is improved. The Index Recovery menu is found on the System key (Shift-F9) and has three options:

- 1 - Create New Indexes for this Panel
- 2 - Create New Indexes for All Panels
- 0 - Exit

Using DataPerfect on a Network

A network database and a single-user database are defined in the same way. However, changes can be made to network database definitions only when no other user is in the database.

During network operation, 99 users can access a database at the same time.

Several users can look through, edit, create records, and run reports simultaneously. If a user edits a record while other users are editing or viewing the same record, the following message appears on the other users' screens: "Data change in network. Save any changes before continuing."

Any temporary files which are generated are located on a user's default drive (they are no longer in the same directory as the .STR file). This means that a user can be given read-only privileges in the directory where the .STR file is located (see *Defining Passwords* under *System Operations* in *Reference*).

See *Installation* for information on network installation requirements.

Program Capacity

The maximum capacities of the DataPerfect program are as follows:

Category	Capacity
Data file size	2 billion bytes
Records per file	16 million
Index entries per data file	16 million
Index size	2 billion bytes
Fields per record	80
Files per database	80
Report variables per report	255
Reports per database	150
Alphanumeric field size	78 characters
Numeric field size	14 digits
Text field size	32,000 characters

A text field can be defined with a maximum of 78 characters per line and a maximum of 15 lines, but may contain up to 32,000 characters (approximately eight 8 1/2 x 11 pages).

Field Sizes

If you want to determine the size of a field and/or record as it is saved in the data file, the number of bytes used in each type of field is listed below.

Alphanumeric Field

The length of the field format (e.g., A10 uses 10 bytes).

Date Field

Two bytes.

Numeric Field

Four bytes, if the number of digits in the format is less than 10; eight bytes, if the number of digits in the format is equal to or greater than 10.

Text Field

The number of characters typed into the field.

Time Field

Four bytes.

Open Files

DataPerfect allows as many as 19 data files to be open at one time in Browse mode, or 14 data files may be open in Create mode. Once you have passed through the allotted amount of links, you must press Exit (F7) to move back up through the panels.

Program Files

The names of files found on the DataPerfect Program diskette, and the files which can be generated by DataPerfect are listed below. A description of each file is also included.

Program Files The following three program files needed to run DataPerfect are found on the DataPerfect Program diskette.

Filename	Description
DP.COM	Command file.
DP.OVL	Overlays used by the command file.
DP.SYS	System defaults.

Temporary Files While DataPerfect is running, it may create one or more temporary files. If you do not exit DataPerfect properly, temporary files may exist on the drive (see *Starting and Exiting DataPerfect* under *Installation*). These temporary files can be deleted at the DOS prompt without affecting the database.

These temporary files are located on a user's default drive (they are no longer in the same directory as the .STR file). This means that a user can be given read-only privileges in the directory where the .STR file is located (see *Defining Passwords* under *System Operations* in *Reference*).

DPFIL n .FIL

Contains the temporary print file (n represents an arbitrary number found in the filename).

DPPRINT.QUE

Contains the temporary print file which stores information for the print que.

DP{Innn}.TMP

Contains the second level index used for two-level reports (n represents an arbitrary number found in the filename).

DP{Snnnn}.TMP

The scratch file. Contains intermediate results while in report options. It also saves screen images (n represents an arbitrary number found in the filename).

DP{Tnnnn}.TMP

Contains record images while in Create or Edit mode (n represents an arbitrary number found in the filename).

Generated Files

When you create a database, three files are generated. The filenames consist of the database name you assign, followed by a period and one of the following three-letter extensions:

.IND

Contains the indexes for all panels in the database. If there is no data in the database, this file is empty.

.STR

Contains the structure of all panels, all index specifications, reports, and system default settings.

.TXX

Contains the data from the text fields in the database. If there are no text fields, or if the text fields do not contain data, this file is empty.

Data Files

Each database has three database files (.STR, .IND, and .TXX) and at least one data file. For example, a database Customer might have the following filenames for the data files:

Filename	Description
CUSTOMER.PER	Customer Data
CUSTOMER.INV	Invoices
CUSTOMER.ITM	Items in Stock
CUSTOMER.PUR	Items Purchased
CUSTOMER.PAY	Payments

Printer Program Files

The printer program files run the printer program, select drivers, and queue specified reports to be printed.

DPFIL nnn .FIL

Contains the temporary print file (n represents an arbitrary number found in the filename).

DPPRINT.COM

Contains the printer executable file.

DPPRINT.QUE

Contains the temporary print file which stores information for the print que.

DPPRINT.SYS

Contains the default information for DPPRINT.COM.

Printer Driver Files

The printer driver files are needed when using various printers.

Filename	Description
CANON.PRD	Canon printer
DIABLO.PRD	Diablo printer (US)
DIABLODT.PRD	Diablo printer (DUTCH)
DIABLOFN.PRD	Diablo printer (FINNISH)
DIABLOFR.PRD	Diablo printer (FRENCH)
DIABLOGR.PRD	Diablo printer (GERMAN)
DIABLONR.PRD	Diablo printer (NORWEGIAN)
DIABLOSP.PRD	Diablo printer (SPANISH)
DIABLOSW.PRD	Diablo printer (SWISS)
EPSON.PRD	Epson printer
GENERIC.PRD	Generic printer
HPLASER.PRD	HP LaserJet and HP LaserJet+ printers
HP_II.PRD	HP Series II printers
IBMPROXL.PRD	IBM Proprinter and IBM Proprinter XL printers
OTHERDM.PRD	Dot matrix printer if a driver is not listed
OTHERLQ.PRD	Letter quality printer which is not listed
TOSHIBA.PRD	Toshiba printer

Structure Export/Import Files

The following files are used when exporting/importing the structure file of a database.

DPEXP.COM

Structure export program for DataPerfect files. For more information, see *Description Language* in the *Appendix*.

DPIMP.COM

Structure import program for DataPerfect files. For more information, see *Description Language* in the *Appendix*.

DataPerfect Runtime Program

The DataPerfect Runtime program allows developers to create database applications that can be marketed to users. With these applications, a Runtime user can add, modify, or delete records in the database (providing the developer has stipulated these privileges), and can run reports created by the developer. The Runtime program does not allow a user to define or alter the structure of a database.

Runtime Package Contents

The DataPerfect Runtime package comes as a five-pack and consists of the following materials:

- One *DataPerfect Runtime Manual*
- Five DataPerfect Runtime Diskettes
- Five Templates
- Five Quick Reference Cards
- Five DataPerfect Runtime Licenses

The *DataPerfect Runtime Manual* provides general information about DataPerfect functions and keystrokes.

Additional copies of the *DataPerfect Runtime Manual* can be purchased from the WordPerfect Order Department by dialing:

(800) 321-4566

The DataPerfect Runtime package can be purchased through normal WordPerfect distribution channels.

Responsibilities of Database Developers

Database developers are responsible for supporting the applications that they develop. WordPerfect Corporation's customer support does not support the DataPerfect Runtime program. Questions by Runtime users should be directed to the database developer, not to WordPerfect Corporation.

The database developer is responsible for installing the DataPerfect Runtime program and applications (if necessary). The *DataPerfect Runtime Manual* does not include installation instructions.

Because the *DataPerfect Runtime Manual* includes only the most basic information for Runtime users, WordPerfect Corporation strongly recommends that developers provide additional documentation specific to their database application for their Runtime users.

Glossary

ASCII

American Standard Code for Information Interchange is one of the standard formats for representing characters so that files can be shared between programs.

Background Record

The most recently displayed record in a panel. You can retrieve data from a background record into the record currently being created by pressing Select (F4).

Browse Mode

Browse mode lets you look through the records in a panel without making any changes to the records.

Case Sensitive

Sensitive to either uppercase or lowercase letters. DataPerfect is only case sensitive when reading passwords. Everywhere else you can type uppercase or lowercase letters and either is accepted.

Clipboard

A feature in WordPerfect Library or WordPerfect Office Shell used to cut and paste information from one WordPerfect Corporation program to another. You can send data to and retrieve data from Clipboard.

Command File

One of three files needed to run DataPerfect. It is entitled DP.COM.

Concatenate

To join together in a series or chain. For example, if you concatenate "text" and "book," the result is "textbook."

Create Mode

Create mode lets you create a new record in a panel by pressing Create (F9).

Data

Information which comprises a database.

Data Checking

When entering data in a field that contains a data link, this feature checks to see if a related record exists in the destination panel.

Data File

A file which contains data from the database.

Data Link

A feature which lets you interact with more than one panel at a time. A data link can check to see if identical data exists in other panels. It is represented on the screen by a diamond (◆).

Database

A compilation of interrelated information.

Database Definer

The person who creates the structure of a database.

Database List

The first list available when you enter DataPerfect. This list alphabetically displays all of the databases in the current directory, and lets you access the databases.

Database Supervisor

The person responsible for maintaining the database, training DataPerfect users, and establishing user passwords in a database. Database supervisors cannot alter the structure of a database. However, they can create, edit, and delete data and reports, as well as access the System Operations menu.

