

DataPerfect®

VERSION 2.3

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Version 2.3

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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 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.

With the DataPerfect Reports feature, you can easily customize the reports you need. Additionally, you can use the Reports feature to create database records, to mark database records for printing or deleting, or to search and replace data in records.

DataPerfect is network-ready. See *Appendix D: Networking DataPerfect* for information about using DataPerfect on a network.

DataPerfect is compatible with WordPerfect® 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 so that the data can be retrieved into other programs.

DataPerfect requires DOS 2.1 or higher to run in a stand-alone environment and requires DOS 3.0 or higher to run on a network.

DataPerfect 2.3

New features and enhancements that increase DataPerfect's convenience and flexibility have been added for this new version. They include the following.

Program Files

DataPerfect program files are now executable (.EXE) files rather than command (.COM) files, which means that the program can run faster and use memory more efficiently than before.

User-Defined Menus

With the DataPerfect Menu feature, you can define a menu to simplify user tasks and restrict database access. Users can access a panel or report by choosing a menu option instead of navigating DataPerfect manually. See *Menu; Menu Define; Menu, Remove; and Menu Security* in *Reference* for more information.

Once you have created a menu, a user enters a number to access a panel, the panel list, the report list, or to run a report.

Named Fields

You can now assign a name to a field when it is created or edited. The name then appears along with the field code when a field is referenced. See *Field, Define* in *Reference* for more information.

Quick Merge Define

A new report option enables users to easily create WordPerfect secondary merge files by using field names instead of following the order imposed by field position. See *Custom Merge Files in Report, Samples in Reference* for more information.

DPPDiagnistics

This new utility program analyzes the structure of a database to detect problems or errors. You can use the information in the DPPDiagnistics output file to change, correct, or optimize your database. See *Appendix J: Utilities—DPPDiagnistics* for more information.

DPLinks

Another new utility program, DPLinks creates a “map” of your database structure, showing which panels are linked. See *Appendix M: Utilities—DPLinks* for more information.

DPOrder

DPOrder now enables users to change the order of the panel list as well as the report list. See *Appendix K: Utilities—DPOrder* for more information.

Dial Telephone

A new function key, Shift-F4, has been added to direct your modem to dial a phone number from a field. See *Dial Telephone in Reference* for more information.

Multi-User Access for Reports

Network users may now create, edit, set up, and run reports simultaneously.

Transaction Log

A new transaction log feature enables the user to export all data in the database to the transaction log. This makes it easier to add or delete fields in the existing database. See *Exporting all Data Files to Log in Transaction Log in Reference* for more information.

New Security Options

In addition to using passwords and network rights, database definers can now control access to the database by creating menus that direct or limit a user's choice.

The new /z startup option bypasses the panel list, and moves a user directly to a panel. When the user exits DataPerfect, the panel list is bypassed once again, and the user exits to DOS.

Report Options

A number of new report options are now available. In addition to Define Secondary Merge File (which allows you to name fields in a merge), they also include Set Page Number, Turn Print On/Off, Turn Disk On/Off, Skip (Sub)Report If RV Is False, Skip to Record at RV, Choose Next Record During Lookup, and Repeat Record if RV Is True. See *Report Options* for more information.

Numeric fields in report footers now have Standard Deviation as one of the options. See *Selecting Numeric Fields within Footers in Report, Custom* in Reference for more information.

Virtual Report Links

Virtual report links are flexible, efficient temporary links you can create for sub-reports. See *Subreport Using Virtual Link in Report, Sub* in Reference for more information.

Virtual Panel Links

You can now create a virtual panel link to access all records in the linked panel, even if they don't match records in the original panel. For more information, see *Virtual Panel Link in Link, Panel* in Reference.

Searching on Multiple Fields in a Single Lookup

You can now check additional fields in a lookup list without returning to the panel. For example, if you had many Smiths in your database, each with a different first name, you could press Up Arrow on the last name field to look up the Smiths, then (without leaving the lookup list) press Tab to switch the lookup to the next field in the index. The appearance of the lookup list does not change, but you can now search for a certain first name. See *Lookup* in Reference for more information.

Display Mode and Print Mode Indicators

New display mode and print mode indicators have been added to DataPerfect 2.3.

The ::J display mode indicator increments when the user initiates creation of a record, to ensure that each record will have a unique number. The ::R display mode indicator creates a right-aligned display. See *Field Format, Display Mode Indicators* in Reference for more information.

The ;;Q print mode indicator lets users easily create comma-delimited output. It surrounds text data with double quotes, but leaves quotes off numeric data. A comma-delimited format can be used with other computer applications, such as forms programs and dBase programs. The ;;G print mode indicator will allow you to output information from a variable-length text field in transaction log file format. It will enclose text and character fields in double quotes and will highlight bold and underline codes. See *Field Format, Print Mode Indicators* in Reference for more information.

↓Panel (F5)

If you use ↓Panel to go through a link, a new record will be started in the destination panel, even if other records already exist. (Formerly, ↓Panel would place you in the destination panel in Browse mode if records already existed, and would place you in Create mode only if there were no subset records.)

Down Arrow (↓) has the same function as in earlier versions, allowing you to browse related records in the destination panel.

Functions

DataPerfect has added new functions for exponentiation, future value, interest rate, length, logarithm, payment, present value, square root, subfield, and term. See *Functions in Reference* for more information.

Comments in Formulas

You can add comments to your DataPerfect formulas to make them more readable and easier to understand. Use /* to begin the comment and */ to end the comment. DataPerfect will ignore any text enclosed within the delimiters, but it will display when you look at or edit the formula.

DataPerfect Applications and Formulas

DataPerfect now ships with several predefined databases. One contains sample formulas; the others are ready to use for many different purposes, such as keeping track of members in an organization, tracking student grades and classes, creating a bibliography, creating a check register, organizing medical records, billing clients, and creating a mailing list. You can use these predefined databases without any changes, or you can use them as examples to help you design and develop your own databases.

After you have installed DataPerfect 2.3, you can access the predefined databases by starting DataPerfect and then changing to the directory where they were installed (usually C:\DP23\APPS).

Supplemental Shell Macros

Several new Shell macros now ship with DataPerfect 2.3, including BANNER.SHM, BOXES.SHM, COLORS.SHM, HELP.SHM, and MENU.SHM. They are designed to help you customize and standardize the appearance of the databases you create. You can find more information about them under *Using DataPerfect Supplemental Shell Macros* in the *Shell Installation and Operation* section of this manual; additional information is also available in the DataPerfect 2.3 README files.

Converting Your 2.x Databases into DataPerfect 2.3

With DataPerfect 2.3, you can directly access any database created with DataPerfect 2.2. The database will become a 2.3 database when you exit. To access databases created with earlier versions of DataPerfect, you should export them with the 2.x DPEXP, and import them with the 2.3 DPIMP.

DataPerfect 2.3 is not backwards compatible unless you export and import the database .STR file. If you want to run a DataPerfect 2.3 database in DataPerfect 2.2, you should export the database with the 2.3 DPEXP, and then import it with the 2.2 DPIMP. Any DataPerfect 2.3 enhancements in the database, such as menus, will be deleted by the DataPerfect 2.2 import.

For information on how to use DPEXP and DPIMP, see *Appendix B: Description Language (DPEXP and DPIMP)*.

Installation

Included in your package is the DataPerfect *Installation Program*, which guides you step by step through the DataPerfect installation process. The files on the DataPerfect program disks are compressed and cannot be used without the installation program.

You can run DataPerfect from a network, diskettes, or a hard drive. If you are installing DataPerfect on a network, please see *Appendix D: Networking DataPerfect* before you install DataPerfect.

Do not install Shell if you plan to run DataPerfect from diskettes.

To install DataPerfect,

- 1 Insert the Install/Program/Utilities diskette into drive A.
- 2 At a DOS prompt, type **a:install** and press **Enter**.
- 3 Read the on-screen instructions carefully and follow the prompts.

Once you finish copying the program to your network, hard drive, or diskettes, put the original diskettes away in a safe place. Avoid exposing them to sunlight, dust, or magnetic fields.

Do not use multiple versions (dates) of DataPerfect.

With DataPerfect 2.3, you can directly access any database created with DataPerfect 2.2. The database will become a 2.3 database when you exit. To access databases created with earlier versions of DataPerfect, you should export them with the 2.x DPEXP, and import them with the 2.3 DPIMP.

DataPerfect 2.3 is not backwards compatible unless you export and import the database .STR file. If you want to run a DataPerfect 2.3 database in DataPerfect 2.2, you should export the database with the 2.3 DPEXP, and then import it with the 2.2 DPIMP. Any DataPerfect 2.3 enhancements in the database, such as menus, will be deleted by the DataPerfect 2.2 import.

For more information on how to use DPEXP and DPIMP, see *Appendix B: Description Language (DPEXP and DPIMP)*.

Installing DataPerfect Under Shell

WordPerfect Office Shell is a program integration, menu, and memory management program that is included with DataPerfect. Running DataPerfect under Shell gives you several advantages over running DataPerfect by itself. For example, with Shell you can run the predefined Shell macros, define your own macros for DataPerfect, and save information to the Clipboard to be retrieved in DataPerfect or another program.

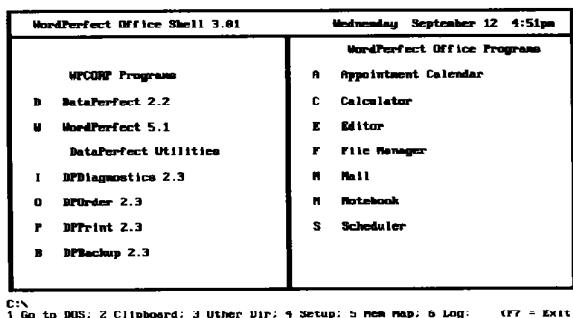
A file called SHELL.NEW is set up to let you start WordPerfect, DataPerfect, several DataPerfect utilities, and the Office programs under Shell. Make sure the directory containing the DataPerfect program files is specified in the path in your AUTOEXEC.BAT so Shell can find the directory. Otherwise, you should modify the setup of SHELL.NEW to specify the full path to the directory where the program files are found.

If you have WordPerfect or WordPerfect Office, you should make sure the directories containing those program files are in the AUTOEXEC.BAT path or that you specify the full path for each in Shell setup.

If you are already using Shell and don't want to disturb your current setup, or if you want to modify the setup of SHELL.NEW, see *Adding DataPerfect to an Existing Shell Menu* below.

To start SHELL.NEW,

- 1 Start at the DOS prompt.
- 2 Change to the directory where you keep the DataPerfect program files (for example, c:\dp23).
- 3 Type **shell shell.new** and press **Enter**.



Adding DataPerfect to an Existing Shell Menu

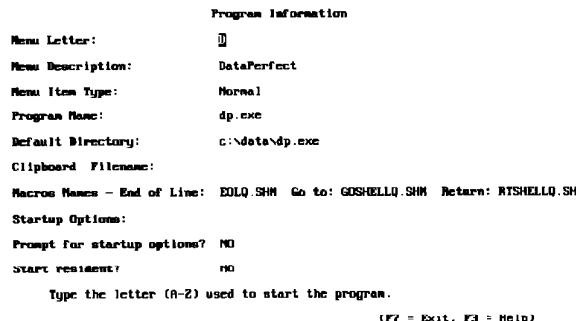
If you already have Office or another WordPerfect Corporation product that includes Shell, you probably have your Shell menu set up to accommodate your own needs. Instead of using the Shell menu that comes with DataPerfect, you will probably want to add DataPerfect to your existing Shell menu. Follow the directions below to add DataPerfect to your existing Shell menu.

The following example showing how to add DataPerfect to Shell assumes that the DataPerfect files are in the C:\DP23 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 (for example, DataPerfect 2.3).
- 6** Move to the program name, then enter c:\dp23\dp.exe as the name of the program.
- 7** Move to the default directory line, then enter the name of the default directory (for example, C:\DP23).
- 8** Press **Exit** (F7) twice to save the setup changes.

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

If you want to install the supplemental Shell macros that are also included with DataPerfect, see Shell Installation and Operation later in this manual.

Using DataPerfect

This section explains how to start DataPerfect, enter a database, and exit DataPerfect. It also introduces the available startup options so you can decide which ones may be helpful for you.

You can use multiple startup options together on the same command line. If you include the database name, it must be the last command on the line (for example, dp/c/d-c:\data\temp/p=3/r customer).

Startup Options

The DataPerfect startup options are listed below.

/c

This option forces DataPerfect to use colors (such as dp/c). It may be necessary for some color monitors.

/d-directory

This option redirects the temporary files to the specified directory (for example, dp/d-c:\data\temp). If you do not specify a directory, the temporary files are stored in the default directory. This option overrides the redirection in the wpc environment variable.

/int

This option lets you enter new built-in messages (in a language other than English) for "Not enough memory to load Dataperfect" and other error messages. It also lets you change formats for the date and time shown on the top line, and for the decimal/thousands character. When this option is specified, DataPerfect displays several prompts that allow you to enter the new messages or formats.

The allowed length of each entry is shown between two diamond-shaped characters. Longer messages will be truncated.

If you prefer to skip a prompt, press Enter at that prompt. The built-in message, date format, or time format will remain unchanged. The only prompt you can't skip is the decimal prompt. You must enter either "." (period) or "," (comma) as the decimal point.

Once you respond to all of the prompts, a new version of the program is written as DPN.EXE and is used with the original DPSYS. Rename the DPN.EXE file to DP.EXE. You should make a backup of the original program file (DP.EXE) before renaming the DPN.EXE file.

Built-In Messages

If you use the /int Dataperfect startup option, you will be prompted for equivalents for the following built-in messages: "Not enough memory to load DataPerfect," "Error when releasing memory," "Can't find," "Enter Pathname or Escape/F1/F7 to Exit," and "New Report."

Date

The date format must include the MDY (month, day, year), DMY, or YMD specification. For example, to display the date in European format, you would type the following: DDMYZ9/99/99. The initial D indicates a date field, the sequence Z9/99/99 indicates the field format, and DMY shows a date format of Day, Month, Year.

The specifications you set will become the default for dates in newly created databases.

Time

The letter T indicates a time field, the sequence Z9:99:99 indicates the field format, and HMS displays Hours, Minutes, and Seconds.

This specifications you set will become the default for times in newly created databases. Top Line Display does not display seconds.

Decimal Character

Enter either a “.” (period) or a “,” (comma) for the decimal character.

/l

The /l option should be used if you have a large number of panels that result in out-of-memory (“104”) errors. If you are working with a panel that gives this error message, exit DataPerfect and restart with this option.

/p=panel number

This option moves you directly from DOS to a specific panel in a database. For example, dp client /p=1 would take you to panel 1 in the CLIENT database, or to option 1 on the menu if the database has a menu.

When you exit the panel, DataPerfect returns to the panel list or menu.

/z=panel number

This option moves you directly from DOS to a specific panel in a database. For example, dp client /z=2 would take you to panel 2 in the CLIENT database, or to option 2 on the menu if the database has a menu.

When you exit the panel, DataPerfect exits to DOS rather than to the panel list or menu.

database name

This option moves you directly to the specified database (for example, dp customer).

Starting and Exiting DataPerfect

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

Starting DataPerfect

If you are running DataPerfect from diskette, insert the Install/Learning (or Install/Program/Learning) diskette into drive A, and insert the diskette which contains the desired database into drive B.

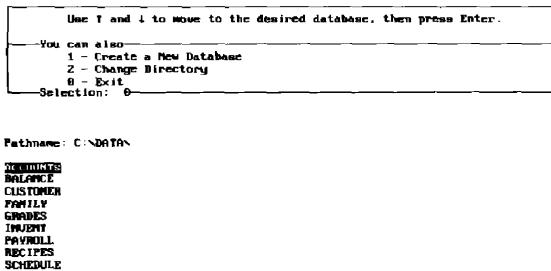
Whether you are running DataPerfect from a network, diskette, or hard drive, follow the directions below to start DataPerfect.

- 1** At the DOS prompt, change to the directory that contains your database files (for example, cd\dp23).
- 2** 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 (such as C:\DP23\DP) when executing the program.

Entering 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.

The DataPerfect documentation includes *DataPerfect Reference* and the *DataPerfect Workbook*. The workbook contains lessons that demonstrate specific procedures for defining and using a database in DataPerfect. *DataPerfect Reference* is primarily a reference tool.

DataPerfect Reference

The following list describes some of the sections in this manual.

Getting Started

Getting Started contains a description of the DataPerfect program and the manuals which accompany it. It provides instructions for installing the program, using the template, getting help, and using important keys. It also contains information about manual conventions. Reading *Getting Started* is essential for properly understanding this manual.

Reference

Reference gives specific information, arranged alphabetically, about DataPerfect features and how they are used. Use the index or the table of contents to quickly locate the page number of a particular reference heading.

Shell Installation and Operation

This section explains how to install and use the WordPerfect Office Shell. It also contains information about the Clipboard and about supplemental Shell macros that can be used with DataPerfect.

Shell Features

Additional information is given here about display appearance, setup, memory management, macros, and other Shell options and features.

Appendices

The appendixes contain miscellaneous information about the DataPerfect program, including Convert procedures, network information, program capacity, and program files. Appendixes also contain information about the Description Language, DataPerfect Utilities, and the DataPerfect Runtime package.

Glossary/Index

This section 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

Occasionally, changes are made to a program after a manual has been printed. The README files shipped with DataPerfect and with WordPerfect Office Shell contain information about these changes.

Customer Feedback

WordPerfect Corporation is constantly improving 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 and Keycals

Templates and keycals help you use DataPerfect more effectively.

Template

In your 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). 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 provide a template that is a close match for your keyboard.

Colors

The template is color coded. Listed below are the colors associated with various functions and the keystrokes used to access those functions.

Color	Meaning
Black	Press the function key.
Green	Hold down Shift and press the function key.
Blue	Hold down Alt and press the function key.
Red	Hold down Ctrl and press the function 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 keys (see *Colors* above).

Function Keys

DataPerfect uses various keys on your keyboard to perform its many functions. These function keys work in several ways. For example, some function keys

display a menu of options when they are pressed (such as Import, Remove, •Search), and some function keys perform the function immediately after they are pressed (for example, 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* in *Reference*.

Manual and Keystroke Conventions

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

Terms

These terms imply specific actions in the DataPerfect documentation.

Term	Action
Enter	Type the bolded characters or menu selection number, then press Enter .
Block	Define a block of text by moving the cursor to one end of the text, pressing Block (Alt-F4), and moving the cursor to the other end of the text.
Move	Use the cursor keys to position the cursor at the desired location.
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 manual, 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 (such as Ctrl-F7), hold down the first key while you press the second key.

After you select 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

Key	Function
Backspace	Erases characters to the left of the cursor
Cancel (F1)	Use to leave any menu or to cancel the execution of a function (such as ♦Search, ♣Search, Import, Report, etc.)
	Also restores the previously displayed record in a lookup list
Delete (Del)	Erases characters at the cursor
End	Moves the cursor to the end of data in a reverse video bar (when editing field formats, panel names, etc.).
Enter (←)	Moves the cursor forward from one field to the next. Inserts a hard return in text fields. Used to access a database, panel, or report menu.
Escape (Esc)	In Browse mode, use in place of Shift-Tab to move cursor to previous field.
Exit (F7)	Depending on your location, exit any menu, exit destination panel to source panel, exit to panel list, exit database.
Help (F3)	Position cursor and press Help once to display help for that field. Press Help twice for on-screen template. Press Help three times for DataPerfect release date and version, and to list features and function keys. Press Enter to exit Help.
Tab/Shift-Tab	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 2.3 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 is 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* in *Reference*). The date and time can also be displayed on the top line.

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.

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.
Reference Section	The <i>Reference</i> section in <i>DataPerfect Reference</i> is a collection of DataPerfect features, arranged in alphabetical order. Under each heading in <i>Reference</i> is a detailed description of how each feature functions. <i>Appendix H: Troubleshooting</i> is specifically directed toward solving problems you may have.
Workbook	Many of the individual features in DataPerfect have keystroke-by-keystroke information given in the workbook. Going through a lesson may provide the information you need to solve a problem.
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, <i>DataPerfect Reference</i> , <i>DataPerfect Workbook</i> , and your dealer can provide, follow these steps: <ul style="list-style-type: none">• Try to duplicate the problem, keystroke by keystroke, to see exactly what was done.• Be at the computer when you call Customer Support. Customer Support operators will be able to help you faster and more effectively if you have the following manuals, disks, and information readily available. Write the information down as you gather it. <ul style="list-style-type: none">• DataPerfect Reference and the DataPerfect Workbook• Original (master) DataPerfect diskettes• Registration number• Computer information<ul style="list-style-type: none">Computer brand name and type/modelMonitor brand name and type/modelContents of AUTOEXEC.BAT fileContents of CONFIG.SYS fileVersion of DOS• Printer brand name and type/model• Version and release of DP.EXE (Press Help (F3) twice)

You do not have to have all of this information when you call Customer Support. If you don't, Customer Support can assist you in gathering what is necessary.

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 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:

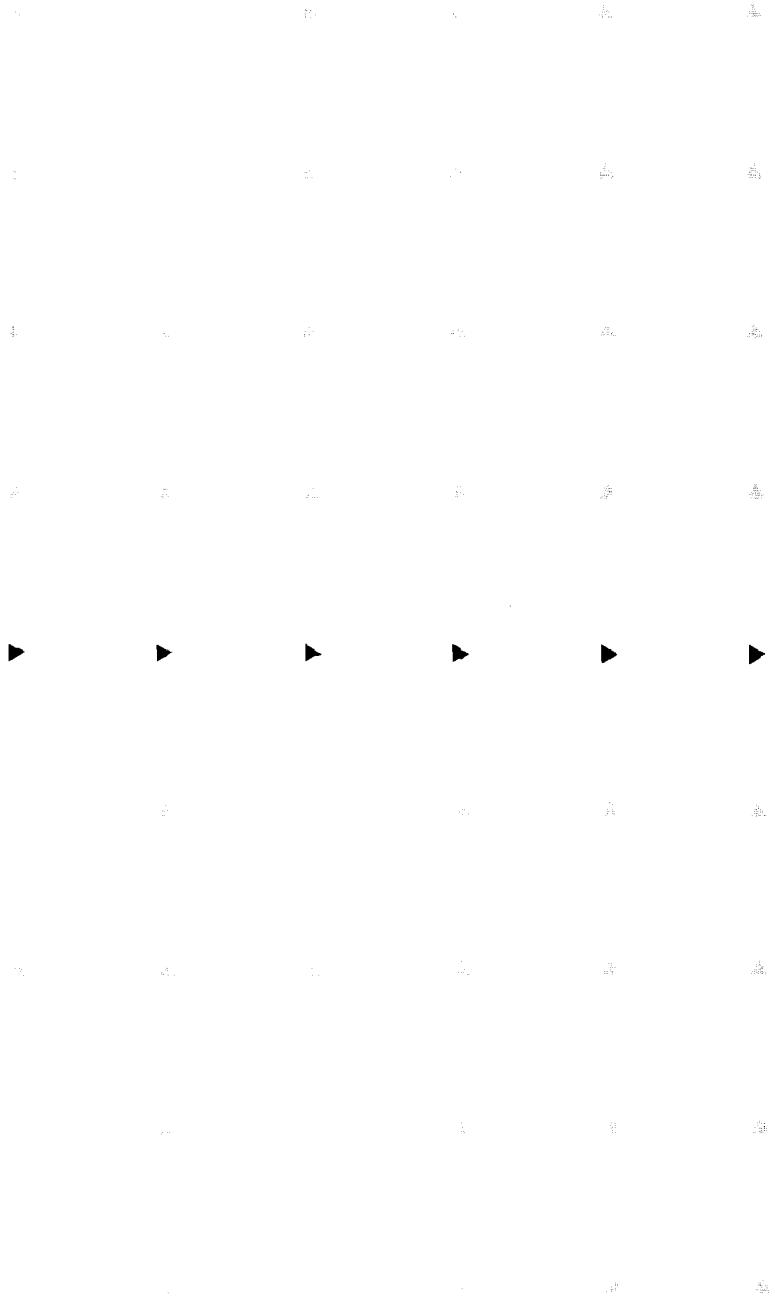
(801) 225-5700

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.

After-Hours Support

Call (801) 222-9010 to receive support for WordPerfect products for IBM PC-compatible computers between 6 p.m. and 7 a.m. Mountain time, Monday morning through Friday evening. This number is not toll-free.



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 (such as 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 (such as 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 in any one panel may contain as many as 80 fields.

A FIELD

BROWSING RECORD	Exit-F7	Create-F9	Edit-F6	Lookup-T	Help-F3
CUSTOMER.PER-30 CUSTOMER INFORMATION					
Customer ID 000001	Last Name <input type="text" value="Bennett"/>	First Name <input type="text"/>	Middle N. <input type="text"/>		
Address 378 Garden Park Drive	City <input type="text" value="Pueblo"/>	ST <input type="text" value="CO"/>	ZIP <input type="text" value="81002-0000"/>		
	Phone <input type="text" value="555-9999"/>	Ext. <input type="text"/>	WK Phone <input type="text" value="555-8379"/>		
Comments	Last Invoice Date <input type="text"/>				
	Balance Due <input type="text" value="\$0.00"/>				
	Payments <input type="button" value=" "/>	Invoices <input type="button" value=" "/>			

Record

A *record* is a group of fields that contains 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-T	Help-F3
CUSTOMER.PER-30 CUSTOMER INFORMATION					
Customer ID 000001	Last Name <input type="text" value="Bennett"/>	First Name <input type="text"/>	Middle N. <input type="text"/>		
Address 378 Garden Park Drive	City <input type="text" value="Pueblo"/>	ST <input type="text" value="CO"/>	ZIP <input type="text" value="81002-0000"/>		
	Phone <input type="text" value="555-9999"/>	Ext. <input type="text"/>	WK Phone <input type="text" value="555-8379"/>		
Comments	Last Invoice Date <input type="text"/>				
	Balance Due <input type="text" value="\$0.00"/>				
	Payments <input type="button" value=" "/>	Invoices <input type="button" value=" "/>			

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 data files:

- CUSTOMER.PER (Customer Information)
- CUSTOMER.INV (Invoices)
- CUSTOMER.PUR (Items Purchased)
- CUSTOMER.ITS (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 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.

00001 Bennett	John	M	CD 81002-0000	370
Garden Park Inn	Pueblo			
(719) 555-1234 (719) 555-1245				
50.00				
00002 Calister	Allan	F	CD 81002-0000	1021
Fir Avenue	Pueblo			
(719) 555-9376 (719) 555-2014				
000029	\$9.00			
00003 Cameron	Marshall	H.		1475
Park Lane Drive	Greeley		CD 80631-0000	
(383) 555-5999 (383) 555-1310	Give him 10% discount on purchases over \$10.00			
000030	\$9.00			
000026 Corrales, Jr.	Joseph			
Kensington House, #312	New York		MV 10036-0000	
(212) 668-1200 (900) 000-0000				
000000	\$9.00			
000004 Criddle	Howard	Jay		2025
South 508 East	Fort Collins		CD 80521-0000	
(303) 555-3895 (303) 555-7549	Do not accept any personal checks from H. Criddle			
000029 Dance	Samantha			1487
Lockwood Dr.	New Bedford		MS 02743-0000	
(517) 668-5326 (900) 000-0000				
000000	\$9.00			

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.

BROWSING RECORD Exit-F7 Create-F9 Edit-F6 Lookup-T Help-F3						
CUSTOMER PER-30 CUSTOMER INFORMATION						
Customer ID 000001	Last Name DUNCAN	First Name	Middle N.			
Address 378 Garden Park Drive	City Pueblo	ST ZIP CO 81002-0000	Comments			
			MR Phone: (719) 555-5668	MX Phone: (719) 555-6378		
				Last Invoice Date		
				Balance Due	\$0.00	
				Payments %		Invoices %

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.

Menu

A list of choices. Built-in menus provide features necessary for database creation, navigation, reporting, and other functions. You may also see user-defined menus in which the definer provides direct access to panels, reports, or other functions through menu number choices.

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 book 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. Indexes are mainly used for sorting. Multiple indexes are needed if you want a primary sort on more than one field.

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, what the size of each room will be, 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 show 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. A panel link is used to create this relationship.

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 panel link is used to create this relationship.

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 data link is used to create this relationship.

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. A data link is used to create this relationship.

Decide what types of relationships your database will use before you move on to step 2. For more information about relationships between panels, see *Link 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 (each piece will become a field 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, and so forth. 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, and so forth.

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 in Database Fundamentals*). 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 (for example, the First Name field and the Address field), or you can include some field in each index 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 List 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 *Link* 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 *Report* 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.

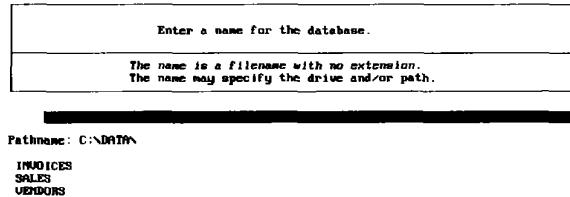
DataPerfect is a tool which allows you to solve many information management problems. It makes *defining* (or building) your database easy; however, the work of *designing* the database is up to you. Time taken in the design stage is time well spent.

Defining a Database

To define a database,

- 1 Be sure the database list is on your screen.
- 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 (no more than 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 *Appendix F: Program Files*.

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 *Panel 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 (in other words, C:\DATA).
- 3 Type **copy filename1.str filename2.str** and press **Enter**.

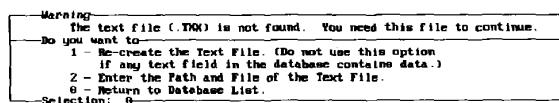
Filename1 represents the name of the database from which you are copying.

Filename2 represents the name of the database to which you are copying.

Filename1 and *filename2* must be different filenames.

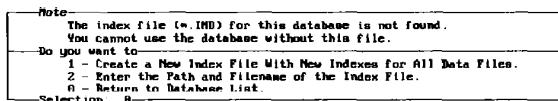
- 4 Start DataPerfect (see *Installation* in *Getting Started*).
- 5 From the database list, move the cursor to the name of the database you just copied (*filename2*), then press **Enter**.

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



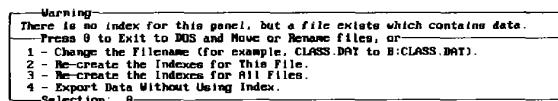
- 6 Select Re-create the Text File (1).

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



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.



You need to give each panel in the database a new panel filename so a new .STR file will be created.

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.

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.

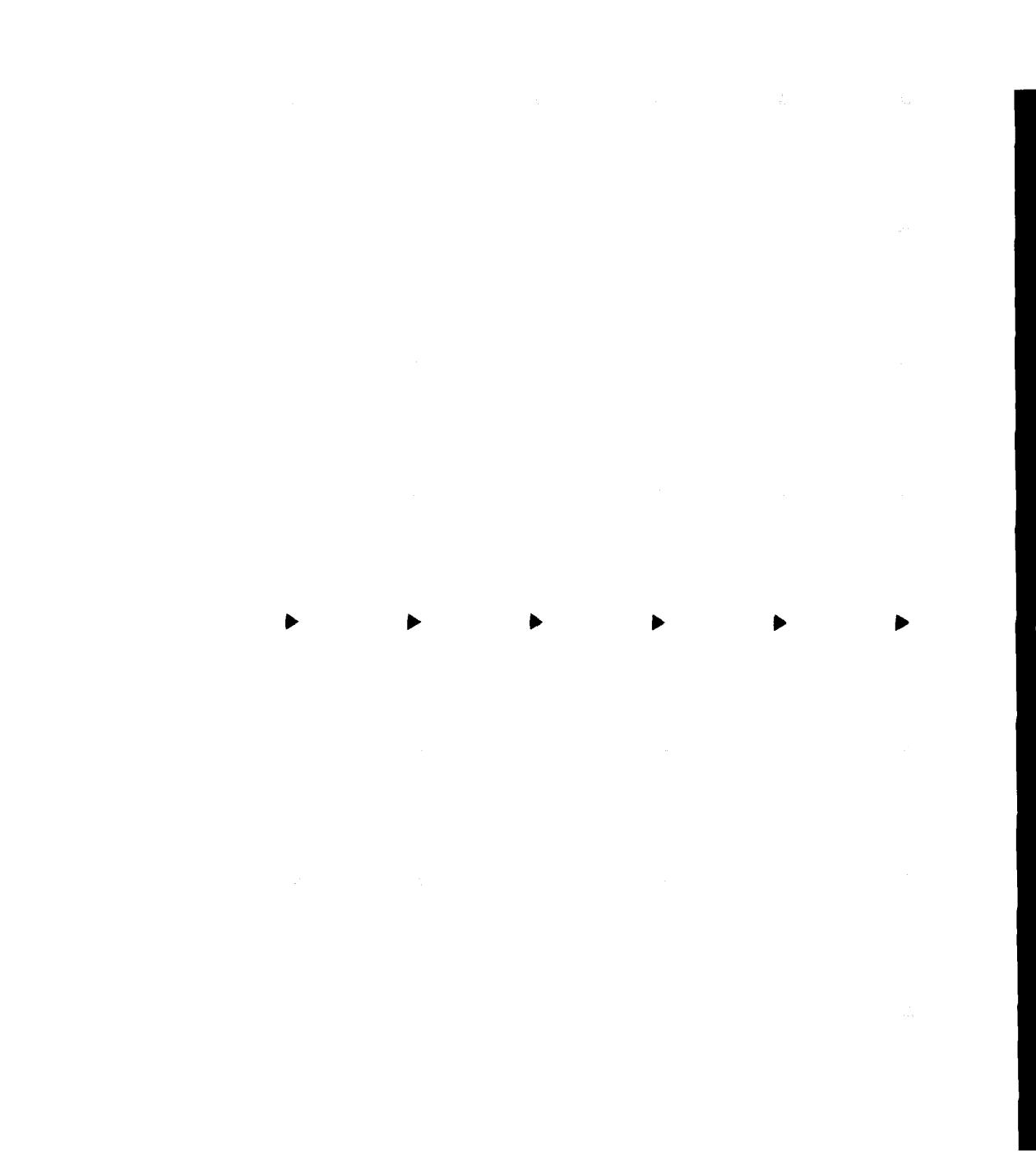
- 3 Use the arrow keys to highlight the desired database, then press **Enter** to enter the database.

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.



Backup

Power outages, computer failures, and disk failures can erase information in your database. To avoid losing time and data, make backup copies of all data files periodically.

The DataPerfect utility DPBackup lets you back up a DataPerfect database to a network drive, hard drive, or diskettes. See *Appendix I: Utilities—DPBackup* for more information.

DP Backup does not back up a database from diskette. If you run your database from diskette, you must use either of the DOS commands Copy or Backup at the DOS prompt to back up the database files. See your DOS manual for more information on these commands.

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 *Data Export* in *Reference* for more information).

Database Files

Each database displayed in the database list has three files which are generated by DataPerfect (.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 name of each data file is found at the top left of each panel. If the database contains more than one panel, be sure to back up the files for each panel.

When performing a backup, copy the .STR and .TXX files and all data files onto a blank, formatted diskette; a hard drive; or an appropriate network directory. The .IND file is regenerated when you enter a database and will not require a backup copy.

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* 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 (such as 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. If you move a field within a panel, the field keeps its original number.

You can copy the field labels and fields (but not any indexes, links, or formulas) of an entire panel. To copy a panel using Block, create a new, empty panel. Exit the new panel, access the panel to be copied, then block and save the entire panel. Exit the panel you just blocked and saved, access the new, empty panel, then press Move (Ctrl-F4) to retrieve the fields and labels.

Reports

Block can be used within a section of the report form (see *Report Form 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 on the field where you want to insert the blocked text.

- 7** If the field is a text field, press the **Space Bar** once to enable you to edit the field, then press **Move** (Ctrl-F4).
or
If the field is a non-text field, 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

To print bolded text or fields in a report, either use DPPrint or save the report as a WordPerfect file and print the report from WordPerfect.

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 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. 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 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)).

DataPerfect does not allow you to cancel out of a y/n (yes/no) prompt. You must type either y or n.

Character Map

With the Screen feature of DataPerfect (Ctrl-F3), it is possible to map most symbols and international characters for on-screen use and for printing.

Important: *Do not attempt to map the characters () [] " ' ! * = < > / \ ? | ^ ; . DataPerfect uses these characters in formulas and in establishing a sort order.*

Map Alt and Ctrl Keys

The Map Alt and Ctrl Keys option of the User Screen Options menu 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.

The computer is capable of displaying 256 characters numbered from 0 to 255.
YOU MAY USE CTRL H-2 AND ALT H-2 TO ENTER 52 OF THESE CHARACTERS FROM THE
KEYBOARD. THE CURRENT ASSIGNMENT OF THESE KEYS IS LISTED BELOW, BOTH
NUMERICALLY AND HOW THEY ARE DISPLAYED. USE F, L+, -, AND V TO MOVE TO
THESE YOU WISH TO CHANGE AND ENTER THE DECIMAL VALUE FOR THE NEW CHARACTER.
PRESS F10 TO SAVE YOUR CHANGES OR F1 TO EXIT WITHOUT SAVING.