Default

The startup settings for various DataPerfect features (e.g., screen and report settings). Database definers can change these default settings.

Delimiter

A character used to separate records and fields for export in a delimited file.

Destination Panel

The panel you enter through a panel link or a data link.

DOS

The **Disk Operating System** is software that directs the flow of data between disk drives and your computer. Without an operating system, your computer cannot operate.

DPPRINT

The DataPerfect Printer Program. This program, separate from DataPerfect, lets you select a printer definition that is specifically tailored to your printer. This program uses the same printer drivers as WordPerfect Library.

Edit Mode

Edit mode lets you edit existing records in the panel by pressing Edit (F6).

Edit Order

The order in which the cursor moves from field to field in a panel.

Exception List

A list of designated fields that DataPerfect checks whenever a record is created or edited. If any of the fields in the list are empty when you save the record, the record is excluded in the index that contains the exception list.

Export

A feature which copies data to a file that can be imported back into a database or that can be stored for backup purposes.

Expression

An expression is formed when an operator is combined with the necessary number of operands. For example, $A + B$ and $-B$ are expressions.

Field

The smallest unit of data in a database. For example, a person's first, middle, and last names could be three separate fields.

Field Format

A format defined for a field which determines how the field is displayed and printed.

Field List

An ordered list of fields used to organize data for a specific purpose. Indexes, link field lists, lookup field lists, search field lists, and window field lists are all considered field lists.

Field Number

A code comprised of a field's creation order number and the panel in which the field is found. For example, P3F12 is a field number which represents the twelfth field created in the third panel.

File

The largest unit of data in a database. A file is made of one or more records.

Flat File

A file which has no relationship (links) to any other file in the database.

Formula

An expression or series of expressions used to return a specific value to a field or to a report variable.

Import

A feature which transfers the contents of a delimited or exported file back into a database.

Index

A field list used to sort and locate records.

Initialization Time

An initialization time determines when an initial formula or an initial value in a field should be calculated. The formula or value can be set to compute when a record is created, when a record is saved, or when any change occurs in a record.

Julian Date

A date format which converts a month, day, and year to a number which can be used in calculations. For example, DataPerfect converts September 5, 1988 to a Julian date of 32,300.

DataPerfect converts March 2, 1900 to the number one (1), and each successive day is one number higher than the previous day.

Key

A field or fields that make up a field list.

Link

A link associates information between one or more panels without having to exit the current panel.

Literal Item

A literal item is a constant, such as a text string or a number, used in a formula.

Lookup

A feature which lets you quickly look through, locate, and retrieve records in a database.

Lookup Field List

A field list used to determine the fields which appear in a lookup list.

Lookup List

A list of designated fields which appears at the top of the screen when Lookup is pressed.

Macro

A macro records keystrokes and plays them back exactly as they were pressed. This helps to automate tasks you perform repeatedly. DataPerfect does not contain macro features in the program itself, but will run WordPerfect Library and WordPerfect Office Shell macros.

Match Any/All Conditions

A Search option which specifies whether to search for all of the given conditions, or to search for any one of the given conditions.

Operand

The item of information affected by the operator. For example, in the expression $A + B$, both A and B are operands.

Operator

The symbol used to represent a mathematical or logical operation. For example, the add (+), subtract (-), and less than (<) signs are operators.

Order of Precedence (in Formulas)

The order in which operators and operands are calculated in a formula. For example, parenthetical expressions are calculated first, addition and subtraction are calculated last.

Overlay File

One of three files needed to run DataPerfect. It is entitled DP.OVL.

Panel

A viewing area on your screen used to display records from a file one at a time.

Panel Link

A feature which lets you interact with more than one panel at a time. A panel link is represented on the screen by a rectangle (■).

Panel List

A list which displays all of the panels in a database, and from which you can access the panels.

Path

A DOS command which lets you specify a series of directory names, separated by semicolons, that may be searched for a specific file. These commands can be part of the AUTOEXEC.BAT file (see *Pathname* below and/or your DOS documentation).

Pathname

A full pathname includes the drive, root directory name, and any subdirectory names. Each name is separated by a backslash (\). For example, C:\DATA refers to the DATA directory on the C drive. The pathname C:\DATA\CUSTOMER refers to the Customer file (or the Customer subdirectory) in the DATA directory on the C drive.

Printer Driver

Software that controls which codes are sent to the printer. For example, bold and underline codes cannot be sent to the printer without a printer driver.

Printer Port

A connection device between a computer and another component such as a printer or modem. For example, a printer cable is plugged into the printer port on the computer so information can be sent to the printer.

Read-Only User

A read-only user can browse through records in a database, but cannot create, edit, or delete data. This user can run reports, but cannot create new ones.

Read/Write User

A read/write user can create, edit, and delete data from a database. This user can also create, edit, and run reports. A read/write user cannot access the System Operations menu or access features that modify the structure of the database.

Recompute Field Offset

A feature on the Panel Options menu which restructures the position of records and optimizes space in a data file.

Record

A record is a group of fields that contain related information. For example, a customer's name and address could be considered as a record. One or more records make a file.

Related Record

A record which shares one or more common fields with a record in another panel (through a data link or panel link).

Relationship

The manner in which data in one file relates to data in another file. DataPerfect allows the following relationships between files: one-to-one, one-to-many, many-to-one, and many-to-many.

Report

A compilation of information from the database which may be sent to a printer, a disk file, to the screen, or to another panel.

Report Form

The form used to define the fields, report options, and text which are to be included in a report.

Report List

A list of all reports which have been created, including built-in short reports. This list enables you to access a particular report.

Report Variable

A variable is used in a report to determine specific information. A report variable can perform calculations, create running totals, change field values, and select certain records to include in a report.

Root Directory

The main directory on your computer system. Any directory created becomes a subdirectory of the root directory. When in the root directory, C:\ is the prompt displayed for hard disk drive systems, and A:\ is the prompt displayed for one or two disk drive systems.

Source Panel

The panel in which a panel link or data link was defined.

Startup Diskette

A diskette used to start your computer. The startup diskette may also install DOS on your computer. You may use a startup diskette if you have a hard drive system, but it is more commonly used if you have a one or two disk drive system.

Startup Options

Options which can be entered at the DOS prompt to start DataPerfect or the DataPerfect Printer program.

Structure File

A file (.STR) which contains the structure of all panels in a database, including specifications for indexes, reports, and system default settings.

Subreport

A report which lists related records from two or more linked panels.

Syntax

A particular order which must be followed when formulas and functions are defined. For example, square brackets must be used to enclose arguments in functions (rather than parentheses), and semicolons must be used to separate arguments from each other.

System File

One of three files needed to run DataPerfect. This file contains the system defaults and is entitled DP.SYS.

Target Field

The field on which the cursor lands when moving through a data link or panel link.

Template

1: A thin plate displaying the DataPerfect menu, placed over the function keys on your keyboard. 2: A word or number pattern used to search for specific information in a panel.

Toggle

A feature can be turned on and off by pressing a key. For example, pressing the Insert key once turns on Typeover mode, and pressing it again turns off Typeover mode.

Transaction Log

A log which records all modifications to data in a database (records which have been created, edited, or deleted).

Truncate

To shorten a field by deleting trailing spaces.

Two-Level Report

A report which categorizes records from one panel into groups, and prints the group title only once. For example, a two-level report which sorts all customers in a database by their city of residence prints each city only once, followed by the names of customers who reside in that city.

Validation Time

A field option used when a range check has been specified. This option checks a field's range either when data is entered or when a record is saved.

Wildcard

An unknown factor represented by an asterisk (*) or a question mark (?). An asterisk represents many characters; a question mark represents only one character. For example, a template search for **MIT** will search for the letters MIT anywhere in the specified field.

Window

The viewing area in a source panel which displays records from a destination panel.

Wrap

To move the cursor to the next line on the screen without pressing Enter. DataPerfect wraps in a text field, but does not wrap when entering text in a report form.

Index

A

Abbreviations
 Month 390
Abs 157
Age
 Calculate Using Formula 140
All Display Fields 268, 342
All Real Fields 268, 342
Alphanumeric Field Format
 Fixed Length 88, 89
 Variable Length 88, 90
Alt and Ctrl Keys
 Map 358
ALT.MAP: 418
Any Change
 Initialize at 103
Any/All
 Match Search Conditions 374
Append with Each Put 380
APPEND.DISK.FILE 435
Application(s)
 DataPerfect Learning Diskette 16
 Designing 52
 Help Messages 243
Apply.format 157
Archiving Report 314
Arguments in Functions 157
Arrow Keys 239
Attributes
 Report 294
AUTO.DISPLAY.TOP/BOTTOM $X=n$
 $Y=m$ WIDTH= p HEIGHT= r 431
AUTO.HELP 418
AUTO.LOOK 424
AUTO.SAVE 424
Auto-Create 80, 203
Auto-Display Record 77
Auto-Edit/Auto-Create/Menu 80
Auto-Enter Field 112
AUTOEXEC.BAT File
 Append DPPRINT to 255
 Modify for DataPerfect 25

Auto-Help 243, 356
Auto-Incrementing Field 112, 350
Auto-Save 76

B

Back Up Database 409
Background Record 248
Backspace 10
Backward
 Sort Dates 143
Banner
 Definer 405
BANNER:~*message*~ 418
Binary Operators 126
Blank
 Eliminate Line if 279
 Format Diskette 17
Block 232
 Copy 236
 Field 232
 Formula 232
 Move 247
 Panel Definition 232
 Report 232
 Text 232
Body
 Report 276
Bold 233
 Report Field/Text 233, 294
 Text 234
Border
 Panel 71
 Window 213
Bottom
 Margin in Reports 264
 Skip to Page 284
Browse Mode 72
BROWSE.CHANGE. 424
Built-In Report Format Selection Menu
 266
Built-In Report/Export Menu 260

Built-In Short Report(s) 260
Columns, Single Line 266
Columns, Text Wrapped 267
Export DOS Delimited Text 268
List 267
WordPerfect List 268
WordPerfect Merge 268
Built-In Short Report/Export Options
261
Destination 261
Disk File Mode (WP/DOS) 264
Fields Included 268
Index Number 263
Print Margins 264
Report/Export Format 266
Search Conditions 263
Sort Direction 264

C

Calculation(s)
Age 140
Conditional Totals 147
Date 141
Disjoint Range Check 145
Elapsed Time 153
Most Recent Date 150
Number of Days Between Two Dates
146
Order for Formulas 137
Quality Assurance Field 155
Sort Dates Backward 143
Cancel 11, 235
Report 274
CANON.PRD 455
Capacity
Program 451
Caps Lock 12
CASE Statement
Nested 136
Syntax 134
Cat.c 141, 158
Cat.t 141, 158
Change
Color 75
Data Link Definition 202
Edit Order 77

Initialize at Any 103
Panel Link Definition 211
Character(s)
Decimal Point 390
Map Printer to Include International
361
Sort Order 391
Thousands Separator 390
Wildcard 369
Check
Disjoint Range 145
During Data Entry (Data Link) 205
Range 105
CHECK AT: 427
Clear
Append with Each Put 380
Clipboard 380
Clipboard
Append to 380
Clear 380
Get Field/Record from 383
Put Field/Record/Panel into 382
Retrieve from 381
Shell 380
Use for Report/Import 272, 381
Color(s)
Change 75
Panel 76
Select for Menus and Report Editing
357
Source Panel 197
Template and Quick Reference 7
COLORS= 416, 424
Column(s)
Single Line Report 266
Tab to 274
Text Wrapped 267
Common
Fields Between Panels 54
Uses of Reports 254
Complex Formulas 128
Computed Field 111, 170, 350
Computer Database
Use 47
Concatenation 139, 158
Concepts

- Database 47
- Conditional
 - Page Eject 278
 - Totals 147
- CONDITIONAL.EJECT 438
- Conditions
 - Display Search 372
 - Match Any/All Search 374
 - Report Rearch 263
 - Reset Search 373
 - Search in Export 341
 - Search in Report 263
- CONFIG.SYS File
 - Set for DataPerfect 22
- Contains* 159
- Conventions
 - Manual and Keystroke 10
- Conversion
 - Perform 410
- Convert* 159
 - with *Apply.format* 165
- Convert 159
 - Program 410
 - Quick 411
- Copy 236
 - Block 232
 - Database 58
 - DataPerfect to Formatted Diskettes 20
 - Duplicate Records to Filename 346
 - Report 270
- Create
 - Data Link 200
 - Database 52, 57
 - Exception List 177
 - Field 86
 - Field Format 88
 - Field List 170
 - Formula 127
 - Import List 347
 - Index 176
 - Initialize at 103
 - Link Field List 201
 - Links 55
 - Lookup Field List 181
 - Macros 384

- Mode 72
- Panel 54, 67
- Panel Link 208
- Passwords 394
- Record 222
- Record from Panel List 279, 286, 301
- Record Through Link 206, 217, 300
- Report 269
- Report Form 275
- Report Variable 287
- Running Totals 292
- Search Field List 186
- Subreport 298
- Two-Level Report 309
- Window 212
- Window Field List 214
- CREATE.DISK.FILE 435
- CREATE.RECORD.THRU.LINK:*n*
TO.PANEL:*m* 438
- Ctrl and Alt Keys
 - Map 358
- CTRL.MAP: 418
- Cursor Movement Through
 - Databases 236
 - Fields 238
 - Links 239
 - Panels 237
 - Records 237
- Custom
 - Archiving Report 314
 - Banner Message 405
 - Delimited Report for Export 320
 - Form Letter Report 323
 - Help Message 118, 243
 - Mailing Labels Report 326
 - Reports 269
 - Search and Replace Report 329
 - Variable Search Conditions Report 331
 - WordPerfect Merge Files Report 317
- Customer Support 8

D

Data

- Back Up 409
- Delete 240
- Export 343
- Import 345
- Link 199
- Data Checking 199, 203
 - Auto-Create 203
 - During Data Entry 205
 - No-Create 204
 - On/Off 205
 - Prompt-Create 204
- Data Entry Keystrokes and Features 231
- Data Files 454
 - Back Up 409
 - Export 340
 - Import 345
- Data Link(s) 199
 - Characteristics 192, 199
 - Create 200
 - Data Checking 199, 203
 - Define 200
 - Define Data Link for Field Menu 202
 - Definition 51
 - Delete 203
 - Description 428
 - Destination Panel 192, 200
 - Display Definition 109
 - Display Mode Indicators Affecting 205
 - Enter/Edit Information at 206
 - Field List for 201
 - Index for 201
 - Lookup on 198
 - Move Through 206
 - Remove 203
 - Source Panel 192
 - Target Field 200
- Data Link vs. Panel Link 192
- DATA LINK.TO.PANEL:*n* TFIELD:*m* INDEX:*p* FIELDS: 428
- Database
 - Back Up 409

- Concepts 47
- Copy 58
- Create 57
- Define 52, 57
- Definer 52
- Definition 47
- Delete 60
- Design 52
- Edit Structure 415
- Enter 33
- Export Structure 413
- Field 48
- Files 49, 409
- Fundamentals 47
- Import Structure 414
- Index 51
- Link 50
- List 35, 60
- Modify Structure 415
- Move from 236
- Name 57
- Panel 49
- Record 48
- Relationships 52
- Reorganize 448
- Select 60
- Supervisor 395
- Database Descriptions 415
 - ALT.MAP: 418
 - AUTO.HELP 418
 - BANNER:~*message*~ 418
 - COLORS= 416
 - CTRL.MAP: 418
 - DATABASE: 416
 - DEF.COMMA: 417
 - DEF.PERIOD: 417
 - HMS: 417
 - MONTHS:~*abbreviations*~ 418
 - PRINTER.MAP 420
 - SORT: 419
 - TOP.LINE: 418
 - UP.CASE: 419
 - YMD: 417
- Database Structure
 - Export DataPerfect 413
 - Import DataPerfect 414

- Modify 415
- Database to Database
 - Move from 236
- DATABASE: 416
- DataPerfect
 - Capacities 451
 - Copy to Formatted Diskettes 20
 - Customer Support 8
 - Diskettes 16
 - Documentation 3
 - Exit 35
 - Export Database Structure 413
 - Files 453
 - Import Database Structure 414
 - Install Files 20
 - Installation 16
 - Learning Diskette 16
 - Package Contents 15
 - Printer Program 255
 - Program Diskette 16
 - Runtime Diskette 456
 - Runtime Manual 456
 - Runtime Package 456
 - Runtime Program 456
 - Start 33
 - Use on Network 450
 - What Is 3
 - Workbook 3
- DataPerfect Database Structure
 - Export 413
 - Import 414
- Date* 160
- Date(s)
 - Calculate Days Between 146
 - Calculate Most Recent 150
 - Calculate Using Formula 141
 - Display as MDY or DMY 360
 - Field Format 88, 91
 - Order 389
 - Report 283
 - Today 164
- Day* 160
- Day.of.week* 160
- Decimal Field
 - Floating in Report 88, 93
- Decimal Point Character 390

- DEF.COMMA: 417
- Default(s)
 - Date Format 389
 - Decimal Point Character 390
 - Format 389
 - Lookup 102, 181
 - Month Abbreviations 390
 - System 389
 - Thousands Separator Character 390
 - Time Format 389
- Define
 - Archiving Report 314
 - Banner 405
 - Custom WordPerfect Merge Files Report 317
 - Data Link 200
 - Data Link for Field Menu 202
 - Database 52, 57
 - Delimited Report For Export 320
 - Delimiters 342
 - Exception List 177
 - Field 86
 - Field Format 88
 - Field List 170
 - Form Letter Report 323
 - Formula 127
 - Help Screen Using Edit Help 118, 243
 - Index 54, 170, 176
 - Link Field List 170, 201
 - Links 55, 196
 - Lookup Field List 170, 181
 - Macros 384
 - Mailing Labels Report 326
 - Panel 54, 67
 - Panel Link 208
 - Panel Link Menu 211
 - Passwords 394
 - Record 222
 - Report Form 275
 - Report Variable 287
 - Report(s) 269
 - Search and Replace Report 329
 - Search Field List 106, 170, 186
 - Subreport 298