Ctrl Numbers		Alt Numbers	
A	168 ☐	M	147 ☁
B	136 ☒	O	148 ☃
C	137 ☓	P	149 ☄
D	138 ☔	Q	150 ★
E	5 ☕	R	18 ☖
F	161 ☗	S	152 ☘
G	129 ☙	T	131 ☚
H	161 ☛	U	132 ☚
I	162 ☜	U	128 ☜
J	167 ☝	W	135 ☞
K	160 ☝	X	135 ☞
L	166 ☞	Y	164 ☞
M	130 ☞	Z	161 ☞
A	238 ☐	M	251 ☁
B	247 ☒	O	232 ☃
C	245 ☓	P	233 ☄
D	236 ☔	Q	224 ★
E	225 ☕	R	227 ☖
F	230 ☗	S	235 ☘
G	238 ☙	T	228 ☚
H	239 ☛	U	238 ☚
I	231 ☜	U	246 ☜
J	249 ☝	W	225 ☞
K	241 ☝	X	249 ☞
L	242 ☞	Y	229 ☞
M	253 ☞	Z	243 ☞

W:\...\DATA\DP-Z800\REF-C.SCR

Doc 1 Pg 1 Ln 348p POS 23.84p

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 Use the arrow keys to locate the number and character you want to change.
- 4 Enter the ASCII value of the desired character.

If you are unsure of a desired character's ASCII value, see *Appendix N: ASCII and IBM Extended Characters*.

- 5 Press **Exit** (F7) to save the changes and return to the panel or panel list.

If you want to use Alt-letter characters in a new database, you should take care not to change the default keystroke mappings. If you access any existing database previous to creating a database in the same session, the newly-created database will have the mappings of the existing database.

In an existing database that has keystroke mappings other than the default, you can change the mappings, or you can use the Alt-number ASCII and extended IBM characters. For more information on Alt-letter and Alt-number keystrokes, see *Appendix N: ASCII and IBM Extended Characters*.

If you have mapped an international character to a keystroke combination (Ctrl plus a letter or Alt plus a letter) and you define the same keystroke combination for a custom hotkey, the hotkey definition will override the international character mapping whenever you use that keystroke.

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, such as 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.

If you want to use an international character while DPPrint is active, you must first edit a copy of the appropriate printer driver (.PRD file) to include the international character(s) you want to use. For information on how to do this, see *WordPerfect Office Printer Program (WPOPTR)* in Appendix L: Utilities—DPPrint.

If you prefer not to edit the .PRD file, do not run DPPrint when you are using international characters you have mapped to the printer.

Related Information

You can find related information in the following section:

- Appendix N: ASCII and IBM Extended Characters
- Screen

Characters, Uppercase

The Mapping Uppercase Letters option of the System Operations feature (Shift-F9) 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 (for example, 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.

Important: Do not attempt to map the characters () [] `` ' + - * = < > / \ ? | ~ ; . DataPerfect uses these characters in formulas and in establishing a sort order.

To change the Uppercase table,

- 1 Be sure the System Operations menu is on the screen (press **Shift-F9**).
- 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 (uppercase '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	64	64	0	128	128	6	192	1	192	1	
1	65	65	1	65	65	A	65	A	65	A	
2	66	66	2	66	66	B	66	B	66	B	
3	67	67	3	67	67	C	67	C	67	C	
4	68	68	4	68	68	D	68	D	68	D	
5	69	69	5	69	69	E	69	E	69	E	
6	70	70	6	70	70	F	70	F	70	F	
7	71	71	7	71	71	G	71	G	71	G	
8	72	72	8	72	72	H	72	H	72	H	
9	73	73	9	73	73	I	73	I	73	I	
10	74	74	10	74	74	J	74	J	74	J	
11	75	75	11	75	75	K	75	K	75	K	
12	76	76	12	76	76	L	76	L	76	L	
13	77	77	13	77	77	M	77	M	77	M	
14	78	78	14	78	78	N	78	N	78	N	
15	79	79	15	79	79	O	79	O	79	O	
						123	A	123	A	123	A
						207		207		207	

- 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.

Color

When running DataPerfect with a color monitor, you have the option of changing the color of panels, menus, and reports as they appear on the screen. Options for changing color settings are discussed below.

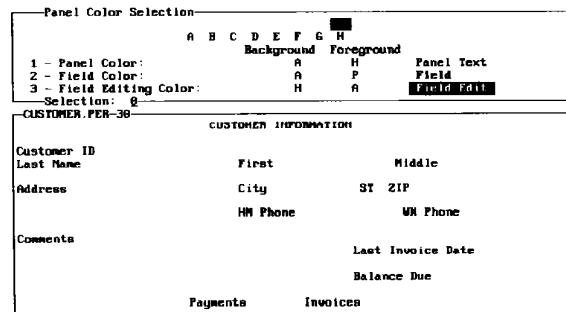
Change Color

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. The option to change panel color is part of the Panel Options menu (see *Panel Options in Reference*). 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 Enter the panel you want to change.
- 2 Press **Define Panel** (Alt-F8) twice to display the Panel Options menu.
- 3 Select Change Color (2) to access the Panel Color Selection menu.



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.

- 4 Select the option number (1, 2, or 3) for the item you want to change.
- 5 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.

- 6 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.

- 7 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.

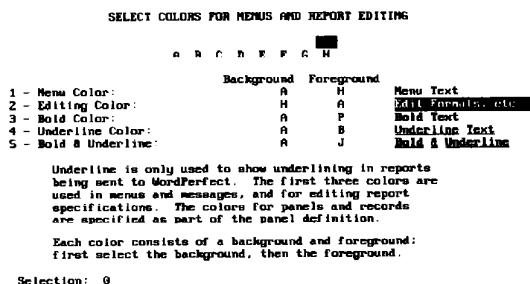
Menus and Reports

If you have a color monitor, the Select Colors for Menus and Report Editing option is available on the User Screen Options menu as part of the Screen feature (Ctrl-F3). 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 (such as 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.

Related Information

You can find related information in the following sections:

- Panel Options
 - Screen
-

Copy

Using **Save** (F10) and **Move** (Ctrl-F4), you can copy a designated block of text or fields (see *Block* 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* 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

Use the keystrokes described below to move your cursor between databases or between a panel list and database list. (If you access your database through a menu, these options may not be available.)

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 move through a panel list or highlight the desired panel. 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. Press Enter to access the highlighted panel.

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 (\downarrow) or \downarrow 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 \downarrow Panel. Pressing Down Arrow lets you access only the related records in the destination panel. \downarrow 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 (such as 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 (\uparrow)

Pressing Lookup or Up Arrow when in a record lets you use the Lookup feature to locate a record (see *Lookup* in *Reference*).

***Search (F2) or *Search (Shift-F2)**

The *Search and \blacktriangleleft 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 (for example, an index or link field list). They do not move the cursor when defining a panel.

With some keyboards (such as some laptop computer keyboards), 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 (in other words, 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 *Change Edit Order* under *Panel Options* 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 *Change Edit Order* under *Panel Options* 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.

First Field (Ctrl-F2)

Pressing First Field moves the cursor to the first field in the panel. This key is designed for editing text in fields, and can be used in Browse or Edit mode.

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 *Link* in *Reference*). Down Arrow accesses the related records in the destination panel. ↓Panel starts a new record in the destination panel.

Next Field (Alt-F2)

Pressing Next Field moves the cursor to the next field. This key is designed for editing text in fields, and can be used in Browse or Edit mode.

Moving Within Fields	Use the following keystrokes to move the cursor within a field.
	Left/Right Arrow Keys Left Arrow (\leftarrow) moves the cursor one character to the left. Right Arrow (\rightarrow) 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 (\uparrow) moves the cursor up one line. Down Arrow (\downarrow) 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 (\uparrow) or Down Arrow (\downarrow) to move to the top or bottom of the text field.
Scrolling Through a List	Use Up Arrow (\uparrow) and Down Arrow (\downarrow) 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.

Data Export

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 are both accessed with the Report/Export function key (Shift-F7). 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 *Data Import* in Reference).

Exporting data from a panel is not the same as exporting the structure of a database. To export a database structure, you must use the DPEXP feature, which is documented in Appendix B: Description Language.

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. 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).

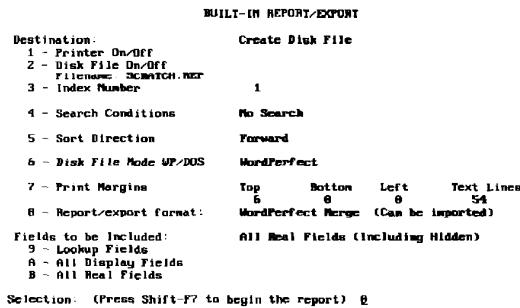
Menu Options

The menu options on the Report/Export menu (Shift-F7) are listed and explained below.

To access these options,

- 1 Press **Report/Export** (Shift-F7).

- 2** Be sure the cursor is positioned on Built-In Short Reports, then press Enter.



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 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. (Calculated fields with a ::C display mode indicator are not "real" fields, and are not exported with this option.)

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 Custom WordPerfect Merge Files in Report, Samples 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 *Record, Delete 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.

Data Import

Records in a WordPerfect 4.2, 5.0, or 5.1 merge format (including Notebook files), or a DOS Delimited Text format can be imported into a DataPerfect database.

If you want to import data from another database program (dBASE, R:BASE, and so forth), that data must be in a format that DataPerfect can recognize. For help, refer to the documentation for the other database program. Also, see *Appendix A: Convert*.

Menu Options

Nine options are available on the Import menu (Ctrl-F5).

```
IMPORT
1 - Import Filename      SCRATCH.DEP
                                WordPerfect Merge
Import Type
2 - WordPerfect Merge
3 - DOS Delimited 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: 8
```

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 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 Records Action (4)

A record is a duplicate when field values in any index and field values in the imported record are identical. For a record to be saved in the data file, it must be unique (see *Index 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 (2) or option 3, 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 (\uparrow) and Down Arrow (\downarrow) 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 want to add to the existing conditions, type **n**. 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** if you want to use the current conditions. Then, select either Include Records That Satisfy the Search (1) or Exclude Records That Satisfy the Search (2).