- Two-Level Report 309
- Variable Search Conditions Report 331
- Window 212
- Window Field List 170, 214
- Definer Banner 405
- Definer Password 394
- DEF.PERIOD: 417
- Delete 11, 240
 - Data 240
 - Data Link 203
 - Database 60
 - Field 121
 - File 228
 - Index 179
 - Lookup Field List 185
 - One or More Records 227
 - Panel 82
 - Panel Link 215
 - Password 396
 - Record 227, 279
 - Report 335
 - Report Variable 293
 - Search Field List 187
 - Subreport 308
 - Text 240
 - Totals 107
 - Window 214
- DELETE.RECORD 438
- Delimiter
 - Field 342, 345
 - Record 342, 345
- Description Language Statements 413
 - Database 415
 - Export 413
 - Field 425
 - Import 414
 - Index 432
 - Panel 422
 - Panel Link 430
 - Report 434
- Design
 - Applications 52
 - Database 52
 - Link 195
 - Panel 66
- Destination
 - Panel 192, 196, 200, 209
 - Report 261, 271
- DIABLO.PR.D 455
- Difficulties when Importing 352
- Direction
 - Sort 264, 341
- Discontinuation of Doors and Doorways 11
- Disjoint Range Check Using Formula 145
- Disk Drive(s)
 - Install DataPerfect on Hard 21
 - Install DataPerfect on One 28
 - Install DataPerfect on Two 20
 - Start DataPerfect on Hard 33
 - Start DataPerfect on One 34
 - Start DataPerfect on Two 33
- Disk File Mode (WP/DOS)
 - Built-In Short Report 264
 - Custom Report 272
 - Export 342
- Disk File On/Off 262, 271, 341
- Diskette(s)
 - Copy DataPerfect to Formatted 20
 - DataPerfect Learning 16
 - DataPerfect Program 16
 - Format a Blank 17
- Display
 - Auto 77
 - Date as MDY or DMY 360
 - Field/Panel Information Using Reveal 120
 - Fields 268, 342
 - Link Definitions 109
 - Mode Indicators 111
 - Related Records 213
 - Search Conditions 372
 - Top Line 359
- Display Mode Indicators in a Field
 - Format 111
 - Affecting Data Links 205
 - Auto-Enter (::E) 112
 - Auto-Incrementing (::I) 112, 350
 - Computed (::C) 111, 170, 350
 - Hidden (::H) 112, 205

Multiple 113
Must Be Updated (::M) 113, 205
Non-Updatable (::N) 113, 206
DMY
 Display Date as 360
Do Report in Subgroups 279, 303
Do Trial Search on Panel 375
Documentation
 DataPerfect 3
DO.IN.SUBGROUPS 438
Doors and Doorways
 Discontinuation of 11
DOS Delimited Text 268, 342
Down Panel 198, 239, 241
DP{Innnn.TMP 453
DP{Snnnn.TMP 453
DP{Tnnnn.TMP 453
DP.COM 453
DPEXP 440
DPEXP.COM 455
DPFILnnn.FIL 453, 454
DPIMP 440
DPIMP.COM 455
DP.OVL 453
DPPRINT 255
DPPRINT.COM 255, 454
DPPRINT.QUE 255, 453, 454
DPPRINT.SYS 255, 454
DP.SYS 453
Duplicate Records
 Import 346

E

Edit
 Change Order 77
 Database Structure 415
 Exception List 177
 Field Format 100
 Field Format for Report 273
 Filename 74
 Formula 127
 Help 118
 Index Field List 177
 Information at Data Link 206
 Lookup Field List 184
 Mode 73

Order 77
Panel 71
Panel Name 79
Recalculate Formula Using 226
Record 225
Report 261, 270
Report Form 272, 275
Report Name 272
Report Variable 288
Return to 286
Search Field List 187
Select Colors for Menus and Report
 357
 Validation Time 105
Edit Order
 Change 77
 Reveal 120
Edit Target Field/Target Index/Field
 List 202, 211
EJECT 438
Eject
 Conditional Page 278
 Page 281
Elapsed Time Using Formula 153
Eliminate Line if Blank 279
End 11
END.PANEL.TEXT 424
END.SUBREPORT.FOR.PANEL:m
 440
Enter 11, 241
 Auto Field 112
 Database 33
 Information at Data Link 206
 Records 222
 Text in Panel 70
EPSON.PRD 455
Error(s)
 Messages 442
 Numbered 447
 Prevent 448
 Recalculation 448
Escape 11, 242
Evaluate Report 277
Exception List
 Create 177
 Delete 178

- Edit 177
- EXCLUDE 436
- Exit 11, 242
 - Database 242
 - DataPerfect 35
 - Help 245
 - Panel 242
 - Record 242
 - Report 242
- Export
 - Data from a Database to a Disk File 340
 - Data to Other Database Programs (Sample Report) 320
 - DataPerfect Database Structure 413
 - Multiple Panels 340
 - Options 340
 - Perform 343
 - Report 313, 440
 - Uses for 340
- Export and Import Data 339
- Export DOS Delimited Text Report 268
- Export Options 340
 - Disk File Mode (WP/DOS) 342
 - Disk File On/Off 341
 - Fields Included 342
 - Index Number 341
 - Print Margins 342
 - Printer On/Off 341
 - Report/Export Format 342
 - Search Conditions 341
 - Sort Direction 341
- Expression 126

F

- False
 - Skip Record if RV Is 284
- Feature List Help 244
- Field(s)
 - Auto-Enter 112
 - Auto-Incrementing 112, 350
 - Common Between Panels 54
 - Computed 111, 170, 350
 - Create Format 88
 - Create Formula 127

- Creation Number 108, 120
- Creation Order 108, 120
- Define 86
- Define Search List 106, 186
- Definition 48, 85
- Delete 121
- Descriptions 425
- Display Mode Indicators in a Format 111
- Edit 100
- Edit Format 100
- Edit Format for Report 273
- Floating Decimal in Report 88, 93
- Format(s) 88, 108
- Formula on 128
- Get from Clipboard 383
- Hidden 112, 205
- Included in Built-In Short Report/Export 268, 342
- Initialize in Import 350
- Location 426
- Lookup 268
- Lookup List 102, 180
- Move from 238
- Move Within Any 239
- Move Within Non-Text 240
- Move Within Text 240
- Must Be Updated 113, 205
- Non-Updatable 113, 206
- Number 108, 120
- Options 101
- Parallel Text 295
- Print Mode Indicators in a Format 114
- Put into Clipboard 382
- Real 268, 342
- Recompute Offset 79
- Report Variable in 287
- Select Numeric Within Footers 273
- Select Report 282
- Size 451
- Store Report Variable in 285, 290
- Target 196, 200, 209
- Text in Report 98
- Totalling 106
- Type Indicators 88

Use Reveal to Display Information
120
With Totals 106
Field Descriptions
CHECK.AT: 427
DATA.LINK.TO.PANEL:*n*
TFIELD:*m* INDEX:*p* FIELDS: 428
FIELD: 426
FIELDS: 426
FORMAT: 426
FORMULA.END; 427
FORMULA: 427
HELP:~*message*~ 427
INITIAL.AT: 426
LOOKUP:INDEX:*n* FIELDS: 428
NEGATIVE.TOTAL: FIELD= 428
NOT.FOUND.SPEC: 429
POSITIVE.TOTAL: FIELD= 428
RANGE:~*value1*~ TO:~*value2*~ 427
SEARCHLIST: 429
VALUE= 427
VALUE=~*value*~ 429
X=*n* Y=*m* 426
Field Format(s)
Alphanumeric, Fixed Length 88, 89
Alphanumeric, Uppercase 89
Alphanumeric, Variable Length 88,
90
Create 88
Date 88, 91
Edit 100
Edit for Report 273
Floating Decimal 88, 93
G Type Numeric 88, 94
H Type Numeric 89, 95
In Reports 98
N Type Numeric 89, 95
Numeric 89, 95
Reveal 120
Specifications 89
Text 90
Time 89, 96
Field List(s)
And Index for Data Link 196, 201
And Index for Panel Link 196, 210
Create 170

Define 170
Edit Index 177
Link 170, 196, 201, 210
Lookup 180
Search 186
Window 214
Field Options 101
Define Search Field List 106
Initial Formula 102
Initial Value 103
Initialize at Create/Save/Any Change
103
Keep a Total 106
Lookup Field List 102
Range Check 105
Remove a Total 107
Set Value for Next Created Record
107
Validation Time (Edit/Save) 105
Field to Field
Move from 238
FIELD: 426
File Specifications
Index 175
File(s)
.IND 172, 409, 454
.STE 414, 440
.STR 409, 454
.TXX 409, 454
Data 454
Database 409
DataPerfect 453
Definition 49
Delete 228
DP{*Innnn*.TMP 453
DP{*Snnnn*.TMP 453
DP{*Tnnnn*.TMP 453
DP.COM 453
DPEXP.COM 455
DPFIL*nnn*.FIL 453, 454
DPIMP.COM 455
DP.OVL 453
DPPRINT.COM 255, 454
DPPRINT.QUE 255, 453, 454
DPPRINT.SYS 255, 454
DP.SYS 453