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 *Change Edit Order* under *Panel Options 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
3705 Garden Park Drive
^R
Pueblo^R
CO^R
81902-0000^R
(719) 555-9000^R
(719) 555-8376^R
^R
^E
00002^R
Mr.^R
Allen^R
A.^R
Caldero^R
1821 Fir Avenue^R
Pueblo^R
CO^R
81902-0000^R
(719) 555-9376^R
719 555-2814
```

<p>Import List Move to the field which is to contain the next field from the Import File, then press Select (F4). OR</p> <p>1 - Skip Field in Import File 3 - Delete Last Entry in List 2 - Delete Import List 8 - Exit to Import Menu</p>																												
13 is the next field in the import file.																												
CUSTOMER.PER-36																												
<p>CUSTOMER INFORMATION</p> <table><tr><td>Customer ID 1</td><td>First 3</td><td>Middle 4</td></tr><tr><td>Last Name 5</td><td></td><td></td></tr><tr><td>Address 6</td><td>City 7</td><td>ST ZIP 8 9</td></tr><tr><td></td><td></td><td>WK Phone 10</td></tr><tr><td>Comments 12</td><td></td><td>WK Phone 11</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td>Last Invoice Date</td></tr><tr><td></td><td></td><td>Balance Due [REDACTED]</td></tr><tr><td></td><td>Payments</td><td>Invoices</td></tr></table>		Customer ID 1	First 3	Middle 4	Last Name 5			Address 6	City 7	ST ZIP 8 9			WK Phone 10	Comments 12		WK Phone 11						Last Invoice Date			Balance Due [REDACTED]		Payments	Invoices
Customer ID 1	First 3	Middle 4																										
Last Name 5																												
Address 6	City 7	ST ZIP 8 9																										
		WK Phone 10																										
Comments 12		WK Phone 11																										
		Last Invoice Date																										
		Balance Due [REDACTED]																										
	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 (one with a ::C display mode indicator), you see a message instructing you what action to take: "This panel has virtual (::C) fields -- no values for such fields are stored in the data file. You probably exported real fields only; if so, select option 0 or just press Enter. If you exported all fields, press 1 and the data for ::C fields will be ignored."

Auto-Incrementing Fields

If a panel contains an auto-incrementing field, you can select Renumber 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.
Calculate Fields in an Import	<p>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 <i>Initialize at Create/Save/Any Change under Field Options in Reference</i>). 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.</p> <p>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.</p> <p>The first one imports the existing data in the import file. The second one initializes a specific field or fields.</p> <p>The first import must include a search which imports only the records containing data in the specified field.</p> <p>1 Be sure the Import screen is displayed (Ctrl-F5).</p> <p>2 Select Search Conditions (6), then select Specify Formula (3).</p> <p>The Specify Formula screen is displayed.</p> <p>3 Type the following formula:</p> <p>P1F4 <> " "</p> <p>P1F4 represents the field you want to import which may or may not contain data. Be sure to use Select (F4) to select the field.</p> <p>This formula tells DataPerfect to check this field to be sure it contains data.</p> <p>4 Press Exit (F7) or Save (F10) to save the formula and return to the Search Options menu.</p> <p>5 Press F2, then select Include Records Which Satisfy the Search (1).</p> <p>The Import screen is displayed.</p> <p>6 If you are certain you have plenty of disk space, select Import Without Disk Space Checking (8).</p> <p style="text-align: center;"><i>or</i></p> <p>If you are uncertain about the amount of available disk space, select Import With Disk Space Checking (9).</p>

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, and so forth) 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).

Date

Several features in DataPerfect use dates. The information below refers you to sections describing these features.

Date Display

If you turn on Top Line Display, the current date will be displayed on the upper right corner of your screen. With the /int startup option, it is possible to display dates in American format (month/day/year), European (day/month/year) format, or another format of your choice. The default setting is American format.

For information on how to change the date format, see */int* under *Startup Options* in *Getting Started*.

For information on how to turn the date display on, see *Top Line Display* in *Reference*.

Other Date Features

For information on date fields, see *Date Field* in *Field Format* in *Reference*.

For example date formulas, see *Sample Formulas* in *Formulas* in *Reference*.

Related Information

You can find related information in the following section:

- Screen

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 is an option of the System Operations feature which lets you enter a custom message in the instruction box, replacing the "Please Wait" and the "A list of panels is displayed" messages.

To change these messages,

If the database is password-protected, you must know the definer password to use the Definer Banner feature.

- 1 Be sure the System Operations menu is on the screen (Press **Shift-F9**).
- 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 **ExIt** (F7) to return to the panel.

You can make your definer banner more attractive with lines and boxes. To draw lines, boxes, or backshadowing, you can use line draw and other special characters. See *Appendix N: ASCII and IBM Extended Characters* for more information.

On color monitors, bold and underline appear as colors. You can use Bold (F6) and Underline (F8) to color definer banner elements like boxes and backshadowing.

Delete Text

The following keystrokes may be used to delete text.

Backspace

Deletes the character to the left of the cursor.

Delete

Deletes the character on which the cursor is positioned.

Ctrl-Backspace

Deletes the 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.

Related Information

You can find related information in the following sections:

- Field, Delete
 - Panel, Delete
 - Record, Delete
 - Report, Delete
-

Dial Telephone

If you have a modem, you can use the Dial Telephone feature to have DataPerfect dial telephone numbers contained in database fields. However, DataPerfect is not a communications program. While DataPerfect can dial your phone for you, it cannot communicate with another modem.

Configuring the Modem

Before you use Dial Telephone, you need to set up your modem. DataPerfect dials at 300 baud. If your modem is configured for a different baud rate, you need to configure it to work at 300 baud. See your modem user manual for instructions.

Dialing Numbers

You can press Dial Telephone from any field in your database. If you originate a call from a field that does not contain a phone number, you can enter a phone number to dial.

To use Dial Telephone,

- 1 Use **Tab** to move the cursor to the field that contains the phone number you want to dial.
- 2 Press **Dial Telephone** (Shift-F4).
- 3 Press **Enter** to dial the number.

or

Type a new number, then press **Enter**.

If DataPerfect doesn't recognize the COM port you have set up, exit DataPerfect and use the Mode command to configure the port again. See your DOS manual for instructions.

Down Panel (↓Panel)

You can move the cursor to the next data link or panel link in a panel by pressing either ↓Panel (F5) or Down Arrow (↓).

If the cursor is already positioned on a link, Down Arrow (↓) moves the cursor through the link to the destination panel and accesses all related records in the destination panel. To return to the source panel, press Exit (F7).

If the cursor is already positioned on a link, ↓Panel (F5) moves the cursor through the link and starts a new record in the destination panel.

When you are in Define Panel mode, ↓Panel is also used to create links and link characters, and to access lists and menus.

Enter

Use Enter (\leftarrow) 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, and so forth).
 - Exit most menus when the selection default is zero (0).
-

Escape

When you are 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 or creating 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.
- 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.

Field

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.

A FIELD

The screenshot shows the DataPerfect Browsing Record window. The menu bar at the top includes 'BROWSING RECORD', 'Exit-F7', 'Create-F9', 'Edit-F6', 'Lookup-T', and 'Help-F3'. Below the menu is a title bar 'CUSTOMER.PER-38' and a section header 'CUSTOMER INFORMATION'. The data entry area contains the following fields:

Customer ID 000001	First Name	Middle N.
Last Name HURNELL		
Address 378 Garden Park Drive	City Pueblo	ST ZIP CO 81002-0000
		HM Phone (719) 555-9888 UX Phone (719) 555-8378
Comments	Last Invoice Date	► \$0.00
	Balance Due	
	Payments #	Invoices #

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

Related Information

To learn more about defining fields, the different field formats, and other field options, see the following sections in *Reference*:

- Field, Define
- Field Format
- Field Format, Display Mode Indicators
- Field Format, Print Mode Indicators
- Field Options

Field, Define

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

To define a field,

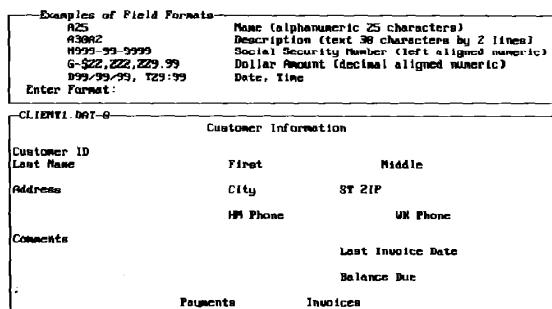
- 1 Be sure the cursor is in the desired panel.
- 2 Press **Define Panel** (Alt-F8) to access the Define Panel menu.

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 *Data Export* and *Record, Delete 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 Format in Reference* for the available options and the proper syntax.

- 6 You are prompted for the field name. Type the name and press **Enter**.

or

If you don't want to name the field, press **Cancel** (F1)

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

If you give the field a name, the name appears along with the field code when you are defining panels, indexes, and formulas, and when you are editing reports and formulas. The field name can be used in creating a WordPerfect secondary merge file (see *Custom WordPerfect Merge Files in Report, Samples in Reference* for more information).

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 in Reference*.

Field, Delete

You can delete a field from a database only if no data exists in the panel containing the field. Use Export (Shift-F7) to make a copy of the data so it won't be lost when you delete the records. Use Multiple Remove (Alt-F5) to delete the records so that you can delete unwanted fields from a panel. Use Import (Ctrl-F5) to import the data back into the database once you have deleted the unwanted fields. For more information, see *Data Export* and *Data Import* 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 Offsets. This option increases the efficiency of space in the database (see *Recompute Field Offsets* under *Panel Options* in *Reference*).

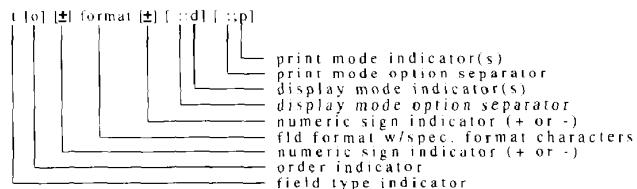
The remaining fields in the database are not renumbered when one field is deleted. However, if you define more than 80 fields for a panel, any field created after field number 80 uses numbers from previously deleted fields.

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 *Index* in *Reference*.

Field Format

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 (such as A15). To define a variable length field, add a second A followed by a number to indicate the number of lines displayed (such as 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 (for example, A10 uses 10 bytes).

Alphanumeric Field, Variable Length (Text Field)

A variable length field (also known as a text field) adds a second *A*, followed by a number, to indicate the number of lines you want to display. 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 (such as A35A0), the entire field is printed. In the report form, changing the zero to a number specifies how many lines should be printed (in other words, A35A4 prints four lines of the text field). Changing the number after the first *A* specifies how wide you want the field to print (for example, 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. If there is additional text in the field, DataPerfect displays an arrow in the lower right corner of the text field. You can view the additional text by scrolling with 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 (in other words, 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 space 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 (such as 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 (/) (for example, 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 Zs, 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* 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 (9s) 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.

Number	FN6	FN10	FZ6	FZ10
12.66666	12.667	0012.66666	12.667	12.66666
23,987.3456	023987	23987.3456	23987	23987.3456
-34.5	-34.5	-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 Report:

3 (Including the decimal and sign)

Maximum Length in Report:

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

Characters:

- Z Indicates a digit in the field (leading and trailing zeros are truncated). If you place the cursor in a G formatted field with Zs (to truncate leading zeros) and press right arrow (\rightarrow) or left arrow (\leftarrow), DataPerfect shows the leading zeros. This is useful if you want to move the cursor to one of the digits to change its value instead of typing the value and all its trailing zeros.
- 9 Indicates a digit in the field (all zeros are displayed).
- *
- 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 (\$).
- +
- \$ Monetary symbol. “Floats” if Zs are used in the format. European monetary symbols also float if used in the format.
- .

- ,
- Thousands separator. A period (.) may be substituted for the thousands separator if the field format allows it, or if the System defaults are altered.
- () 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 exceeds 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 (for example, 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 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 Field

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 (9s) 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, and because no characters are assigned.

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 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.
C,.\$Z.ZZ9,99	Uses a comma for the decimal marker and a period for the thousands separator.

Field Formats in Reports

You can edit a field format in a report form without changing the original field format in the database. You should not edit the field *type* (in other words, do not change D99/99/99 to T99:99:99).

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

DataPerfect can have no more than five text fields on the same line in a report.

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 want to specify a number of lines to be printed, place that number after the second A, such as A40A6.

If you specify 4 lines or fewer, please note that DataPerfect will always print at least 4 lines, although it may leave some of them blank. If you specified a format of A40A2, it would print two lines of text and two blank lines.

Changing the first part of the text field format (A40) will widen or narrow the field format. See *Report, Parallel Text Fields* 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. (If you pressed Enter while you typed text in the field, a hard return will be inserted and the A0A0 format will not work properly.)

Field Format, Display Mode Indicators

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 *Field Format, Print Mode Indicators* 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 When Saved Field
::J	Auto Incrementing When Created Field
::M	Must Be Updated Field
::N	Non-Updatable Field
::R	Right-Aligned 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 *Formulas in Reference*). However, a ::C display mode indicator is not required for every field with a formula attached to it.

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 List 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 (such as 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
When Saved Field (::I)**

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

The ::I field increments when a newly created record is saved.

Do not use this display mode indicator with G fields that have imbedded dashes (which are interpreted as minus signs) or decimal points. Autoincrementing is defined for positive integers only.

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 *Set Value for Next Created Record* under *Field Options in Reference*).

Example:

GZ,ZZZ::I

**Auto-Incrementing
When Created Field
(::J)**

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

The ::J field increments when the user initiates creation of the record, rather than when the record is saved. This is useful for network databases, because it guarantees that each record will have a unique number, even if several users are entering data.

If you cancel after you begin creating a record with this kind of field, the number will not be reassigned to a subsequent record.

Do not use this display mode indicator with G fields that have imbedded dashes (which are interpreted as minus signs) or decimal points. Autoincrementing is defined for positive integers only.

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 *Set Value for Next Created Record* under *Field Options in Reference*).

Example:

GZ,ZZZ::J

**Must Enter
Field (::M)**

A must enter field requires data in the field. The user cannot save the record without entering something 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 <i>Index Options</i> and <i>Lookup Field List</i> in <i>Reference</i>).
Example:	
	N99::N
Right-Aligned Field (::R)	The cursor is at the right edge of the field, and the data entered moves to the left. This option is only valid on fixed-length A and U Type fields. It cannot be used for variable-length fields.
Example:	
	A15::R
Multiple Indicators	More than one indicator can be specified for a field. List all of the desired indicators after the double colon.
Example:	
	GZZZ::IH

Field Format, Edit

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 *Data Export* 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.

Edit the format, then press **Enter** to return to the Define Panel menu.

Field Format, Print Mode Indicators

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 (in other words, N99999-9999::M;;E). See *Field Format, Display Mode Indicators* 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 Subfields from the End
::G	Transaction Log Format
::L	Left Adjust Characters
::N	New Occurrence of Field
::P	POSTNET Bar Code
::Q	Enclose Alphanumeric Fields in Double Quotes
::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 from fields that have G, H, or N formats. Data is shifted from the right of the blanks to the left, and the trailing spaces are not truncated. This option will maintain the amount of space specified by the field format in the report.

Example:

N999 999 999;;D

Delete Zero Subfields from the End (;;E)

This indicator is 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 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 indicator 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.

When added to the end of any field type other than a numeric field, this indicator omits the non-numeric contents of the field.

Example:

N99999-9999;;E

Transaction Log (;;G)

The ;;G print mode indicator will allow you to output information from a variable-length text field in a transaction log format. It will enclose text and character fields in double quotes and will highlight bold and underline codes.

Example:

A50A3;;G

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 variable-length text field. See *Report, Parallel Text Fields* in *Reference* for more information.

Example:

A30A0;;N

Enclose Alphanumeric Fields in Double Quotes (;;Q)

This indicator encloses alphanumeric fields in double quotes. This is useful if you create a custom report and want to export in comma-delimited (dBase style) format. (You will have to add the commas between fields.) ;;Q doesn't work on variable-length text fields or in conjunction with any other print mode indicator. For example, in ;;TQ, the Q is ignored.

Example:

A10;;Q

POSTNET Bar Code (;;P) A POSTNET bar code is a series of short and tall lines used by the United States Postal Service to sort mail more efficiently. Because the bar code automates sorting, the Postal Service may provide discount postage rates for those who use the bar codes. For more information, contact your U.S. Postal Service account representative, your Postal Business Center, or your local postmaster.

The POSTNET Bar Code print mode indicator converts the ZIP code into the format accepted by the Postal Service. The bar code can be placed on an envelope, a mailing label, or with an address block to be shown through an envelope window. See *POSTNET Bar Code Labels in Report, Samples in Reference* for more information.

Example:

N99999-9999;;P

Important: To print POSTNET bar codes you must print from DataPerfect with DPPrint. You cannot print them by exporting your data into WordPerfect. If DPPrint is not active, exit from DataPerfect until you are at the DOS prompt. At the DOS prompt, go to the DataPerfect directory and enter **dpprint**. When DPPrint is active, you can return to DataPerfect. See Appendix L: Utilities—DPPrint for more information.

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 would affect the data in three different fields if those fields were printed on the same line in a report. The fields are formatted as A20;;x, G\$ZZZ,ZZ9.99;;x, and N999 999 9999;;x (x represents the print mode indicator). A line () indicates the beginning and ending of each field. Five spaces (no tabs) are situated between the fields.

Indicator	A20;;x	G\$ZZZ,ZZ9.99;;x	N999 999 9999;;x
none	Lynda A. Warner	\$485.27	012 345 6789
::B	Lynda A. Warner	\$485.27	012 345 6789
::C	Lynda A. Warner	\$485.27	012 345 6789
::D	LyndaA.Warner	\$485.27	012 345 6789
::E	\$485.27	012 345 6789	
::L	Lynda A. Warner	\$485.27	012 345 6789
::R	Lynda A. Warner	\$485.27	012 345 6789
::S	Lynda A. Warner	\$485.27	012 345 6789
::T	Lynda A. Warner	\$485.27	012 345 6789
::J	Lynda A. Warner	\$485.27	012 345 6789
::6	Lynda A. Warner	\$485.27	012 345 6789

The indicators L, R, C, and D do not alter the amount of space specified by the field format in the report; that is, columns of data are always properly lined up when printed. The other print mode indicators 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 *Custom WordPerfect Merge Files* under *Report, Samples in Reference* for details on creating custom merge files in WordPerfect.

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.

Understanding field lists is essential to understanding DataPerfect. Field lists, along with indexes, are needed to establish links and lookup lists, and to sort records for reports.

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 *Field Format, Display Mode Indicators in Reference*.

For specific information about each type of field list, refer (in *Reference*) to *Index Options*, *Lookup Field List*, and *Search Field List*; *Link, Panel* and *Link, Data* (to define a link field list); and *Link, Panel* (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.

Field Name, Edit

Naming a field is an option when you create a field. If a name is assigned, it appears along with the field code when you are defining panels, indexes, and field lists, and when you are editing reports and formulas. (A field name is part of the field definition. It is not the same thing as panel text typed to describe the contents of panels and fields.)

To edit a field name,

- 1 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
 - 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.
 - 4 Press **Edit** (F6) a second time to display the field name.
 - 5 Edit the name, 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 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. Field formats which include the display mode indicator ::H can only be accessed from Define Panel mode. (See *Field Format, Display Mode Indicators in Reference*).

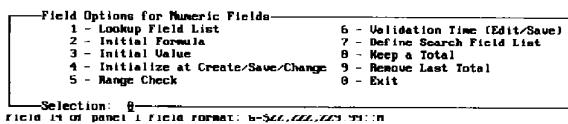
You can access the Field Options menu in either of two ways. One way is to follow the three steps below.

- 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.



XXXXXX

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 Last 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 (\uparrow) 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 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. To find this default list, DataPerfect looks for an index in which the field where your cursor is positioned is listed as the first field. If no such index is found, a lookup list with two fields—the field where your cursor is and the first field of Index 1—will be displayed.

For detailed information, see *Lookup Field List 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 *Formulas 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.

If you have entered the formula incorrectly, you will see an error message and the cursor will move to the location of the first error.

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.

Initial values cannot be placed in a text field. As an alternative, define an initial formula in a text field. Enclose the text in quotes and initialize the formula when the record is created.

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 functions 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.

Automatically Computed When Record Is Saved

Formula or initial value is automatically computed when created record is saved. (It will not be recalculated if the record is edited, then saved again.)

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, “Fort Collins” appears in the City field. If the customer lives in Fort Collins, the user does not need to enter the name of the 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 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, numeric, date, and 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.

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 *Formulas 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 which moves from "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 perform a search on a particular field. For detailed information, see *Search Field List 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 *Link in Reference*).

Because totals are kept in a separate panel, you must define a link that creates a many-to-one relationship. Totals in a linked panel immediately recalculate whenever a value changes in a field that contributes to the total. You can define up to 40 keep a totals per link.

To define a total,

- 1 Be sure you have already defined a link between the two panels (see *Link 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 field where the total should be kept.

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 message in the lower part of the screen now displays information about the total.

Field Options for Numeric Fields	
1 - Lookup Field List	6 - Validation Time (Edit/Save)
2 - Initial Formula	7 - Define Search Field List
3 - Initial Value	8 - Keep a Total
4 - Initialize at Create/Save/Change	9 - Remove Last Total
5 - Range Check	0 - Exit

Selection: 8
Field 19 of panel 1 Field Format: G-\$ZZ.ZZZ,ZZZ.99::N

The value in this field is added to field 1 of panel 5 through link 16

XXXX

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

Remove Last Total

This option is used to delete the most recently defined total.

To remove the last 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.

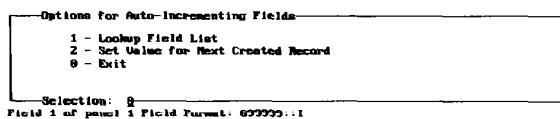
If you have defined three Keep a Totals, and you want to delete the first of the three Keep a Totals, you must first delete all three Keep a Totals, then you must redefine the two you want to keep.

Set Value for Next Created Record

This option is valid only for auto-incrementing fields, and lets you set the value of the auto-incrementing field for the next record that will be created (see *Field Format, Display Mode Indicators in Reference*).

To set the value for the next created record,

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



Automatically incremented when record is created.

X0001

- 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.

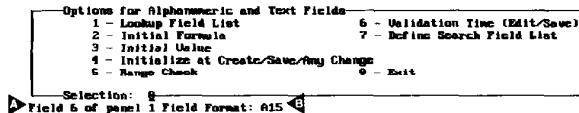
Field Code/Format

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

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

A FIELD CODE

A FIELD FORMAT



X0001

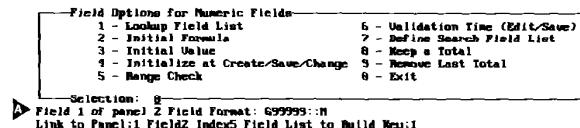
The field on which your cursor was positioned when you accessed the Field Options menu is *field 6 of panel 1*. This was the sixth field in the first panel. This field would appear as *PIF6* if it were selected in a formula.

The field format is A15 (see *Field Format* 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.

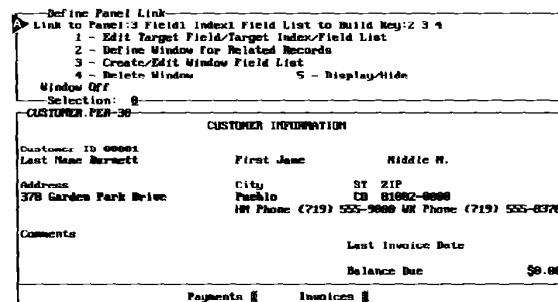
A DATA LINK DEFINITION



xxxx

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 *Link* in *Reference* for information about the Define Panel Link menu options.

A PANEL LINK DEFINITION



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

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 *Index* 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.

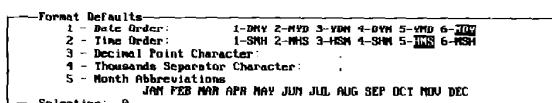
Format Defaults

Using the System Operations feature of DataPerfect (Shift-F9), it is possible to set format defaults 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 (press **Shift-F9**).
- 2 Select Format Defaults (2).

The Format Defaults menu is displayed.



The options on the Format Defaults 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 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.

Formulas

DataPerfect provides a simple and powerful formula processor. With this feature, formulas can be created and placed on fields to initialize field values, calculate field values from other data, manipulate dates, and validate fields.

DataPerfect also contains more than twenty functions which can be used in formulas. A function always returns a value. For more information about functions used in formulas, see *Functions in Reference*.

In this section, you will learn the correct syntax for using formulas, and will learn how to create formulas using a wide variety of options. In addition, the end of this section includes several of the most common formulas.

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 statement, the result of another calculation, or a function (see *Functions in Reference*).

Expression

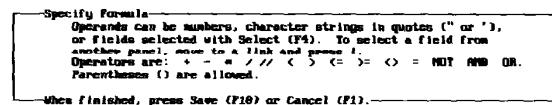
Formed when an operator is combined with the necessary number of operands. For example, $A + B$ and $\neg B$ are expressions.

Formula

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

Creating/Editing Formulas

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 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 (for example, with reports, exports, imports, and 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 in Reference*).

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 the result by 3. The remainder (mod) 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. However, a formula should not consist only of hard returns.

Rounding

A calculation may result in a number with a fraction (for example, 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 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 field code (for example, P2F23) in the Specify Formula screen. If you type the field code (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 *Link 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, then press **Down Arrow** (\downarrow) to move to that panel.
- 2 Position the cursor on the desired field, then press **Select** (F4).

DataPerfect then returns to the Specify Formula screen and inserts the field code in the formula. If the field is selected from the current panel, the field code 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 code 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 field codes in your application.

To verify that the selected field code represents the correct field, position the cursor on the field code 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 *Reveal 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 *Field Format, Display Mode Indicators* 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 or when the record is changed (see *Initialize at Create/Save/Any Change* under *Field Options in Reference*).

Function

See *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).

Report Variable

A report variable can use any of the above operands, as well as another report variable in its formula (see *Report Variables 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 in Reference*.

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 (in other words, 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. If the field format is alphanumeric, any text or numbers 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 ENDIFs 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 ENDOF  
[CASE condition OF expression ENDOF]  
[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 (for example, 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" ENDOF  
CASE CV < 18 OF "Good Afternoon" ENDOF  
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 CVs in the above statement affects the way the statement is evaluated. If the order of the two CASE CVs 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 (for example, 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
```

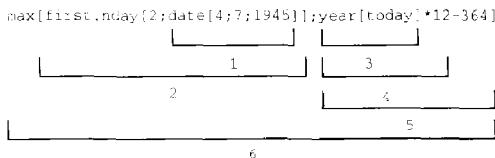
Calculation Order and Use of Parentheses

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.

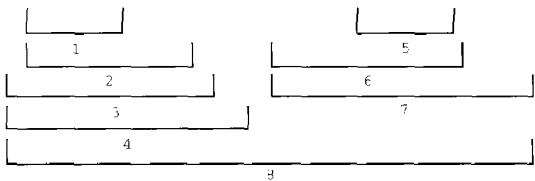
OR

Evaluated from left to right.

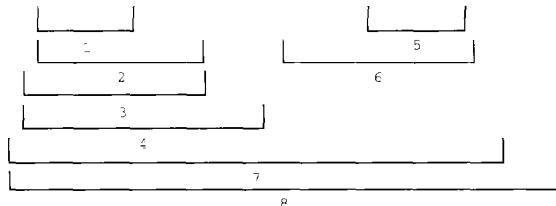
Parentheses can be used in formulas to alter the order of evaluation according to your needs. Expressions within parentheses are always evaluated first. Where nested parentheses exist, the most deeply nested expression is evaluated first, and the outermost expression is evaluated last. Where multiple 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.

$-(P1F4 + P1F5 + P1F6) / 2 - P2F12 / (P1F5 - P1F2) / 1.25$



$(-(P1F4 + P1F5 + P1F6) / 2 - P2F12 / (P1F5 - P1F2)) / 1.25$



Concatenation

DataPerfect includes two functions that can perform concatenations (*cat.c* and *cat.t*). These are discussed in *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.

Comments in Formulas

You can add comments to your DataPerfect formulas to make them more readable and easier to understand. Use /* to begin the comment and */ to end the comment. DataPerfect will ignore any text enclosed within the delimiters, but it will display when you look at or edit the formula.

To look at a formula on a field, make sure your cursor is on the field. Press **Shift-F8** to see the field options, then choose Initial Formula (2).

To look at a formula in a report variable, access the report list from the panel. Then move your cursor to the report name and press **F7** so the report menu is displayed. Choose Edit Report Form (8), move your cursor to the report variable, and then press **Alt-F3**.

Sample Formulas

Several sample formulas are listed in the tables below. Each formula uses one or more fields with specific formats, which are shown. Select the table containing the formula you would like to use, create the field(s) listed, and place the formula on the field indicated.

To find out how to define a field, see *Field, Define* in *Reference*. For more information on field formats, see *Field Format* in *Reference*. For more information on functions used in the sample formulas, see *Functions* in *Reference*.

Use the steps below to place a formula on a field.

- 1 Position the cursor on the field to receive the formula, then press **Define Field** (Shift-F8) to access the Field Options menu.
- 2 Select Initial Formula (2).

Now you are ready to enter the formula for your particular application.

- 3 Type the formula, remembering to use **Select** (F4) to add any field code.

In the sample formula tables below, field codes are shown in italics. You must use **Select** to insert these field codes. Your field code may vary from the example field code shown. You can include fields from other panels as long as the panels are joined through a panel link or data link. See *Operands* earlier in this section.

- 4 Press **Exit** (F7) or **Save** (F10) to return to the Field Options menu.
- 5 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.”

Some of the sample formulas require you to choose “Automatically computed when record is created” or “Automatically computed when record is saved.” If the formula requires one of these two options, it will be noted in the text.

- 6 Press **Exit** twice to return to the panel.

Calculating Age

You can calculate a person's age in the current year or in the current month, or you can calculate the person's age today by using one of the three formulas below.

Age in Current Year

Field Name	Field Format	Formula
Date of Birth (PIF6)	D99/99/9999	
Age	GZ9	(today - PIF6)/365.25

Age in Current Month

Field Name	Field Format	Formula
Date of Birth (PIF6)	D99/99/9999	
Age	GZ9	IF MONTH [today]>=MONTH [PIF6] THEN YEAR [today]-YEAR [PIF6] ELSE YEAR [today]-YEAR [PIF6] - 1 ENDIF

In the formula above, if the birthday has already occurred this year, the birth year is subtracted from the current year, giving the person's age. If the birthday has not already occurred this year, 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.

Age Today

Field Name	Field Format	Formula
Date of Birth (PIF6)	D99/99/9999	
Age	GZ9	((today - PIF6)/365.25) - .5

In the formula above, the person's age is calculated, then .5 is subtracted. This is necessary because DataPerfect rounds up a fraction if it is .5 or greater.

For example, Bob's birthday is in March, and he turned 24 years old in 1992. If the current month is October 1992, his age is about 24.6 years. DataPerfect subtracts .5 from 24.6, giving 24.1 as Bob's age. Because DataPerfect rounds down .1, the age displayed is 24. If the current month is July 1992, Bob's age is about 24.4. DataPerfect subtracts .5 from 24.4, giving 23.9 as Bob's age. Because DataPerfect rounds up .9, the age displayed is 24.

Calculating Dates

Below are two formulas which convert numeric dates to alphanumeric format. The first formula determines the name for the day of the week from the date field (for example, if the date falls on the second day of the week, "Tuesday" is displayed). The second formula inserts the name of the month along with the numeric day and year. These formulas are commonly used in reports, but you can also use them in a field. 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 the formulas (see *Functions in Reference*).

Day of the Week

Field Name	Field Format	Formula
Date (<i>P1F1</i>)	D99/99/9999	
Day	A9::N	DAY.OF.WEEK [<i>P1F1</i>] 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

Month, Day, and Year

Field Name	Field Format	Formula
Date (numeric) (<i>PIFI</i>)	D99/99/9999	
Date (alphanumeric)	A18::N	MONTH [<i>PIFI</i>] 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 [<i>PIFI</i>]] ", " APPLY FORMAT["N9999"; year[<i>PIFI</i>]]

Performing a Disjoint Range Check

A disjoint range check requires a user to enter information in a range of non-sequential data. 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 allowing only those two letters.

Disjoint Range Check

Field Name	Field Format	Formula
Gender (<i>PIF1</i>)	U1::M	IF <i>PIF1</i> = "M" OR <i>PIF1</i> = "F" THEN <i>PIF1</i> ELSE " " ENDIF

The formula above 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). The mode indicator ::M tells DataPerfect not to save the record until the field is updated. Because a " " is not a field entry, the record cannot be saved until either F or M is entered.

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.

This formula displays the time which elapsed between the starting and ending times in the Elapsed Time field. To make the formula work properly, you must set the Initialize at Create/Save/Change formula option (4) for the Start Time field to "Automatically computed when record is created." The formula options for the End Time field and the Elapsed Time field must each be set to "Automatically computed when record is saved."

Elapsed Time

Field Name	Field Format	Formula
Start Time (<i>PIF5</i>)	T99:99:99::N	NOW
End Time (<i>PIF6</i>)	T99:99:99::N	NOW
Elapsed Time	T99:99:99::N	<i>PIF6 - PIF5</i>

Now is a function that inserts the current time into the field. 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.

Converting Twenty-Four-Hour Time to AM/PM Time

The formula below can help you in two ways. First, if you use the formula as it is written in the table, you can convert a field entry from twenty-four hour time (where 17:00 is equal to 5:00 P.M.) to an AM/PM time. Second, DataPerfect keeps time on a twenty-four-hour clock rather than by a conventional AM/PM clock. If you replace the field codes (*PIFI*) in the formula with the *now* function, DataPerfect will place the current time in the field in AM/PM format.

For the now function to operate correctly, the clock in your computer must be correct.

Twenty-four Hour Time to AM/PM Time

Field Name	Field Format	Formula
Twenty-Four-Hour Clock (<i>PIFI</i>)	TZ9:99	
AM/PM Clock	A7::N	<i>PIFI</i> CASES CASE CV < 3600 OF CAT.T[APPLY FORMAT["TZ9:99"; <i>PIFI</i> + 43200]; "AM"]ENDOF CASE CV < 43200 OF CAT.T[APPLY FORMAT["TZ9:99"; <i>PIFI</i>];"AM"] ENDOF CASE CV < 46800 OF CAT.T[APPLY FORMAT["TZ9:99"; <i>PIFI</i> ";"PM"] ENDOF CASE CV < 86400 OF CAT.T[APPLY FORMAT["TZ9:99"; <i>PIFI</i> - 43200];"PM"]ENDOF DEFAULT CAT.T[APPLY FORMAT["TZ9:99"; <i>PIFI</i> - 43200];"AM"] ENDCASES

In the formula above, hours and minutes are converted to seconds. The case statement "CASE CV < 43200" assigns AM to all time less than 43200 seconds, or any time before noon.

For example, if the twenty-four-hour time is 0:00 (no seconds), AM/PM time is 12:00AM. If the time entered is over 12 hours (43200 seconds), AM/PM time changes to PM. For example, 13:00 is converted to 1:00PM, 17:00 is converted to 5:00PM, and so forth.

ZIP Code Formula

You can use this formula with a ZIP code field to extract only the first three digits of the field. This information is useful for pre-sorting mass mailings by general location for bulk pricing at the post office.

Mass Mailing ZIP Code

Field Name	Field Format	Formula
ZIP Code <i>(P1F5)</i>	N99999-9999	
Three Digit ZIP Code	G999	CONVERT["G999"; SUBSTRING[APPLY FORMAT ["N99999-9999";P1F5];1;3]]

This long formula is not difficult to understand if you break it into three nested pieces. The first piece, APPLY FORMAT["N99999-9999";P1F5], puts the numeric ZIP code into alphanumeric format so you can use the SUBSTRING function (you can't use the SUBSTRING function with a numeric field).

The second piece, SUBSTRING[first piece;1;3], extracts the first three characters of the string. The first number tells the SUBSTRING function to begin extracting at the first digit of the ZIP code. The second number indicates that you want to extract three digits.

The last piece, CONVERT["G999"; second piece], uses the CONVERT function to convert the three-character alphanumeric field to the numeric format used in the Three Digit Zip Code field.

Two Digit Year

This formula extracts the last two digits of the year from the current date. For the formula to work correctly, the Initialize at Create/Save/Change formula option (4) must be set to "Automatically computed when record is created."

Extracting the Year

Field Name	Field Format	Formula
Year (P1F1)	N99	CONVERT["N99";SUBSTRING [APPLY FORMAT["DYMD 99/99/99";TODAY];1;2;]]

The *today* function is similar to the *now* formula, except that instead of calling up the current time it calls up the current date. This formula works the same as the ZIP code formula above.

Automatic Word Formula

This formula uses a case statement to type the whole word in a field if you type the initial letter.

Automatic Word

Field Name	Field Format	Formula
City	A15	PIFI CASES $\text{CASE CV= "B" OF "BOSTON"}$ ENDOF $\text{CASE CV= "C" OF "CHICAGO"}$ ENDOF CASE CV= "M" OF $\text{"MINNEAPOLIS" ENDOF}$ DEFAULT " " ENDCASES

DEFAULT " " means that if nothing is typed or if anything other than the listed possibilities (B,C, and M here) is typed, the field should display nothing.

Capitalizing the First Letter of a Field

This formula automatically changes the first letter in the current field to uppercase and leaves the rest of the field in lowercase letters. The first letter becomes uppercase when you press Tab to move the cursor to the next field.

Capitalize the First Letter in a Field

Field Name	Field Format	Formula
First Name (PIFI)	A30	$\text{APPLY FORMAT ["UI";}$ PIFI] SUBSTRING [PIFI;2;29]

Important: the length of the string in the SUBSTRING code should be one less than the field length (A30).

Converting from Alphanumeric to Numeric Date Format

For some applications you may need to use the date as part of a code in an alphanumeric field; however, the code does not let you sort by date. This formula shows how you can take a date entered in an alphanumeric field and convert it into numeric date format. The formula extracts the date from a code that lists the year, month, date, and two characters. For example, 19900324BC becomes 03/24/90.

From Alphanumeric to Numeric Date

Field Name	Field Format	Formula
Code (<i>P1F1</i>)	A10	
Date	D99/99/9999..N	CONVERT["D99/99/9999", CAT.C[SUBSTRING[P1F1;5;2]; " "SUBSTRING[P1F1;7;2]; " "SUBSTRING[P1F1;1;4]]]

The SUBSTRING functions extract the year, month, and date from the alphanumeric code. CAT.C puts date together in the order of month, date, year. The convert function changes the string to numeric date format.

Custom Rounding

This formula rounds numbers to the amounts you specify.

Customized Rounding

Field Name	Field Format	Formula
Amount (<i>P1F4</i>)	GZ.99	IF <i>P1F4</i> >=.0 AND <i>P1F4</i> <= .17 THEN .0 ELSE IF <i>P1F4</i> >=.18 AND <i>P1F4</i> <= .42 THEN .25 ELSE IF <i>P1F4</i> >=.43 AND <i>P1F4</i> <= .67 THEN .50 ELSE IF <i>P1F4</i> >=.68 AND <i>P1F4</i> <= .92 THEN .75 ELSE 1 ENDIF ENDIF ENDIF ENDIF

Functions

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

This section discusses the correct syntax for using functions in formulas. However, before you read this section, you should be familiar with the material covered in *Formulas in Reference*.

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 *Formulas 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*, hereafter referred to as *arg*. The *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. *ApplyFormat* 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 and CASE statements, and also in 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 (such as *nm*).

Examples:

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, but the field that contains the Convert function must be numeric. Assume P2F3 contains the value \$100,000. The value returned is \$100,000.00; it is 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 = "01/01/92" does not work properly if P1F1 is a date field. An accurate formula would be P1F1 - date[1;1;1992].

This function can be used only in a numeric field.

Examples:

date[4;7;1992]

Returns the Julian value for July 4, 1992 (33,731).

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, 1992, 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, and so forth). 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, 1992, the value would be 1 for Monday.

day.of.week[P1F4]

Returns the day of the week for the date in P1F4.

exp[arg]

Raises e (the transcendental constant equal to 2.7182818...) to a given power.

Example:

exp[P1F1]

If P1F1=5 the formula returns 148.4132.

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, 1992 (Julian date 33,791), the value 33,787 (September 1, 1992) 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, and so forth. Arg2 is a number, formula, report variable, or field that represents the month and year in Julian date format. The output field must be a date field.

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, 1992 (Tuesday), the value 33,342 (Monday, September 7, 1992) 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.

fv[i;pv;pmt;n;type]

Computes the future value of an amount where i=interest rate, pv=present value, pmt=payment, fv=future value, n=number of periods, and type must be 0 for investments and 1 for loan payments.

Example:

fv[P1F1;P1F2;P1F3;P1F4;0]

The formula takes the values of the designated fields and returns the future value of an investment.

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, 1992 (Julian date 33,791), the value 33,816 (September 30, 1992) 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, and so forth. 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, 1992 (Tuesday), the value 33,450 (Monday, September 28, 1992) 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.

length[text]

Counts the number of characters in a field (up to 78) and returns a numeric value.

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.

ln[x]

Returns the natural logarithm of the value of x.

Example:

ln[P1F1]

The formula in this example returns the natural logarithm of the value of P1F1.

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, and so forth. *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, 1992, 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.

pmt[i;pv;n;fv;type]

Computes the payment on a loan where *i*=interest rate, *pv*=present value, *pmt*=payment, *fv*=future value, *n*=number of periods, and *type* must be 0 for investments and 1 for loan payments.

Example:

pmt[P1F1;P1F2;P1F4;P1F5;1]

This formula returns the payment of a loan for a specified period.

power (^)

Raises a number to the power (x).

Example:

P1F1^2

This formula returns the value of P1F1 raised to the second power.

pv[i;pmt;n;fv;type]

Computes the present value of an amount where i=interest rate, pmt=payment, n=number of periods, fv=future value, and type must be 0 for investments and 1 for loan payments.

Example:

pv[P1F1;P1F3;P1F4;P1F5;0]

The formula above returns the present value of an investment.

rate[pv;pmt;n;fv;type]

Computes the interest rate of a loan or invcstmnt whrc pv=futurc value, pmt=payment, n=number of periods, fv=future value, and type must be 0 for investments and 1 for loan payments.

Example:

rate[P1F2;P1F3;P1F4;P1F5;1]

This formula returns the interest rate on a loan.

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.

sqrt[arg]

Computes the square root of the absolute value of a number. In other words, if the number is negative, it is first made positive before the square root is calculated.

subfield[arg1;arg2;arg3]

Finds the nth substring in text that is delimited by characters in the mask. This function works only for alphanumeric strings.

Arg1 is the original character string (or alphanumeric field). *Arg2* is the mask(s) that delimits the substrings within the original character string. Enclose the mask character(s) in single quotes. *Arg3* is the number of the substring to be returned.

Examples:

subfield["TOM IS SMART";' ;3]

Returns the value "SMART".

subfield["(801) 555-4567";'(-';2]

Returns the value " 555".

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.

If you enter a value of 1 or more for arg2, DataPerfect starts counting at the left of the string and counts from left to right, as illustrated in the example above. If you enter a value of 0 for arg2, DataPerfect counts characters from right to left.

Example:

substring["215 Oak Lane, Hartford, CT";0;2]

Returns the value CT.

If you select a field instead of typing in a string for arg1, DataPerfect begins counting from the end of the field regardless of whether the end of text coincides with the end of field.

term[i;pv;pmt;fv;type]

Computes the number of periods in a loan or investment where i=interest rate, pv=present value, pmt=payment, fv=future value, and type must be 0 for investments and 1 for loan payments.

Example:

term[P1F1;P1F2;P1F3;P1F5;1]

This formula returns the number of payment periods for a loan.

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 P2F8, 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 field format. 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.2

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.

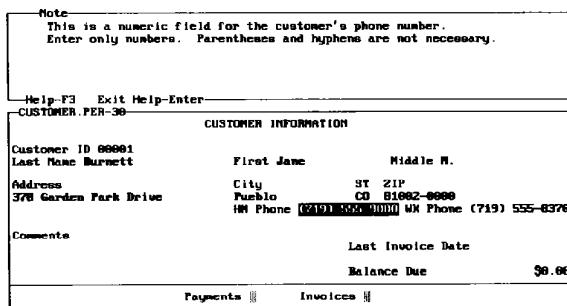
Help Messages

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 *Help, Auto in Reference*).



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 *Help, Custom 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 F5 to go to the destination panel and view all records in that panel. Alt-F3 Exit Help-Enter Continue this Help-Any other key	
CUSTOMER.PER-30	
CUSTOMER INFORMATION	
Customer ID 000001 Last Name Burnett	First Name Middle N.
Address 378 Garden Park Drive	City ST ZIP Pueblo CO 81002-0000 HM Phone (719) 555-9888 WK Phone (719) 555-8378
Comments	Last Invoice 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.