- Flat 52
- Generated 454
- Index Specifications 175
- Install DataPerfect 20
- Open 197, 452
- Printer Driver 455
- Printer Program 454
- Program 453
- Structure Export/Import 455
- Temporary 453
- Filename(s)
 - Edit 74
 - Import 345
 - Panel 79
- Final Footer 277
- FINAL.FOOTER 437
- First Page Header 275
- First Record
 - Include Before 280
- First.day* 161
- First.nday* 161
- FIRST.PAGE.HEADER 437
- Fixed Length
 - Alphanumeric Field Format 89
- Flat File 52
- Floating Decimal Field in Report 88, 93
- Footer(s)
 - Final 277
 - Page 276
 - Select Numeric Fields Within 273
 - Two-Level 276
- Form
 - Create/Edit Report 275
- Form Letter
 - Report 323
- Format(s)
 - Alphanumeric Field, Fixed Length 89
 - Alphanumeric Field, Uppercase 89
 - Alphanumeric Field, Variable Length 90
 - Blank Diskette 17
 - Create Field 88
 - Date Field 91
 - Defaults 389
 - Edit Field 100
 - Edit Field for Report 98
 - Export 342
 - Field 88, 108
 - Field in Reports 98
 - Floating Decimal Field 93
 - G Type Numeric Field 94
 - H Type Numeric Field 95
 - N Type Numeric Field 95
 - Numeric Field 95
 - Time Field 96
 - Transaction Log 399
- FORMAT: 426
- FORMULA: 427, 437
- FORMULA.END; 427
- Formula(s)
 - Block 232
 - Complex 128
 - Copy 236
 - Create 127
 - Define 127
 - Edit 127
 - Expressions in 126
 - Functions Used in 157
 - In Report Variables 127, 287
 - Initial 102
 - Initialization Times for 103
 - Move 247
 - On Fields 128
 - Operands in 126, 129
 - Operators in 126
 - Recalculate Using Edit 226
 - Rounding 128
 - Sample 139
 - Search 127
 - Spaces in 128
 - Specify 370
 - Using 126
- Function Keys 7
- Functions Used in Formulas 157
 - Abs* 157
 - Apply.format* 157
 - Cat.c* 158
 - Cat.t* 158
 - Contains* 159
 - Convert* 159
 - Convert with Apply.format* 165

Date 160
Day 160
Day.of.week 160
First.day 161
First.nday 161
Last.day 161
Last.nday 162
Max 162
Min 163
Month 163
Now 163
Round 163
Substring 164
Today 164
Truncate 164
Year 164

Fundamentals
Database 47

G

G Type Numeric Field Format 88, 94
Generate Reports 260
Generated Files 454
GENERIC.PRD 455
Get Field/Record from Clipboard 383
Getting Help 8
Go to Shell 380
Groups
In Two-Level Reports 309

H

H Type Numeric Field Format 89, 95
Hard Disk Drive
Installation 21
Modify AUTOEXEC.BAT File 25
Set CONFIG.SYS File 22
Start DataPerfect 33
Header
First Page 275
Other Page 276
Two-Level 276
Help 11, 242
Auto 243, 356
Border 118
Custom 118, 243

Edit 118
Exit 245
Feature List 244
Getting 8
Messages 118, 242
Program 243
Scrolling Messages 119
Template 244
HELP:~message~ 427
Hidden Field 112, 205
HMS: 417
HPLASER.PRD 455

I

.IND 172, 409, 454
IF Statement
Nested 134
Syntax 133
Import
Auto-Incrementing Fields 350
Computed Fields 350
Data into a Database 345
DataPerfect Database Structure 414
Difficulties 352
Duplicate Records 346
Fields Containing Totals 350
From Clipboard 381
Initialize Fields 350
List 347
Multiple Panels 349
Options 345
Perform 349
Reports 313, 440
Screen 345
Transaction Log 401, 404
Import Options 345
Copy Duplicate Records to Filename
346
Create Import List 347
Duplicate Record Action 346
Import Filename 345
Import Type 345
Import With Disk Space Checking
349
Import Without Disk Space Checking
349

- Search Conditions 346
- Important Keys 10, 225
- INCLUDE 436
 - After Last Record 280
 - Before First Record 280
 - Subreport 285, 299
- INCLUDE.AFTER.DATA 438
- INCLUDE.BEFORE.DATA 439
- Incrementing
 - Auto Field 112, 350
- Index
 - And Field List for Data Link 196, 201
 - And Field List for Panel Link 196, 210
 - Character's Sort Order in 391
 - Create 54, 176
 - Define 54, 176
 - Definition 51, 172
 - Delete 179
 - Descriptions 432
 - Edit Field List 177
 - Exception List 177
 - File Specifications 175
 - Key 173
 - Key Field List 173
 - Modify Character's Sort Order in 391
 - Number for Export Setting 341
 - Number for Report Setting 263
 - Options 176
 - Re-Create 388
 - Recovery 388, 449
 - Regenerate 388
 - Temporary 309
 - Understanding 172
 - Unique 55, 173
- Index Descriptions 432
- INDEX:n FIELDS: 432
- INDEXES: 432
- PANEL.END 433
- Index Options 176
 - Create Index 176
 - Create/Edit Exception List 177
 - Delete Index 179
 - Edit Index Field List 177

- INDEX:n FIELDS: 432
- INDEXES: 432
- Indicators
 - Display Mode 111
 - Field Type 88
 - Order 97
 - Print Mode 114
- Initial
 - Formula 102
 - Value 103
- INITIAL.AT: 426
- Initialization Time 103
- Initialize
 - At Any Change 103
 - At Create 103
 - At Save 103
 - Fields in Import 350
 - No Setting 103
 - Report Variable 291
- Insert 12
- Installation 16
 - DataPerfect Files 20
 - DataPerfect Under Shell 30
 - Hard Disk Drive 21
 - Network 27
 - One Disk Drive 28
 - RAM Drive 29
 - Two Disk Drive 22
- International Characters
 - Map Printer to Include 361

K

- Keep a Total 106
- Keycals 7
- Key(s)
 - Field List 173
 - Function 7
 - Important 10, 225
 - Index 173
 - Map Alt and Ctrl 358
 - Unique 173

L

Label(s)

- Mailing 326
- Panel Link 209
- Report Option 280
- Window 215

LABELS=*n* WIDTH=*m*

NUMBER.OF.LINES=*p* 439

Language

- Description 413

Last Record

- Include After 280

Last.day 161

Last.nday 162

Learning Diskette 16

Left Margin in Reports 265

Letter(s)

- Form 323
- Map Uppercase 393

Library/Office Shell

- Install DataPerfect Under 30

Line(s)

- Across Panel 69
- Eliminate if Blank 279
- Text 265
- Top Display 359

Link(s) 192

- Data 199
- Define 55, 196
- Definition 50, 192
- Delete 203, 215
- Design 195
- Display Definition 109
- Field List for 170, 196, 201, 210
- Index for 174, 201, 210
- Lookup on 198, 247
- Maximum Number of Levels 197
- Move to Nearest 198
- Panel 207
- Reasons for 192
- Relationships 194
- Types of 192
- Using 197

List(s)

- Database 35
- Edit Index Field 177

Exception 177

Feature 244

Field 170

Field for Data Link 201

Field for Panel Link 210

Import 347

Index for Data Link 201

Index for Panel Link 210

Link Field 170, 196, 201, 210

Lookup 245

Lookup Field 180

Panel 67

Report 267, 269

Scroll Through 240

Search Field 186

Window Field 214

WordPerfect Report 268

Literal Item 130, 157

Location

Field 426

Panel 423

Lock

Caps 12

Num 12

Scroll 12

Log

Format 399

Transaction 399

Logical Operators 131

Lookup 245

Auto-Display Record 77

Defaults 102, 181

Field List 180

Fields 268, 342

Index Used in a 182

List 246

On Links 198, 247

Retrieve Record Using 246

Up Arrow vs. F8 198, 247

Lookup Field List 102, 180

Define 181

Delete 185

Edit 184

Select Index for 182

LOOKUP:INDEX:*n* FIELDS: 428

M

Macros

- Define 384
- Invoke 384
- Shell 384

Mailing Labels

- Report 326
- Report Option 280

Manual and Keystroke Conventions 10

Many-to-Many Relationships 53, 195

Many-to-One Relationships 53, 194

Map

- Alt and Ctrl Keys 358
- Printer to Include International Characters 361
- Uppercase Letters 393