Netmark DataPerfect 2.3 Sept 21, 1992			
Go To Shell	Ctrl		Go To First Field
GET RECORD FROM CLIPBOARD	Alt	F2	GO TO NEXT FIELD
Get Field From Clipboard	Shift		Reverse Search
Cancel			SEARCH
F1			F2
Screen Options	Ctrl		—
Normal	Alt		BLOCK
Edit Help	Shift		Dial Telephone
HELP			SELECT
F3			F4
Import	Ctrl		—
MULTIPLE RECORD NUMBER	Alt		—
Single Record Remove	Shift		Attributes
CREATE LISTED RECORD			EDIT
Open	Ctrl		F6
REPORT RECORDS	Alt		—
Report+Export	Shift		Define Index
EN11			DEFINE PANEL-MENU
F5			Define Field
—	Ctrl		LOADUP
System Operations	Alt		Put Panel to Clipboard
CMDTYPE	Shift		PUT RECORD TO CLIPBOARD
F9			Put Field to Clipboard
			SAVE
			F10

| Press F3 for Function & Formula Help |

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
Move to Previous Field	Shift-Tab
Go to Related Records	I
Go to Linked Panel	F5
Return From Panel	F7
PRINTING & REPORTS	
Select & Print Report	Shift-F7
Export Panel-File	Shift-F7
Report Options	Ctrl-F7
Select Field	F4
Reveal Field	Alt-F3
SHELL/CLIPBOARD	
Go to Shell	Ctrl-F1
Get Field From Clipboard	Shift-F1
Get Record From Clipboard	Shift-F10
Put Field to Clipboard	Shift-F10
Put Record to Clipboard	Alt-F10
Put Panel to Clipboard	Ctrl-F10
SCREEN OPTIONS Ctrl-F3 Colors, Auto-Help, Date/Time Display Alt and Ctrl Key Maps	
CANCEL	
Create Record	F9
Edit Record	F6
Save	F10
Save & Exit	F7
DEFINE	
Panel/Menu	Alt-F8
Field	Shift-F8
Index	Ctrl-F8
EDIT HELP	
Block On/Off	Alt-F4
Move	Ctrl-F4
SEARCH	
Search	F2
Reverse Search	Shift-F2
SYSTEM OPTIONS Shift-F9 Index Recovery, Format Defaults Character Sort Order, Map Uppercase	

Exiting Help Messages

Press Enter to exit a help message.

Help, Auto

Auto-Help On/Off is one of the options available on the User Screen Options menu (Ctrl-F3). This feature 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.

Related Information

You can find related information in the following sections:

- Screen
- Help
- Help, Custom

Help, Custom

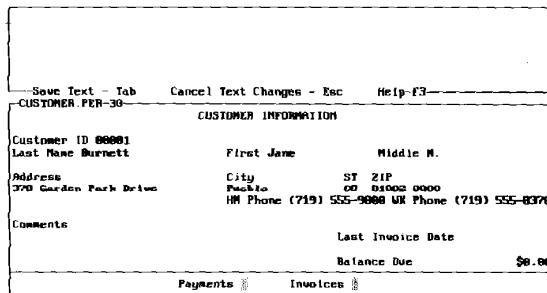
You can create help messages for each of the fields in a panel. These messages should be designed to assist the user during data entry and to reduce the documentation necessary for your applications.

Create or Edit Help Message

To create or edit a help message for a field,

- 3 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.



- 1 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. (Be aware that if you encounter Bold or Underline attribute codes while you are scrolling through a text field, the embedded text may temporarily disappear.)

For example,

A TEXT WITH SEMICOLON

► :Note
This is a numeric field for the customer's phone number.
You should
Enter only numbers. Parentheses and hyphens are not necessary.

Save Text - Tab	Cancel Text Changes - Esc	Help-F3
CUSTOMER PER-38		
CUSTOMER INFORMATION		
Customer ID 000001	First Name	Middle M.
Last Name Burnett		
Address 378 Garden Park Drive	City Pueblo	ST ZIP CO 81002-0000
	MM Phone (719) 555-9000 WK Phone (719) 555-8378	
Comments	Last Invoice Date	
	Balance Due \$0.00	
	Payments #	Invoices #

appears as:

A TEXT EMBEDDED IN LINE

► :Note
This is a numeric field for the customer's phone number.
You should
Enter only numbers. Parentheses and hyphens are not necessary.

Help-F3 Exit Help-Enter

CUSTOMER PER-38		
CUSTOMER INFORMATION		
Customer ID 000001	First Name	Middle M.
Last Name Burnett		
Address 378 Garden Park Drive	City Pueblo	ST ZIP CO 81002-0000
	MM Phone (719) 555-9000 WK Phone (719) 555-8378	
Comments	Last Invoice Date	
	Balance Due \$0.00	
	Payments #	Invoices #

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 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 then 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. To cause the message to scroll, press Help (F3), then press any key except Help or Enter.

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 *Help*, *Auto* and *Help in Reference*.

An index is a sorted list of fields used to locate and differentiate between records in the database. Understanding indexes is essential to understanding DataPerfect. Indexes, along with field lists, are needed to establish links and lookup lists, and to sort records for reports.

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. You can define up to 200 indexes per panel.

DataPerfect creates the index in a separate file (*databasename*.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 will all 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:

BROWSING RECORD		Exit-F7	Create-F9	Edit-F6	Lookup-F1	Help-F3
CUSTOMER PER-29						
CUSTOMER INFORMATION						
Customer ID 000001						
Last Name Burnett		First Name		Middle N.		
Address 378 Garden Park Drive		City	ST ZIP			
		Pueblo	CO 81002-0000			
		WM Phone (719) 555-9898 WK Phone (719) 555-8976				
Comments		Last Invoice Date				
		Balance Due \$0.00				
Payments #		Invoices #				

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.

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.

When you press **Lookup** (F8) to do a lookup on a link, the records that display depend on the key field list. All destination panel records display if the data link field is also the first field in the key field list; if not, you will see only those records that match the key field list.

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 Format* in *Reference*). Assign this field to be an auto-incrementing, hidden field (see *Field Format, Display Mode Indicators* 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 records 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 *Link* 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. To create an 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. When you edit an index, an upper-case E immediately precedes the field number of any field included in an exception list. To edit an index field list,

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** (\uparrow) and **Down Arrow** (\downarrow) 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 all of the fields in the exception list are empty when you save the record, the record is excluded from 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 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** (\uparrow) and **Down Arrow** (\downarrow) to move through the available indexes, then press **Select** (F4) to select the desired index.
- 4 Select the field(s) 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** (\uparrow) and **Down Arrow** (\downarrow) 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, and so forth using Index 4, the lookup lists, links, and so forth 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.

Index Recovery

When many records have been added to, edited, or deleted from a database, the indexes can become inefficient. The Index Recovery option of the System Operations feature (Shift-F9) can be used to regenerate those indexes so that disk space is saved and access time is improved. To use this option, you must have read-write access to the database, which includes definer and supervisor passwords if they have been created.

DataPerfect has concurrent index recovery to increase the speed of regenerating indexes. Concurrent index recovery lets you use more than one computer to reinde x a single database on your network.

To access the Index Recovery menu,

- 1** Be sure the System Operations menu is on the screen (Press **Shift-F9**).
- 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.

If you are on a network and you want to use more than one computer to speed up index regeneration, you would first access the database and begin the index recovery process. After index regeneration has begun, other computers can enter the database but cannot access data until all indexes are regenerated. Each one will be asked if it wants to help regenerate the index file.

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.

Understanding 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 *Link, Data 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 *Link, Panel 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-F2 Create-F9 Edit-F6 Lookup-F1 Help-F3					
CUSTOMER PER-30					
CUSTOMER INFORMATION					
Customer ID 00006 Last Name Facer		First Wendy		Middle Leigh	
Address 135 West Dublin Avenue		City Pueblo	ST CO	ZIP 81002-0000	
		IN Phone (719) 555-3059 UK Phone (719) 555-1112			
Comments		Last Invoice Date			
		Balance Due \$1,830.63			
Payments		Invoices			

BROWSING RECORD Exit-F2 Create-F9 Edit-F6 Lookup-F1 Help-F3																																											
CUSTOMER INU-3																																											
Invoices																																											
Customer ID 00006 Name Wendy Leigh Facer Invoice Number 00048 Date 12/31/89 Invoice Items																																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Items Purchased</th> <th>Amount</th> <th>Qty</th> <th>Extended Amount</th> </tr> </thead> <tbody> <tr> <td>Blues</td> <td>\$95.00</td> <td>1</td> <td>\$95.00</td> </tr> <tr> <td>Lazy River</td> <td>\$145.00</td> <td>2</td> <td>\$290.00</td> </tr> <tr> <td>Paro at Night</td> <td>\$195.00</td> <td>3</td> <td>\$585.00</td> </tr> <tr> <td colspan="2"></td> <td></td> <td></td> </tr> <tr> <td colspan="2"></td> <td></td> <td>Subtotal</td> <td></td> <td>\$570.00</td> </tr> <tr> <td colspan="2"></td> <td></td> <td>Tax</td> <td></td> <td>\$68.63</td> </tr> <tr> <td colspan="2"></td> <td></td> <td>Total</td> <td></td> <td>\$1,638.63</td> </tr> </tbody> </table>						Items Purchased	Amount	Qty	Extended Amount	Blues	\$95.00	1	\$95.00	Lazy River	\$145.00	2	\$290.00	Paro at Night	\$195.00	3	\$585.00								Subtotal		\$570.00				Tax		\$68.63				Total		\$1,638.63
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			Total		\$1,638.63																																						

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 *Keep a Total under Field Options 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 *Formulas 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 *Link, Panel 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 *Link, Data 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 (such as 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 *Link, Data and Link, Panel in Reference*). Next, you are prompted to select an index from the destination panel (see *Index 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 *Link, Data and Link, Panel 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, and so forth 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 Down 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 *Change Edit Order* under *Panel Options in Reference*). If you are on a link when you press one of these keys, Down Arrow will let you look at related records in the destination panel, and ↓Panel will start a new record in the destination panel.

Lookup Versus Up Arrow

When you are 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 (for example, 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.

Linked Auto-Incrementing Fields on a Network

If you are creating a database to be used on a network, and want to link two panels with a data link on an auto-incrementing field, use the ::J (save on create) display mode indicator instead of ::I (save on exit). This ensures that the record you create will be assigned the correct parent record number.

Link, Data

You should be familiar with the information under *Link in Reference* before beginning this section.

Data Link Characteristics

A data link (referred to in some 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.

The image shows two separate data entry panels. The top panel, titled 'CUSTOMER.INV-5', is an 'Invoices' screen. It displays customer information (Customer ID 88886, Name Wendy Leigh Facer, Invoice Number 88847, Date 81-13-90) and a list of 'Invoice Items'. The items listed are 'Always', 'Black Forest Su', and 'Little Flower G', each with a quantity of 1 and an amount of \$25.00. The total amounts are Sub-Total (\$75.00), Tax (\$3.44), and Total (\$78.44). The bottom panel, titled 'CUSTOMER.PUR-10', is an 'Item Purchased' screen. It shows an invoice number (88847) and a single item row with 'Always' as the item, a quantity of 1, and an amount of \$75.00.

CUSTOMER.INV-5			
Invoices			
Customer ID 88886			
Name Wendy Leigh Facer			
Invoice Number 88847 Date 81-13-90			
Invoice Items			
Items Purchased	Amount	Qty	Extended Amount
Always	\$25.00	1	\$25.00
Black Forest Su	\$195.00	1	\$195.00
Little Flower G	\$245.00	1	\$245.00
			Sub-Total \$75.00
			Tax \$3.44
			Total \$78.44

CUSTOMER.PUR-10			
Item Purchased			
Invoice Number 88847			
Item	Amount	QTY	Ext. Amount
Always	\$75.00	1	\$75.00

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 *Link in Reference*). To completely define a data link, you should perform the following steps:

- Select the field which contains the data link.
- Select the destination panel.
- Select the target field.
- Select an index.
- Define a link field list.
- 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,

- 1 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.

- 1 Move the cursor to the field you want to select as the target field.
- 2 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 *Index 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 *Link 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.

- 1 Use **Up Arrow** (\uparrow) and **Down Arrow** (\downarrow) to locate the index from the destination panel that you want to use.
- 2 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 *Link in Reference* before you perform the following keystrokes.

With the fields from the source panel displayed on the screen,

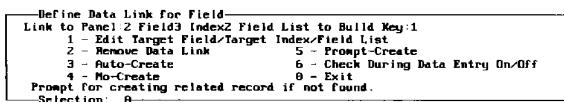
- 1 Move the cursor to the desired field.

Important: *The field must be identical to the first field in the index you selected.*

- 2** Press **Select** (F4) to select the field for the link field list.
- 3** Repeat steps 8 and 9 for any additional common fields between the panels.
- 4** 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** (\uparrow) and **Down Arrow** (\downarrow) 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.

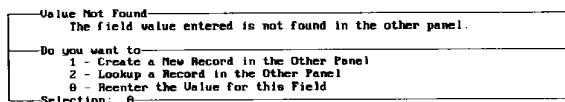
To set a data link to No-Create,

- 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 and allows the user to enter a new value. If you want the new value to match an existing value in the linked panel, you must assign a ::M format to the field.

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 Check During Data Entry (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 *Field Format, Display Mode Indicators* 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 (in other words, 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 (\uparrow) 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 (\downarrow) 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.

Link, Panel

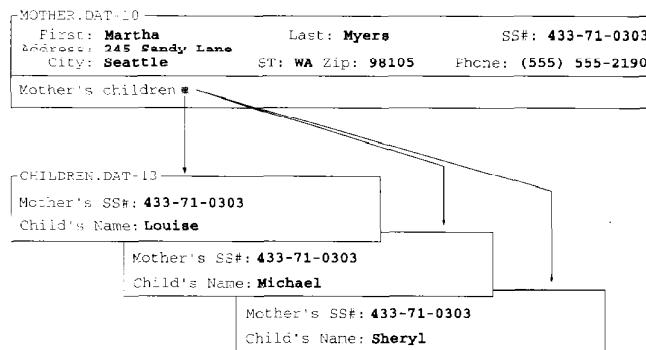
You should be familiar with the information under *Link* in *Reference* before beginning this section.

Panel Link Characteristics

A panel link (referred to in some 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 *Link in Reference*). To completely define a panel link, you should perform the following steps:

- Label the panel link.
- Select the destination panel.
- Select the target field.
- Select an index.
- 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 **JPanel** (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** (\leftarrow) to position the cursor on the panel link character (\blacksquare).
- 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 *Index 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 *Link 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** (\uparrow) and **Down Arrow** (\downarrow) 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 Link 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 and display the Define Panel Link menu.

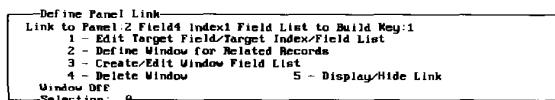
Virtual Panel Link

A virtual panel link accesses all records in the linked panel, even if they don't match records in the original panel. It is created like a regular panel link, except that it does not have a link field list. Because of this, no fields are carried through the link, and no verification is performed to guarantee that a new record belongs to a subset of the original.

To create a virtual panel link, follow the steps for creating a panel link (select the destination panel, select the target field for the link, and select the index), but press **Save** (F10) instead of selecting fields for the link field list. The virtual panel link is saved and the Define Panel Link menu is displayed.

Define Panel Link Menu

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.



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.

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 Field List screen is displayed.

5 Move the cursor to the field you want to edit.

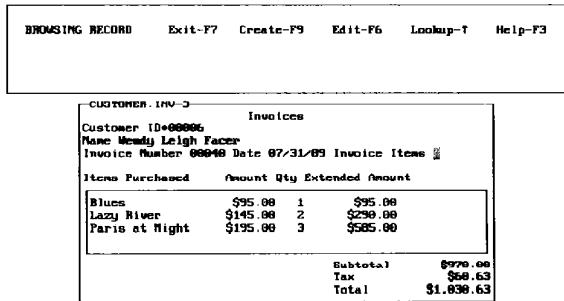
You may need to use Delete List (1) or Delete Last Entry in List (2) to move to the desired field.

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 data in the Items Purchased, Amount, Quantity, and Extended Amount 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 **JPanel** (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 *Index Recovery* 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.

Display/Hide Panel Link

This option lets you display or hide a panel link. You may want to hide a panel link to prevent users from accessing related records in a destination panel. This option acts as a toggle. The default setting displays the panel link.

To hide a panel link,

- 1** Be sure the Define Panel Link menu is on your screen.
- 2** Select Display/Hide Link (5).

The word "Hidden" appears in the lower part of the instruction box.

Select Display/Hide Link again to display the panel link.

Delete a Panel Link

You can delete a panel link only when no data exists in the panel. 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 *Data Export* 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 **↓Panel** (F5) to enter the destination panel and start a new record.
- 2** Enter the desired data.
- 3** If you want to enter more than one record in the destination panel, press **Create** (F9) to enter another record.
- 4** 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.

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. A record currently displayed in the panel is highlighted in the lookup list.

--Beginning--			
Burnett	Jane	M.	00001
Caldiero	Allen	M.	00002
Cameron	Marshall	M.	00003
Corrales, Jr.	Joseph	M.	00025
Ortiz	Howard	M.	00004

CUSTOMER PER-30			
CUSTOMER INFORMATION			
Customer ID 00001			
Last Name	Burnett	First Name	Middle N.
Address	378 Garden Park Drive	City	ST ZIP
		Pueblo	CO 81002-4000
		H/M Phone	(719) 555-3000 V/X Phone
Comments		Last Invoice 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* 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 List* in *Reference*). This kind of search may be performed on any type of field (alphanumeric, date, time, and so forth).

If a lookup uses an index that has as its first field a field other than the field the lookup is being performed on, the cursor will go to the first field in the index.

If you do a search in a lookup and discover several records that are identical in the first field of the lookup, you can press Tab to search in the next field in the index the lookup is using. For example, suppose you were doing a lookup on the last name field of a panel. You type DAV to move to a record for Sophia Davis, but find there are several records for Davis. If the first name field is the second field in the index the lookup is using, you can do a sub-field lookup. To move to Sophia's record, you would press Tab, then type SOPHIA or as many letters as necessary to move you to her record.

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* 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 *Index Recovery* 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.

Lookup Field List

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 *Field List*, *Define* and *Lookup* 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.

--Beginning--			
Burnett	Jane	M.	00001
Caldero	Allen	M.	00002
Cameron	Marshall	M.	00003
Corrales, Jr.	Joseph		00025
Criddle	Howard	Jay	00004

CUSTOMER PER-29			
CUSTOMER INFORMATION			
Customer ID 00001	First Jane	Middle M.	
Last Name Burnett			
Address 378 Garden Park Drive	City Pueblo	ST ZIP CO 81002-0000	
		HM Phone (719) 555-9888	WK Phone (719) 555-8370
Comments		Last Invoice Date	
		Balance Due	\$0.00
	Payments	Invoices	

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		Customer ID	NAME
Dilien	R.	Criddero	000002
Marshall	H.	Cameron	000003
Joseph		Corrales, Jr.	000025
Howard	Jay	Cridde	000004

CUSTOMER PER-29				CUSTOMER INFORMATION			
Customer ID	000001	First Name	Middle N.				
Last Name	Burnett						
Address	378 Warden Park Drive	City	ST ZIP	CU	010002-0000		
		Pueblo					
		Phone (719) 555-9000	WX Phone (719) 555-8370				
Comments		Last Invoice Date					
		Balance Due	\$0.00				
		Payments	Bill				
		Invoices	Bill				

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. To find this default list, DataPerfect looks for an index in which the field where your cursor is positioned is listed as the first field. If no such index is found, a lookup list with two fields—the field where your cursor is and the first field of the last index used—will be displayed.

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.

Define Lookup Field List Move the cursor to the next field you want added to the field list, then Press Select (F4). Or press:			
1 - Delete List	R - Exit		
2 - Delete Last Entry in List			
CUSTOMER .PER-29 CUSTOMER INFORMATION			
Customer ID	Last Name	First	Middle
Address	City	ST	ZIP
	HM Phone		WK Phone
Comments	Last Invoice Date		
	Balance Due		
Payments		Invoices	

- 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, Jr.	Joseph		00026
Cridde	Howard	Jay	00004

CUSTOMER PER-30			
CUSTOMER INFORMATION			
Customer ID 00001	First Jane	Middle M.	
Last Name Burnett			
Address 378 Garden Park Drive	City Pueblo	ST CO	81002-0000
	MM Phone (719) 555-9800	WK Phone (719) 555-8370	
Comments	Last Invoice Date		
	Balance Due	\$0.00	
Payments 0	Invoices 0		

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 Howard	Jay	Cridde	
00005 Holly	Diane	Dunn	

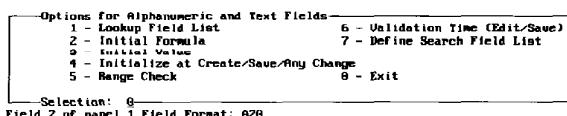
CUSTOMER PER-30			
CUSTOMER INFORMATION			
Customer ID 00001	First Jane	Middle M.	
Last Name Burnett			
Address 378 Garden Park Drive	City Pueblo	ST CO	81002-0000
	MM Phone (719) 555-9800	WK Phone (719) 555-8370	
Comments	Last Invoice Date		
	Balance Due	\$0.00	
Payments 0	Invoices 0		

To select an index for the lookup list,

- 1 Use Up Arrow (\uparrow) and Down Arrow (\downarrow) 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.



Record Lookup Index and Field List: 1 - 2 3 4 1

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 *Reveal* 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** (\uparrow) and **Down Arrow** (\downarrow) 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.

With the DataPerfect Menu feature, you can define a menu to simplify user tasks and restrict database access. Users access a panel or report by choosing a menu option instead of navigating DataPerfect manually.

Once you have created a menu, a user enters a number to access a panel, a panel list, or a report list, or to run a report or Shell macro.

An entire menu can be secured with a Definer Password. Each option of the menu can contain a password to limit user access to the database. If necessary, you can set passwords to prevent users from accessing any part of the database.

A database must already be defined before you attempt to create a menu for that database.

Menu Concepts

Like database creation, menu creation requires an understanding of basic concepts. Before designing or creating your menu, make sure you understand the concepts explained in this section.

DataPerfect menu creation includes two distinct steps: designing the text screen and assigning menu option definitions.

Once you understand the menu creation process, you should plan the menu before proceeding. Next, you will create the menu text (the portion of the menu the user will see). Finally, you will assign certain actions to menu numbers in the Define Menu screen.

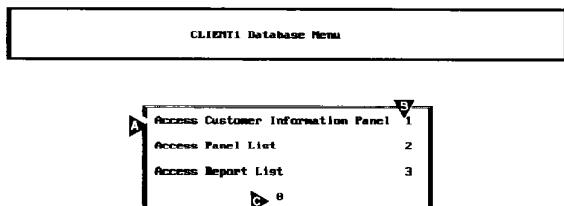
Text Screen

The text screen lists available choices (menu items) and the numbers associated with these choices.

In simple terms, the text screen tells users what number to enter in the prompt field to do specific tasks like running a report or entering a panel. The prompt field is the only active part of the text screen.

Once you have created a text screen, it may resemble the one shown below.

- ▲ MENU ITEM
- ▲ MENU SELECTION NUMBER
- ▲ PROMPT FIELD



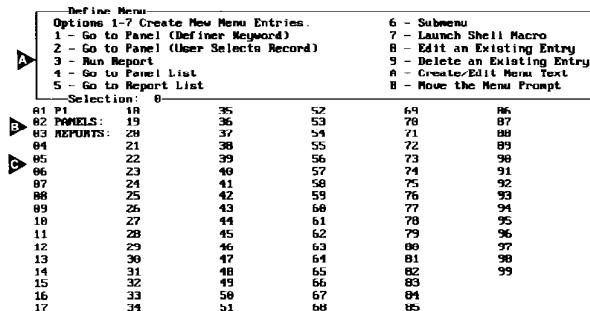
Definition Screen

The Define Menu screen lets you define menu assignments. This screen lists menu selection numbers and associated actions, once these actions are assigned. In this screen, you can assign actions to menu selection numbers and edit existing assignments.

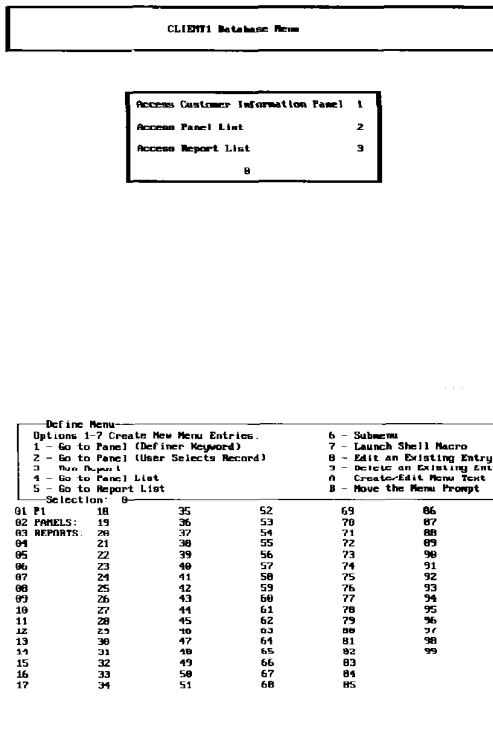
The Define Menu options let the definer assign actions to menu selection numbers. These options are listed in a table later in this section and are explained in detail in *Menu, Define*. Your menu will be more successful if, before defining a menu, you read about the options you want to use.

Once you have assigned actions to menu selection numbers in the menu definition screen, your screen may resemble the screen shown below.

- ▲ DEFINE MENU OPTIONS
- ▲ ASSIGNED MENU SELECTION NUMBER
- ▲ UNASSIGNED MENU SELECTION NUMBER



In this example, a definer assigned menu item 1 to the Customer Information panel. A user gains access to the panel by entering the number 1 in the menu prompt field in the text screen.

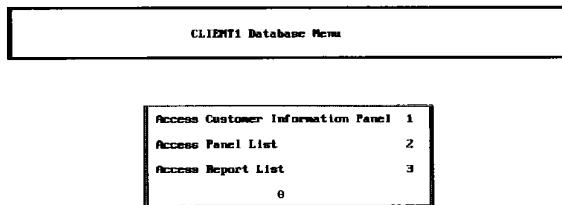


Planning the Menu

If you plan your menu before you define it, the definition process will be easier and the menu you create will probably be more efficient and secure.

- 1** Decide what tasks your users will use the menu to perform.
- 2** Sketch a rough design of the text screen, listing and numbering the tasks from step 1 and including the basic design elements you want (a title, boxes, lines, color, and so on).

You may envision a menu that resembles the one shown below.



- 3** Decide which Define Menu option you will use to define each menu item (task).

Refer to the table below for general information about the types of menu items you can define. For more detailed information about menu item types, see the corresponding heading later in this section.

For example, to see more information on how to define an item that lets a user access a specific panel, see *Go To Panel (1)* under *Menu, Define* in *Reference*.

Option	Explanation
Go to Panel (1)	Lets users access a specific panel. If desired, the definer can enter a key word to choose which sorted records the user can access through this option.
Go to Panel (User Selects Record) (2)	Lets users access a specific panel. User must enter a key word to view sorted records which match the key word.
Run Report (3)	Runs a specific report.
Go To Panel List (4)	Lets users access the Panel List.
Go To Report List (5)	Lets users access the Report List.
Submenu (6)	Creates a submenu.
Launch Shell Macro (7)	Launches an existing Shell macro.

- 4** Decide security issues. For example, you may decide to add both a definer and a supervisor password to the database and to add a password to the option that allows access to the panel list.

See the headings that correspond to option types for information on how to add passwords to your menu items. See *Menu Security* in *Reference* for more information.

- 5 Create the text screen and assign actions to menu items according to your plan.

For information on how to create the text screen, see *Create/Edit Menu Text* in *Menu, Define* in *Reference*.

For information on how to assign actions to menu items, see *Menu, Define* in *Reference*.

Menu, Define

The following steps give an overview of how to create a menu. Refer to the appropriate headings later in this section to find out more about specific menu options.

- 1 If this is the first time you've defined a menu, make sure you have read *Menu* in *Reference*.
- 2 Plan the menu.

For more information on planning a menu, see *Menu* in *Reference* or *Lesson 27: Defining a Menu* in the *DataPerfect Workbook*.

- 3 Access the database panel list.
- 4 Press **Define Panel/Menu** (Alt-F8) to enter menu define mode.

Once a menu is in place, you will not have direct access to the panel list. You can modify an existing menu by pressing Define Panel/Menu (Alt-F8) from the menu.

The Define Menu options are displayed. Options 1-7 let you create new menu assignments. Options eight and nine let you edit existing assignments. Option A lets you create or edit the menu text. Option B lets you position the user prompt.

Define Menu									
Options 1-7 Create New Menu Entries.				8 - Submenu 9 - Launch current macro B - Edit an Existing Entry 5 - Delete an Existing Entry A - Create/Edit Menu Text B - Move the Menu Prompt					
1 - Go to Panel (Enter menu keyword) 2 - Go to Panel (User Selects Record) 3 - Run Report 4 - Go to Panel List 5 - Go to Report List									
Selection: 8									
81	18	35	52	69	86				
82	19	36	53	70	87				
83	20	37	54	71	88				
84	21	38	55	72	89				
85	22	39	56	73	90				
86	23	40	57	74	91				
87	24	41	58	75	92				
88	25	42	59	76	93				
89	26	43	60	77	94				
10	27	44	61	78	95				
11	28	45	62	79	96				
12	29	46	63	80	97				
13	30	47	64	81	98				
14	31	48	65	82	99				
15	32	49	66	83					
16	33	50	67	84					
17	34	51	68	85					

If you are not familiar with the types of menu items you can define, refer to the table in *Menu in Reference* or read the heading that corresponds to the Define Menu option later in this section.

- 1 Select Create/Edit Menu Text (A) to display a skeleton sample screen of menu text.
- 2 Modify the sample screen to create the menu you want, or delete the sample screen and create one of your own.

For details on creating menu text, see *Create/Edit Menu Text* later in this section.

- 3 When you are finished creating the menu text, press **Exit** (F7).

Whatever is on the screen when you exit will be your menu. If you make any changes in the text screen, the prompt field appears at the end of the menu text when you exit. If you enter the text screen and exit without making any changes, the prompt field does not appear.

- 4 If you are satisfied with the position of the prompt field, skip to step 9.

or

If you want to move the prompt field, use the arrow keys to move the prompt field to the location you want.

For details on moving the menu prompt, see *Move the Menu Prompt* later in this section.

- 5 Press Enter to set the menu prompt and return to the Define Menu options.
- 6 Use options 1-7 to assign a number for each menu item you typed as menu text.

For information about each option, see the corresponding entry later in this section. For example, if you want to define a menu selection that lets the user access a specific panel, follow the steps in *Go To Panel (1)* later in this section. If you want to define a menu selection that lets the user access the report list, see *Report* later in this section.

7 Press **Exit (F7)** to display the menu you have created.

8 Press **Exit (F7)** to exit the database.

The next time you enter the database, your menu will be displayed.

Create/Edit Menu Text

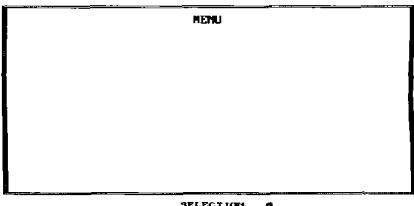
To create or edit the text portion of the menu,

1 Start from the Define Menu screen.

2 Select Create/Edit Menu Text (A).

The Edit Menu Text screen appears.

This is a sample menu form. You may delete it entirely, change its form, or press the Ins key (for replace mode) and fill it in.



A skeleton sample screen is available to help your menu creation. If you plan to type items in the sample screen box or any box you create, use typeover mode instead of insert to avoid moving the right side of the box.

If you want to delete the sample screen in order to create a screen of your own design, first move the cursor to the top left corner of the screen by pressing Home,Home,Up Arrow. Then press Block (Alt-F4), move the cursor to the text by pressing Home,Home,Down Arrow, and then press Backspace to delete the blocked text.

If you are using a color monitor, menu colors are determined by the colors you have chosen for your database in Screen Options. For information on changing database colors, see *Menus and Reports* under *Color* in Reference.

3 Type an item number followed by an item name for each menu selection you want.

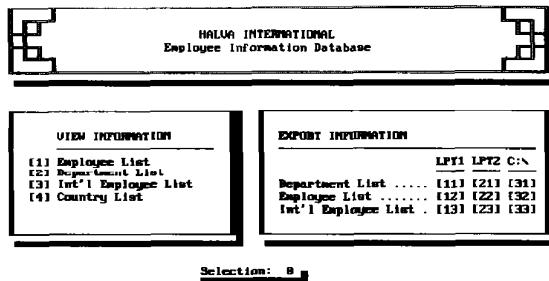
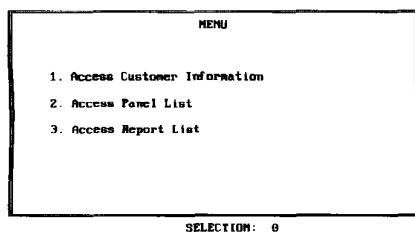
- 4** Add any other desired menu elements (boxes, lines, bold or underline codes, and so on).

To draw lines, boxes, or backshadowing, you can use line draw and other special characters. See *Appendix N: ASCII and IBM Extended Characters in Reference*.

On color monitors, bold and underline appear as colors. If menu users will view your database on color monitors, you can use Bold (F6) and Underline (F8) to color screen elements like boxes and backshadowing.

Bold and underline appear differently on monochrome monitors than they do on color monitors. Use of bold and underline for special effects on monochrome monitors is not recommended.

The examples below show possible menu text.



- 5** Press **Exit** (F7) when you have finished entering text.

If you have not made any change to the screen, you are returned to the Define Menu options.

If you have made any changes to the screen, the prompt field appears. The prompt field is the field in the text screen where the user enters a selection. Depending on how your text is positioned, you may want to move the prompt field.

- 6 If you want to re-position the prompt field, move it to the desired location using the arrow keys, then press **Enter** to save the location and return to the Define Menu screen.

Move the Menu Prompt

The prompt field is the field on the text screen where the user types a menu item number to make a menu selection. By default, the prompt field on the menu text screen appears after the last character of menu text.

DataPerfect lets you move the prompt field immediately after the initial menu creation. Once you have entered text and exited the text screen, you can choose this option to change the prompt field location. You can also change the prompt field location by making changes to menu text (A) and then pressing Exit (F7).

From the Define Menu screen,

- 1 Select Move the Menu Prompt (B).

The menu text screen is displayed.

- 2 Use the arrow keys to reposition the prompt field.

- 3 Press **Enter** to save the prompt field location and return to the Define Menu screen.

Go To Panel (1)

This option lets you create a menu item that lets users access a panel that you specify.

If you want, you can sort the panel records with a key word. Then when users choose this item, they will see only records that you have specified for this item with the key word. The key word is specified by you, the menu definer. Users are not prompted for a key word.

To create a panel entry with or without a definer-specified key word,

- 1 Make sure you are in the Define Menu screen.

- 2 Select Go to Panel (1).

- 3 Type the number of the menu selection you want to add and press **Enter**.

The panel list is displayed.

- 4 Place the cursor on the desired panel and press **Enter**.

Your panel number and name may vary from those shown.

A PANEL NUMBER AND NAME

Go to Panel (Definer Keyword)	
Panel:	Customer Information
1 - Panel Access Rights:	Read/Write
2 - Access Report List?	Yes
3 - Restrict Modification to First Level	No
4 - Edit Password	
5 - Edit Key Word	
6. Choose Index	8
Selection:	6

Set the toggle for each of options 1-6. Refer to the table below for available settings.

#	Option	Settings
1	Panel Access Rights	Read/Write No Delete Create OK - No Edit/Delete Read-Only
2	Access Report List	Yes (user can access reports) No (user can't access reports)
3	Restrict Modification to First Level	Yes (user can modify records in the original and any linked panels) No (user can modify records in the original panel, but cannot modify any records reached through a link)
4	Edit Password	No options. See step 5 below.
5	Edit Keyword	No options. See step 6 below.
6	Choose Index	No options. See step 7 below.
5	If you want to add a password to restrict access to the panel, choose Edit Password (4), then type the password using eight characters or fewer and press Enter.	

- 6** If you want to sort the records with a key word, choose Edit Key Word (5), then enter a word of four characters or fewer to sort by.

If you chose a key word to sort by, the index you choose must include as its first field the field that will contain the key word.

- 7** Choose Index (6), use the up and down arrow keys to access the desired index, then press **Select (F4)**.

- 8** Press **Exit (F7)** to return to the Define Menu options.

Go To Panel (User Selects Record) (2)

This option lets you create a menu item that lets users access a panel that you specify. The records in the panel are sorted according to the first field of the records you specify while defining the menu item. The sorted records are then displayed according to user response to a key word prompt.