Margins

- Bottom 264
- Left 265
- Print 264, 342
- Top 264

Match Any/All Search Conditions 374

Mathematical Operators 131

Max 162

MDY

- Display Date as 360

Menu

- Built-In Report Format Selection 266
- Built-In Report/Export 260, 340
- Define Data Link for Field 202
- Define Index 176
- Define Panel 68
- Define Panel Link 211
- Import 345
- Printer Control 258
- Printer Selection 258
- Report 270
- Report Search Options 341, 375
- Search Options 365
- Select Colors for 357
- Shell Options 380
- Subreport and Record Creation Menu 298
- System Operations 387
- User Screen Options 355

Messages

- Banner 405
- Error 442
- Help 242

Min 163

Mode

- Browse 72
- Create 72
- Define Panel 72
- Disk File 264, 272, 342
- Display Indicators 111
- Edit 73
- Panel 72
- Print Indicators 114

Modify

- AUTOEXEC.BAT File 25
- Character's Sort Order in an Index 391
- Database Structure 415
- Exception List 177
- Field Format 100
- Field Format for Report 273
- Filename 74
- Formula 127
- Index Field List 177
- Lookup Field List 184
- Panel 71
- Panel Name 79
- Panel Structure 422
- Record 225
- Report 273
- Report Form 272, 275
- Report Name 272
- Report Variable 288
- Search Field List 187

Month 163

Month Abbreviations 390

MONTHS:~abbreviations~ 418

MOST Recent Date Using Formula 150

Move 247

- Block 232, 247
- From Database to Database 236
- From Field to Field 238
- From Panel to Panel 237
- From Record to Record 237
- Panel 71

- Through Data Link to Create/Edit Record 206
- Through Panel Link to Create/Edit Record 216
- To Nearest Link 198
- Within Any Field 239
- Within Non-Text Field 240
- Within Text Field 240
- Multiple
 - Panels in an Export 340
 - Panels in an Import 349
 - Remove 227, 402
- Must Be Updated Field 113

N

- N Type Numeric Field Format 89, 95
- Name
 - Database 57
 - Edit Panel 79
 - Edit Report 272
 - Panel File 67
- NAME:~panel name~ 423
- NAME:~report name~ 435
- NEGATIVE.TOTAL: FIELD= 428
- Nested
 - CASE Statement 136
 - IF Statement 134
 - Subreport 302
- Network
 - Installation 27
 - Printer Information 259
 - Use DataPerfect on 450
- NO.BLANK.LINE 439
- No-Create 204
- Non-Text
 - Move Within Field 240
- Non-Updatable Field 113
- Nonfunctioning Report Variables 293
- Normalization 53
- NOT.FOUND.SPEC: 429
- Now 163
- Num Lock 12
- Number
 - Field 108
 - Of Records in Report 281
 - Of Records in Section 281

- Of Records on Page 281
- Page in Report 283
- Record 282
- Numbered Error Messages 447
- Numeric
 - Field Format 89, 95
 - Hidden (H Type) 95
 - Left Aligned (N Type) 95
 - Right Aligned (G Type) 94
 - Select Fields Within Footers 273

O

- Office/Library Shell
 - Install DataPerfect Under 30
- Offset, Recompute Field 79
- One Disk Drive
 - Installation 28
 - Start DataPerfect 34
- One-to-Many Relationships 53, 194
- One-to-One Relationships 53, 194
- Open Files 197, 452
- Operand(s) 126, 129
 - Using Report Variable as 293
- Operator(s) 126
 - Binary 126
 - Logical 131
 - Mathematical 131
 - Unary 126
- Options
 - Index 176
 - Panel 74
 - Report 278
 - Report Search 341
 - Search 365
 - Shell 380
 - Startup 32
 - User Screen 355
- Order
 - Calculation 137
 - Change Edit 77
 - Character Sort 391
 - Date 389
 - Edit 77
 - Field Creation 108
 - Indicators 97
 - Of Precedence in Formulas 137

Sort 176
Time 389
Other Page Header 276
OTHERDM.PRD 455
OTHERLQ.PRD 455
OTHER.PAGE.HEADER 437
OUTPUT.FILENAME:~filename~ 435

P

Package Contents
 DataPerfect 15
Page
 Conditional Eject 278
 Eject 281
 First Header 275
 Footer 276
 Number 283
 Number of Records on 281
 Other Header 276
 Skip to Bottom of 284
Page Footer 276
Page Header
 First 275
 Other 276
Page Number
 In Report 283
PAGE:~field format~ 439
PAGE.FOOTER 437
Panel(s) 65
 Block 232
 Colors 76
 Define 54, 67
 Define Fields for 68
 Define Index for 69
 Define Mode 72
 Definition 49
 Delete 82
 Descriptions 422
 Design 66
 Destination 192, 196, 200, 209
 Do Trial Search on 375
 Edit 71
 Edit Name 79
 Enter Text in 70
 Export Multiple 340
 Filename 68

Import Multiple 349
Line Across 69
Link 207
List 67
Location 423
Modes 72
Modify Structure 422
Move 71
Move from 237
Options 74
Put into Clipboard 382
Select 81
Size 71
Source 192
Structure 422
Text 70
Use Reveal to Display Information
 120
Panel Descriptions 422
 AUTO.DISPLAY.TOP/BOTTOM X=*n*
 Y=*m* WIDTH=*p* HEIGHT=*r* 431
 AUTO.LOOK 424
 AUTO.SAVE 424
 BROWSE.CHANGE. 424
 COLORS= 424
 END.PANEL.TEXT 424
 NAME:~panel name~ 423
 PANEL.TEXT 424
 PANEL:*n* FILE: filename 422
 PANELS: 422
 RECORD.SIZE:*n* 423
 WIDTH=*n* Height=*m* 423
 X:*n* Y:*m* 423
Panel Link(s) 207
 Characteristics 192, 207
 Create Record Through 216
 Define 208
 Define Panel Link Menu 211
 Define with Windows 212
 Definition 51
 Delete 215
 Descriptions 430
 Destination Panel 192, 209
 Display Definition 109
 Field List for 210
 Index for 210

- Label 209
- Lookup on 198
- Move Through 216
- Source Panel 192
- Target Field 209
- Window 212
- Window Field List 214
- Panel Link Descriptions
 - PANEL LINK:*n* X=*m* Y=*p*
 - TO.PANEL:*r* TFIELD:*s* INDEX:*t*
 - FIELDS:*v* 430
- Panel Link vs. Data Link 192
- PANEL LINK:*n* X=*m* Y=*p*
 - TO.PANEL:*r* TFIELD:*s* INDEX:*t*
 - FIELDS:*v* 430
- Panel Name
 - Edit 79
- Panel Options 74
 - Auto-Display Record 77
 - Auto-Edit/Auto-Creat/Menu 80
 - Auto-Save 76
 - Change Color 75
 - Change Edit Order 77
 - Edit Filename 74
 - Edit Panel Name 79
 - Recompute Field Offset 79
- Panel to Panel
 - Move from 237
- PANEL.END 433
- PANELS: 422
- PANEL.TEXT 424
- PANEL:*n* FILE: *filename* 422
- Parallel
 - Subreports 302
 - Text Fields in Reports 295
- Parentheses
 - In Formulas 137
- Password(s)
 - Define 394
 - Definer 253, 394
 - Delete 396
 - In Reports 253
 - Read-Only User 253, 397
 - Read/Write User 253, 396
 - Supervisor 253, 395
- Path 25

- Perform
 - Conversion 410
 - Export 343
 - Import 349
 - Search 366
- Point
 - Decimal Character 390
- Position
 - Tab to Column 274
- POSITIVE.TOTAL: FIELD= 428
- Prevent Errors 448
- Print
 - Destinations 261, 271
 - Margins in Report/Export 264, 272, 342
 - Mode Indicators 114
 - README Files 16
 - Report Variables 283, 289
 - Single Record 311
- Print Mode Indicators in a Field
 - Format 114
 - Center (;;C) 114
 - Delete All Blanks (;;D) 115
 - Delete Zeros from End (;;E) 115
 - Left Adjust (;;L) 115
 - New Occurrence (;;N) 115, 297
 - Right Adjust (;;R) 116
 - Suppress Leading Blanks (;;S) 116
 - Truncate Both (;;B) 114
 - Truncate Leave *n* Spaces (;;1-9) 116
 - Truncate Trailing Blanks (;;T) 116
- Printer
 - Control Menu 258
 - Driver Files 455
 - Drivers 257
 - Load Program 255
 - Map to Include International Characters 361
 - Network Information 259
 - On/Off 271, 341
 - Program 255
 - Program Files 454
 - Selection Menu 258
 - Startup Options 255
- Printer Drivers 255

Printer Program
 Append to AUTOEXEC.BAT File 255
PRINTER.MAP 420
Program
 Capacity 451
 DataPerfect Diskette 16
 DataPerfect Printer 255
 DataPerfect Runtime 456
 Files 453
 Help 242, 243
 Install Files 20
 Specifications 451
Prompt For Report Variable 282, 289
Prompt>Create 204
PROMPT.FOR.VALUE.OF.RV:*n*
 USING FORMAT:*~field format~*
 439
PROMPT.MSG:*~message~* 439
Put Field/Record/Panel into Clipboard
 382

Q

Quality Assurance Field Using Formula
 155
Quick Convert 411

R

/R Startup Option 32
RAM Drive Installation 29
Range
 Check 105
 Disjoint Check Using Formula 145
 Specify 368
 Validation Time 105
RANGE:*~value1~* TO:*~value2~* 427
Read/Write User Password 396
Read-Only User Password 397
README Files 4
 Print 16
Real Fields 268, 342
Reasons for Links 192
Recalculation 226, 448
Recompute Field Offset 79

Record(s) 221
 Auto-Display 78
 Create 222
 Database 221
 Define 222
 Definition 48
 Delete 227
 Display Related 213
 Duplicate 346
 Edit 225
 Export 340
 Get from Clipboard 383
 Import 345
 Include After Last 280
 Include Before First 280
 Lookup 245
 Number 282
 Number of in Report 281
 Number of in Section 281
 Number of on Page 281
 Print Single 312
 Put into Clipboard 382
 Reformat Data 79
 Related 195
 Retrieve 245
 Selection in a Search 367
 Set Value for Next Created 107
 Single Report 312
 Skip if RV is False 284
 Sort 172
Record to Record
 Move from 237
RECORD.SIZE:*n* 423
RECORD: *~field format~* 439
Recovery
 Index 388, 449
Re>Create Index 388
Reformat Data Record 79
Regenerate Index 388
Related Records 195
 Display 213
Relationships
 Between Links 194
 Flat File 52
 Many-to-Many 53, 195
 Many-to-One 53, 194

- One-to-Many 53, 194
- One-to-One 53, 194
- Remove
 - Data 240
 - Data Link 203
 - Database 60
 - Field 121
 - File 228
 - Multiple 227, 402
 - Panel 82
 - Panel Link 215
 - Password 396
 - Record 227
 - Report 335
 - Report Variable 293
 - Subreport 308
 - Text 240
 - Total 107
 - Window 214
- Reorganize Database 448
- Report(s) 253
 - Attributes 294
 - Block 232
 - Body 276
 - Bold 233, 294
 - Built-In Short 260
 - Cancel 261, 274
 - Common Uses of 254
 - Copy 270
 - Create 269
 - Create Two-Level 309
 - Create with Subreport 298
 - Custom 269
 - DataPerfect Printer Program 255
 - Date 283
 - Delete 335
 - Descriptions 434
 - Destination 271
 - Disk File Mode (WP/DOS) 272
 - Disk File On/Off 271
 - Do in Subgroups 279, 303
 - Edit 270
 - Edit Field Formats 273
 - Edit Form 272
 - Edit Name 272
 - Evaluate 277
 - Export 313, 440
 - Export Format 266, 342
 - Field Formats in 98
 - Floating Decimal Fields in 93
 - Form 275
 - Import 313, 440
 - In Subgroups 279, 303
 - Index Number for Report Menu 263
 - Menu 270
 - Number of Records in 281
 - Options 278
 - Page Number 283
 - Parallel Text Fields in 295
 - Passwords 253
 - Print a Single Record 312
 - Print Margins 272
 - Print Variable 283
 - Printer On/Off 271
 - Prompt for Variable 282, 289
 - Record 312
 - Right Margin in 274
 - Sample 314
 - Search Conditions 263
 - Search Options Menu 375
 - Sections 275
 - Select Colors for Editing 357
 - Send to Clipboard 272, 381
 - Single Record 312
 - Sort Direction 263
 - Store Value in Variable 283
 - Store Variable in Field 285, 290
 - Subgroups 279, 303
 - Subreport 298
 - Temporary 253
 - Text Fields in 98
 - Time 283
 - Two-Level 309
 - Underline 249, 294
 - Use Clipboard for 272, 381
 - Variable 287
- Report Descriptions 434
 - APPEND.DISK.FILE 435
 - CONDITIONAL.EJECT 438
 - CREATE.DISK.FILE 435
 - CREATE.RECORD.THROUGH.LINK:n
TO.PANEL:m 438

DELETE.RECORD 438
 DO.IN.SUBGROUPS 438
 EJECT 438
 END.SUBREPORT.FOR.PANEL:*m*
 440
 EXCLUDE 436
 FINAL.FOOTER 437
 FIRST.PAGE.HEADER 437
 FORMULA: 437
 INCLUDE 436
 INCLUDE.AFTER.DATA 438
 INCLUDE.BEFORE.DATA 439
 LABELS=*n* WIDTH=*m*
 NUMBER.OF.LINES=*p* 439
 NAME:~*report name*~ 435
 NO.BLANK.LINE 439
 OTHER.PAGE.HEADER 437
 OUTPUT.FILENAME:~*filename*~
 435
 PAGE.FOOTER 437
 PAGE:~*field format*~ 439
 PROMPT.FOR.VALUE.OF.RV:*n*
 USING FORMAT:~*field format*~
 439
 PROMPT.MSG:~*message*~ 439
 RECORD: ~*field format*~ 439
 REPORT.BASED.ON.PANEL:*n* 434
 REPORT.BODY 437
 REPORT.FORM 437
 REPORT.INDEX:*n* 435
 REPORT.MODE: 435
 REPORTS: 434
 RV:*n* ~*field format*~ 439
 SAVE.RECORD.IN.PANEL:*n* 439
 SEARCH.END; 437
 SEARCH.RANGE.ON.FIELD:*n*
 ~*value1*~ TO ~*value2*~ 436
 SET.RV:*n* FORMULA: 439
 SKIP.IF.TWO.LEVEL.START 440
 SKIP.RECORD.IF 0=RV:*n* 440
 SKIP.TO.PAGE.BOTTOM 440
 STORE.RV:*n* IN.FIELD: 440
 SUBREPORT.THRU.LINK:*n*
 TO.PANEL:*m* 440
 TEMPLATE.ON.FIELD:*n* 437
 TEXT.LINES=*n* TOP.MARGIN=*m*
 BOTTOM.MARGIN=*p*
 LEFT.MARGIN=*r* 435
 TIME;~*field format*~ 440
 TODAY;~*field format*~ 440
 TWO.LEVEL.FOOTER 437
 TWO.LEVEL.REPORT.HEADER
 437
 Report Field
 Select 282
 Report Footer
 Final 277
 Page 276
 Two-Level 276
 Report Form
 Create 275
 Edit 275
 Tab vs. Space Bar 274
 Report Form Section(s)
 Final Footer 277
 First Page Header 275
 Other Page Header 276
 Page Footer 276
 Report Body 276
 Two-Level Footer 276
 Two-Level Report Header 276
 Report Header
 First Page 275
 Other Page 276
 Two-Level 276
 Report Name
 Edit 272
 Report Options 278
 Conditional Page Eject 278
 Create Record from Panel List 279
 Delete Record 279
 Do Report in Subgroups 279, 302
 Eliminate Line if Blank 279
 Include After Last Record 280
 Include Before First Record 280
 Labels 280
 Number of Records in Report 281
 Number of Records in Section 281
 Number of Records on Page 281
 Page Eject 281
 Prompt for Report Variable 282

- Record Number 282
- Select Report Field 282
- Skip if Start of Two-Level 284
- Skip Record if RV is False 284
- Skip to Bottom of Page 284
- Store Report Variable in Field 285
- Subreport 285
- Two-Level Report 286
- Report Variable(s) 287
 - Archiving (Sample Report) 314
 - Create 287
 - Create Running Totals 292
 - Delete 293
 - Edit 288
 - Initialize 291
 - Nonfunctioning 293
 - Operand 293
 - Print 283, 289
 - Prompt for 282, 289
 - Reveal 288
 - Search and Replace (Sample Report) 329
 - Skip Record if False 284
 - Store in Field 285, 290
 - Store Value in 283
 - Variable Search Conditions (Sample Report) 331
- Report with Subreport
 - Create 298
 - Delete 308
 - Do Report in Subgroups 303
 - Nested 302
 - Options 299
 - Parallel 302
 - Two-Level Report in 308
- REPORT.BASED.ON.PANEL:*n* 434
- REPORT.BODY 437
- REPORT.FORM 437
- REPORT.INDEX:*n* 435
- REPORT.MODE: 435
- REPORTS: 434
- Reset Search Conditions 373
- Retrieve from Clipboard 381
- Retrieve Record
 - Using Lookup 246
- Return to Edit 286

- Reveal
 - Edit Order 120
 - Field Creation Number 120
 - Field Formats 120
 - Formulas 120, 130
 - Report Variables 288
 - Use to Display Information About Fields/Panels 120
- Reverse Sorted Dates 143
- Right Margin in Reports 274
- Round* 163
- Rounding Formulas 128
- Run
 - Reports 260
- Running Totals
 - Create 292
- Runtime
 - Diskette 456
 - Manual 456
 - Package 456
 - Program 456
- RV is False
 - Skip Record if 284
- RV:*n ~field format~* 439

S

- .STE 414, 440
- .STR 409, 454
- Sample Formulas 139
 - Age 140
 - Conditional Totals 147
 - Dates 141
 - Disjoint Range Check 145
 - Elapsed Time 153
 - Most Recent Date 150
 - Number of Days Between Two Dates 146
 - Quality Assurance Field 155
 - Sort Dates Backward 143
- Sample Reports 314
 - Archiving 314
 - Custom WordPerfect Merge Files 317
 - Export Data to Other Database Programs 320
 - Form Letter 323

- Mailing Labels 326
- Search and Replace 329
- Variable Search Conditions 331
- Sample Transaction Log 401
- Save 248
 - Initialize at 103
 - Record 248
 - Validation Time 105
- SAVE.RECORD.IN.PANEL:*n* 439
- Screen
 - Help 118
 - Options 355
 - Printer Control 258
- Screen Options 355
 - Auto-Help 356
 - Display Date as MDY or DMY 360
 - Map Alt and Ctrl Keys 358
 - Mapping Printer to Include
 - International Characters 361
 - Select Colors for Menus and Report Editing 357
 - Top Line Display 359
- Scroll
 - Lock 12, 263
 - Through List 240
- Search 365
 - Define Conditions 366
 - Export Conditions 341
 - Field List 186
 - Import Conditions 346
 - Options 365
 - Perform 366
 - Record Selection in 367
 - Report Conditions 263
- Search and Replace (Sample Report) 329
- Search Field List 186
 - Define 106, 170, 186
 - Delete 187
 - Edit 187
- Search Options 365
 - Display Conditions 372
 - Do Trial Search on Panel 375
 - Match Any/All Conditions 374
 - Reset Conditions 373
 - Specify Formula 127, 370
 - Specify Range 368
 - Specify Template 369
- SEARCH.END; 437
- SEARCHLIST: 429
- SEARCH.RANGE.ON.FIELD:*n*
 - ~*value1*~ TO ~*value2*~ 436
- Section(s)
 - Number of Records in 281
 - Report 275
- Select 248
 - Background Record 223, 248
 - Colors for Menus and Report Editing 357
 - Database 60
 - Field 248
 - Numeric Fields Within Footers 273
 - Panel 81
 - Printer Driver 257
 - Record(s) for Search 367
 - Report Field 248, 282
- Separator
 - Decimal Character 390
 - Thousands Character 390
- Set CONFIG.SYS File for DataPerfect
 - Hard Disk Drive 22
 - Two Disk Drive 23
- Set Value for Next Created Record 107
- SET.RV:*n* FORMULA: 439
- Settings
 - Default 389
 - Export 340
 - Import 345
 - Report 270
- Shell 379
 - Clipboard 380
 - Get Field/Record from Clipboard 383
 - Install DataPerfect Under 30
 - Macros 384
 - Put Field/Record/Panel into Clipboard 382
 - Use Shell Options Menu 380
- Shell Options 380
 - Clear Clipboard 380
 - Clear/Append with Each Put 380
 - Go to Shell 380

- Retrieve from Clipboard 381
- Text/WordPerfect Merge 380
- Use Clipboard for Report/Import 381
- Shift-Arrow Keys 223, 238
- Shift-Tab 11, 224, 239
- Single Lines Column Report 266
- Single Record Report 312
- Size Panel 71
- Skip
 - If Start of Two-Level 284
 - Record if RV is False 284
 - To Bottom of Page 284
- SKIP.IF.TWO.LEVEL.START 440
- SKIP.RECORD.IF 0=RV:n 440
- SKIP.TO.PAGE.BOTTOM 440
- Sort
 - Character Order 391
 - Dates Backward Using Formula 143
 - Direction for Export 341
 - Direction for Report 264
 - Order 176
 - Records 172
 - Two-Level Reports 309
- SORT: 419
- Source
 - Panel 192
 - Panel Colors 197
- Space Bar vs. Tab in Report Form 274
- Spaces in Formulas 128
- Specifications
 - Field Format 89
 - Index File 175
 - Program 451
- Specify
 - Formula 370
 - Range 368
 - Template 369
- Start
 - DataPerfect 33
 - Report 260
 - Transaction Log 399
- Start DataPerfect
 - Hard Disk Drive 33
 - One Disk Drive 34
 - Two Disk Drive 33
- Startup Options 32
 - /R 32
 - /WPC 32
 - Printer 255
- Statement
 - CASE 134
 - IF 133
- Stop
 - Report 261, 274
 - Transaction Log 403
- Store
 - Information 47
 - Report Variable in Field 285, 290
 - Value in Report Variable 283
- STORE.RV:n IN.FIELD: 440
- Structure
 - Export DataPerfect Database 413
 - Export/Import Files 455
 - Import DataPerfect Database 413
 - Modify Database 415
 - Modify Panel 422
- Subgroups
 - Do Report in 279, 303
- Subreport(s)
 - And Record Creation Menu 298
 - Create 298
 - Delete 308
 - Do Report in Subgroups 303
 - Nested 302
 - Options 285, 298
 - Parallel 302
 - Two-Level Reports in 308
- Subreport Options 299
 - Create Record from Panel List 286, 301
 - Create Record Through Link 285, 300
 - Include Subreport 285, 299
- SUBREPORT.THRU.LINK:n
 - TO.PANEL:m 440
- Substring 164
- Supervisor Password 395
- System
 - Defaults 389
 - Operations Options 387

System Operations Options 387
Character Sort Order 391
Define Passwords 394
Definer Banner 405
Format Defaults 389
Import Transaction Log 404
Index Recovery 388
Map Uppercase 393
Start Transaction Log 399
Stop Transaction Log 403

T

.TXX 454
.TXX File 409
Tab 11, 224, 239, 249
Shift 11, 224, 239
To Column Position 274
Vs. Space Bar in Report Form 274
Target Field 196, 200, 209
Template 6
Colors 7
Help 244
Search 369
Specify 369
TEMPLATE.ON.FIELD:*n* 437
Temporary Files 453
Index 309
Text
Block 232
Copy 236
Delete 240
Enter in Panel 70
Field Format 90
Field in Report 90, 98
Lines 265
Move 247
Move Within Field 240
Panel 70
Parallel Fields 295
Underline 250
WordPerfect Merge 380
Text Wrapped Columns Report 267
TEXT.LINES=*n* TOP.MARGIN=*m*
BOTTOM.MARGIN=*p*
LEFT.MARGIN=*r* 435
Thousands Separator Character 390

Time
Elapsed 153
Field Format 89, 96
Now 163
Order 389
Report 283
Today 164
Validation at Edit/Save 105
TIME;~*field format*~ 440
Today 164
TODAY;~*field format*~ 440
Top Line Display 12, 359
Top Margin in Reports 264
TOP.LINE: 418
TOSHIBA.PRD 455
Total(s)
Conditional 147
Create Running 292
Import Fields Containing 350
Keep a 106
Remove 107
Report Footers 276
Report Variables 292
Transaction Log
Format 399
Import 401, 404
Sample 401
Start 399
Stop 403
Trial Search on Panel 375
Truncate 164
Two Disk Drive
Installation 22
Modify AUTOEXEC.BAT File 26
Set CONFIG.SYS File 23
Start DataPerfect 33
TWO.LEVEL.FOOTER 437
TWO.LEVEL.REPORT.HEADER 437
Two-Level
Footer 276
Index 309
Report Header 276
Report 309
Skip if Start of 284
Two-Level Report(s) 286, 309
Create 310

Sort 309
Subreports in 311
Temporary Index 309
Type(s)
Field Indicators 88
Of Links 192
Text in Panel 70

U

Unary Operators 126
Underline 249
Reports 249, 294
Text Fields 250
Understanding Indexes 172
Unique Keys in an Index 173
Update
Must Be Field 113
Non Field 113
Uppercase
Alphanumeric Field Format 89
Map 393
Use
Clipboard for Report/Import 381
Computer Database 47
DataPerfect on Network 450
Formulas 126
Index Recovery to Regenerate an
Index 388
Links 197
Parentheses in Formulas 137
Reveal to Display Information About
Fields/Panels 120
Shell Options Menu 380
User Passwords
Read/Write 396
Read-Only 397
User Screen Options Menu 355
Using the Database
Data Entry Keystrokes and Features
231

V

Validation Time (Edit/Save) 105
Value
Initial 103

VALUE= 427
VALUE=~value~ 429
Variable(s)
Length Alphanumeric Field Format
90
Print Report 283
Prompt for Report 282
Report 287
Search Conditions Report 331
Store Report in Field 285
Store Value in Report 283
Verify Data Using Formula 155

W

/WPC Startup Option 32
WIDTH=*n* Height=*m* 423
Wildcard Characters 369
Window(s) 212
Border 213
Create/Edit Field List 214
Delete 214
Display Related Records 213
Label 215
WordPerfect Library/Office Shell
Install DataPerfect Under 30
WordPerfect List Report 268
WordPerfect Merge Report 268

X

X:*n* Y:*m* 423
X=*n* Y=*m* 426

Y

Year 164
YMD: 417