For example, suppose an assistant to two attorneys enters records for both attorneys in one panel. The assistant might want to view the record for a specific client who works with only one of the attorneys. The assistant could do a lookup on only the records for one attorney or the other by first selecting a menu item (access to the panel, for example) and then entering the keyword associated with the selected attorney.

For security purposes, the keyword search will find only those records with an exact match. The key word search is not case-sensitive and can contain as many as 64 characters.

To create a panel entry with a user-entered key word,

- 1** Start from the Define Menu screen.
- 2** Choose Go to Panel (User selects record) (2).
- 3** Type the number of the menu selection you want to assign and press **Enter**.
- 4** Place the cursor on the desired panel and press **Enter**.

—Go to Panel (User Selects Record)—		
Panel:	1 Customer Information	
1 - Panel Access Rights:	Read/Write	
2 - Access Report List?	Yes	
3 - Restrict Modification to First Level	No	
4 - Edit Password		
5 - Choose Index	0	
Selection:	0	

- 5** Set the toggle for each of options 1-5. Refer to the table below for available settings.

#	Option	Settings
1	Panel Access Rights	Read/Write No Delete Create OK - No Edit/Delete Read Only
2	Access Report List	Yes (user can access reports) No (user can't access reports)
3	Restrict Modification to First Level	Yes (user can modify records in the original and any linked panels) No (user can modify records in the original panel, but cannot modify any records reached through a link)
4	Edit Password	No options. See step 6 below.
5	Choose Index	No options. See step 7 below.

- 6** If you want to add a password to restrict access to the panel, choose **Edit Password** (4), then type a password of eight or fewer characters.
- 7** Select **Choose Index** (5).

The index you choose must include as its first field the field that the user is prompted to match.

- 8** Use the up and down arrow keys to move to the appropriate index, then press **Select (F4)**.
- 9** Press **Exit (F7)** to return to the Define Menu options.

Run Report (3)

This option lets you create a menu item that lets the user run a specific report.

- 1** Start from the Define Menu screen.
- 2** Select Run Report (3).
- 3** Type the number of the menu selection you want to assign and press **Enter**.
The report list is displayed.
- 4** Place the cursor on the desired report, then press **Enter** to select the report.
The Report menu appears.

The default setting report option A is Normal Report Mode.

Single Record Report From Lookup lets you run a report on a single record and then returns the cursor to the lookup list so you can select multiple records for the report quickly.

- 5** If you want to select Single Record Report From Lookup mode, choose **A**.
- 6** If you want to add a password to this report, choose **B**, then type a password of eight characters or fewer, and then press **Enter**.
- 7** Press **Exit** to return to the Define Menu options.

Go To Panel List (4)

This option lets you create a menu item that lets users access the panel list. You may want to use a password to restrict some users from accessing the panel list.

- 1** Start at the Define Menu screen.
- 2** Select Go To Panel List (4).
- 3** Type the appropriate menu selection number.
- 4** Type a password of eight or fewer characters
or
Press **Enter** to return to the Define Menu options.

Go To Report List (5)

This option lets you define a menu item that lets users access the report list. You may want to use a password to restrict some users from accessing the report list.

- 1** Start at the Define Menu screen.
- 2** Select Go To Report List (5).
- 3** Type the appropriate menu selection number and press **Enter**.

- 4** Type a password of eight or fewer characters.

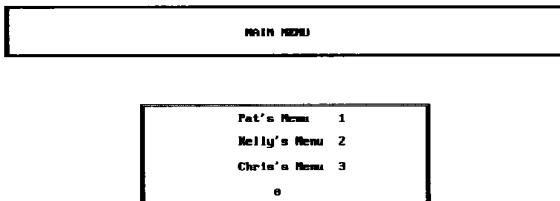
or

Press **Enter** to return to the Define Menu options.

Submenu (6)

You can create one or more submenus to the main menu.

The example below illustrates a possible use for submenus.



Each selection on the menu of submenus displays a new menu. You can add a submenu to a submenu. Unlimited levels of submenus are allowed.

- 1** Select Submenu (6).
- 2** Type the number of the menu selection to which you want to add a submenu and press **Enter**.

DataPerfect prompts you for a definer password.

- 3** Type a password of eight or fewer characters and press **Enter**.

or

If you want no password, press **Enter** to return to the Define Menu options.

A new Define Menu screen is displayed.

- 4** Create or edit a submenu as you would any other menu.
- 5** Press **Exit (F7)** to return directly to the main Define Menu screen, no matter what level the submenu is on.

Launch Shell Macro (7)

This option lets you create a menu entry that runs a Shell macro that you designate. Shell macros let you automate DataPerfect tasks. For example, you could use a Shell macro to export data from and import data to a database.

- 1** If the Shell macro does not yet exist, define it before continuing.

For information on defining a Shell macro, see *Macros* under *Shell Features* in the *DataPerfect Reference*.

- 2** Make sure you know the location of the Shell macro you want this item to run.
- 3** Make sure you are in the Define Menu screen.
- 4** Choose Launch Shell Macro (7).
- 5** Type the appropriate menu selection number and press **Enter**.
- 6** Choose Edit Macro Name (1).
- 7** Enter the macro path and name (for example, c:\dp23\macros\exp&imp).
- 8** If you want a password on this item, choose Edit Password (2), type a password of eight characters or fewer, and then press **Enter**.
- 9** Press **Exit** (F7) to return to the Define Menu options.

Edit an Existing Entry (8)

This option lets you make changes to an existing menu selection.

You can use this option to change settings like passwords, key words, and so on. However, you cannot change the destination of a menu entry. To change the destination of a menu entry, you need to delete and re-create the entry.

- 1** Start from the Define Menu screen.
- 2** Choose Edit an Existing Entry (8).
- 3** Type the number of the menu selection you want to edit and press **Enter**.
- 4** Make the changes for the menu item you selected.

For details on how to make changes to the menu item you selected, refer to the appropriate heading above. For example, if the item you selected lets users choose from a panel list, see *Panel List* (4) above.

Delete an Existing Entry (9)

To delete a menu entry, start at the Define Menu screen.

- 1** Select Delete an Existing Entry (9).
- 2** Enter the number of the menu entry you want to delete.
If you are deleting a Submenu or Run Report option, you are prompted to confirm the deletion.
3 For a Submenu or Run Report option only, type **y** to confirm the deletion.
or
For a Submenu or Run Report option only, type **n** to cancel the deletion.

The menu entry is deleted and you are returned to the Define Menu screen.

There are two ways to remove a menu from a database. One involves editing the database's .STE file. The .STE file is a text file that defines the database structure. This method is useful because it deletes submenus.

The other method of removing a menu from a database involves deleting the contents of the text screen. This method is quicker and easier than editing the .STE file.

Removing the Menu by Editing the .STE

To remove a menu and submenus from a database, you can comment out menu codes in the database's .STE file and then import the commented .STE back into the database. DataPerfect will delete the commented sections.

Important: Editing the .STE in a text editor can damage the structure of your database. You should make a backup copy of the database before editing the .STE so that if your structure file is damaged, you can restore from the backup. WordPerfect Customer Support is unable to fix a structure file damaged by editing.

To remove a menu from the database,

1 Back up your database.

For information on how to back up your database, see *Backup* in *DataPerfect Reference*.

2 Run DPEXP on the database to create a .STE file.

For information on how to run DPEXP, see *Appendix B: Description Language (DPEXP and DPIMP)* in *DataPerfect Reference*.

3 Retrieve the .STE file into WordPerfect Editor, or any text editor that lets you save files in DOS format.

Word processors are less convenient for editing the .STE because wrapping can affect the code. If you use a word processor (WordPerfect, for example) to edit the .STE, make sure that the code remains unchanged by retrieving the .STE file as a DOS text file into a landscape page.

4 Search for the first occurrence of the word "menu" followed by a colon (MENU:).

5 Type any alphanumeric character directly in front of the M in MENU with no space separating the two characters (for example, OMENU).

DataPerfect will no longer recognize and will therefore ignore the menu code.

When you import the .STE, DataPerfect deletes all the codes it does not recognize.

6 Repeat steps 4 and 5 for any remaining occurrences of MENU: to comment out all submenus.

7 Save the .STE in DOS format.

8 Use DPIMP to import the .STE file.

For information on how to run DPIMP, see *Appendix B: Description Language (DPEXP and DPIMP)* in *DataPerfect Reference*.

9 Access your database to check that the menu is gone.

When you re-enter the database you import, DataPerfect prompts you to recreate that database's text (.TXX) and index (.IND) files.

10 Select the options that will recreate the text and index files for your database.

Removing the Menu by Deleting Menu Text

You can remove a menu from a database by deleting everything in the menu screen. However, the menu cannot be restored to the database unless you recreate it.

Submenus are not deleted when you delete the text of the main menu, but are accessible unless the database has a main menu. If you have deleted the main menu and have left residual submenus, you can access them again by creating a new main menu for the database. If the .STE is exported and imported while the database has a main menu and no residual submenus, the submenus are deleted.

To remove a menu by deleting menu text,

1 Access the database menu.

Press **Define Panel/Menu** (Alt-F8) to enter menu define mode.

If the database has a password on it, you will have to enter the password to access the Define Menu options.

2 Select Create/Edit Menu Text (A).

The Edit Menu Text screen appears.

3 Without moving the cursor, press **Block** (Alt-F4).

4 Press **Home,Home,Down Arrow** to move the cursor to the end of the text.

5 Press **Backspace**, then press **y** to confirm the deletion.

6 Press **Exit** three times to exit the text screen and database.

7 Re-enter the database to make sure the menu is removed.

Menu Security

A DataPerfect menu lets you control user access to a database. Database security requires some planning. Without planning, you may defeat your own attempts to secure data.

For example, you might put a password on a certain panel. However, if you choose another option that allows panel list access and neglect to put a password on

option, unauthorized users will still have access to the data in the panel you secured with a password.

In almost all cases, you should secure the database with a definer password. This will prevent users from accessing the Menu Define screen and altering menu options or accessing data you want protected. You may want to add a supervisor password in addition to the definer password. This password lets the supervisor access the Define Menu screen and change the passwords or options of existing entries, but not to add or delete options.

For information on setting definer and supervisor passwords, see *Password in Reference*.

You can secure a panel, report, panel list, submenu, or report list with a password. See the appropriate heading (for example, Panel List) in *Menu, Define in Reference* for more information.

You can control the records a user sees in a panel by adding a keyword to the menu option that allows access to that panel. See *Go To Panel (J)* in *Menu, Define in Reference* for more information.

Move

Move (Ctrl-F4) is used to move a block of text in a text field or in a report (see *Block in Reference*). It is also used to move fields when in Define Panel mode (the field will keep its original field number). 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).

Panel

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

▲ PANEL

BROWSING RECORD Exit-F7 Create-F9 Edit-F6 Lookup-T Help-F3					
CUSTOMER PER-30 CUSTOMER INFORMATION					
Customer ID 00001 Last Name Bennett		First Name	Middle M.		
Address 378 Garden Park Drive		City	ST	ZIP	
		Pueblo	CO	81002-0000	
		Hh Phone (719) 555-9888 UX Phone (719) 555-8378			
Comments		Last Invoice Date			
		Balance Due \$0.00			
Payments #		Invoices #			

After defining the database, you need to define each panel for the database. Define how large the panel should be, what information you want to display, and how the information will look when it is displayed.

Related Information

You can find related information on how to create and work with panels in the following sections of *Reference*:

- Panel, Define
- Panel, Delete
- Panel, Design
- Panel, Edit
- Panel, Select
- Panel Options
- Panel Modes
- Panel Text

Panel, Define

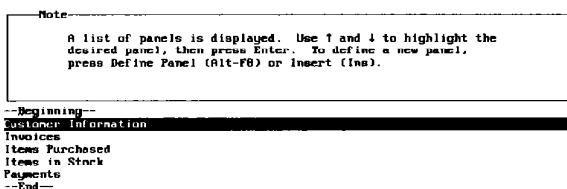
Once you have finished designing a panel on paper, you are ready to define it in DataPerfect (see *Panel, Design in Reference*).

When you define a panel, you are telling DataPerfect how and where you want 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* in *Reference*).

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



- 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.

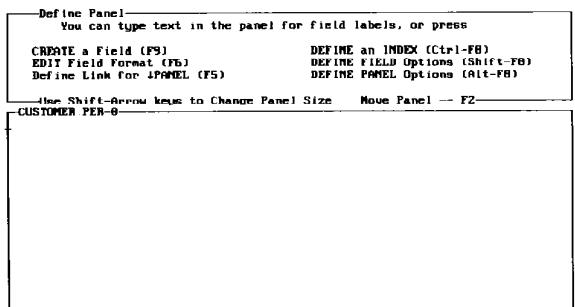
To maintain consistency between the filenames in a database, it is wise to give each data file the same name as the database, but with a unique three-character extension. By making each filename the same, it is easy to back up your database or to transfer the entire database.

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.

A blank panel is displayed in Define Panel mode.



The box in the top third of the screen 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 the 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 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 and Field Define 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, a horizontal line appears across the panel.

- 5 Define at least one index for the panel (see *Index 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.

Related Information

You can find related information in the following sections of *Reference*:

- Field List, Define
 - Panel, Design
 - Panel Options
 - Panel Text
-

Panel, Delete

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 *Data Export* in *Reference*).

To delete a panel,

- 1 Be sure the panel list is on the screen.
- 2 Place the cursor in the panel list on the panel 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.

Panel, Design

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 *Field* in *Reference*).

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

Panel, Edit

You can edit and move the panel text and fields in a panel as many times as needed (see *Block, Move, and Copy* 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 1 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,

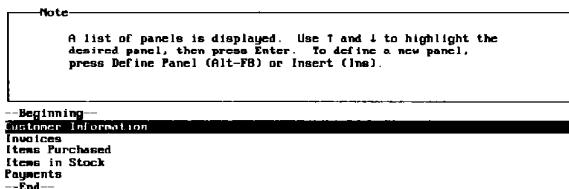
- 1 Press **Define Panel** (Alt-F8) to access the Define Panel menu.
- 2 Press **Shift-arrow** (up, down, left, or right). Be sure to use the arrow keys on the numeric keypad. Number Lock should be turned off.

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, Select

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,

- 3 Use the arrow keys to highlight the desired panel.
- 4 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 *Link in Reference*)

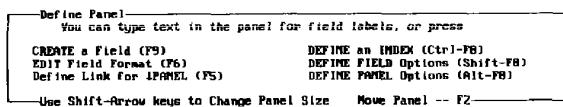
Panel Modes

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) while you are in Browse mode, you are placed in Define Panel mode. Define Panel mode lets you create or edit the structure of the database.

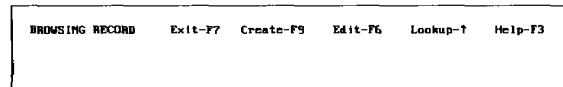
The following illustration shows the instruction box in Define Panel mode.



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 *Auto-Edit/Auto-Create/Menu under Panel Options in Reference*).

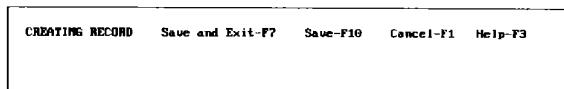
The following illustration shows the instruction box in Browse mode.



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 *Record, Create in Reference* for detailed information about creating a record.

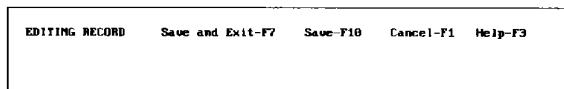
The following illustration shows the instruction box in Create mode.



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 *Record, Edit* in *Reference* for detailed information about editing a record.

The following illustration shows the instruction box in Edit mode.



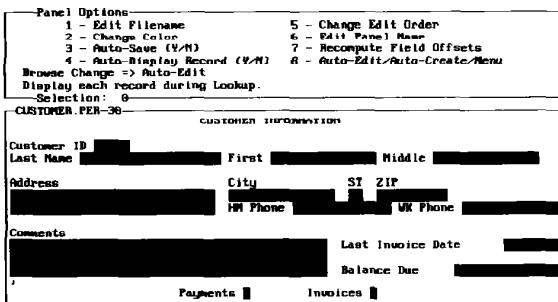
Panel Options

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** again.

The Panel Options menu is displayed.



- 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

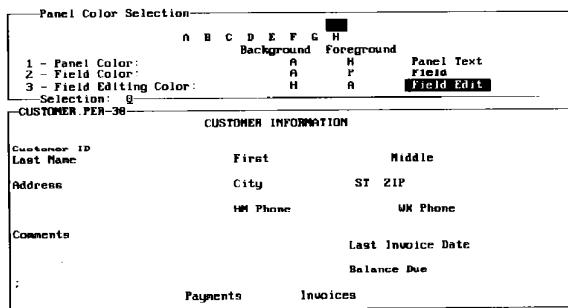
If you have a color monitor, you can specify the color for the background and the foreground of the panel, the fields in that panel, and the field in which the cursor is positioned. Once you exit the Panel Options menu, the options you set are saved with the panel.

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 (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. (For more information about color options in DataPerfect see *Color* in *Reference*).

Auto-Save (Y/N)

This option toggles between Yes (Y) and No (N). The default setting is No (N). 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). Auto-Display Record is on, each record is displayed in the panel as you scroll through a lookup list (see *Lookup* 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.

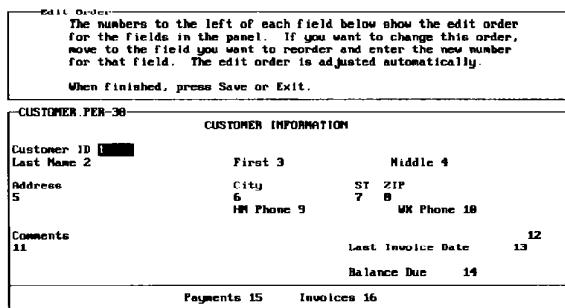
Change Edit Order

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).



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 lists 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 Offsets

This option repositions the data record in the structure (.STR) file. The data record includes 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 *Data Export* and *Data Import* in Reference).

To use Recompute Field Offsets,

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

Panel Text

Any text outside of the actual fields or links in a panel is referred to as panel text. Panel text can indicate the contents of a field (such as 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

BROWSING RECORD		Exit-F7	Create-F9	Edit-F6	Lookup-F1	Help-F3
CUSTOMER PER-30						
Customer ID 000001		Last Name	Burnett	First Name	Middle N.	
Address 378 Garden Park Drive		City	Pueblo	ST ZIP	CD	RH Phone (719) 555-9888 WK Phone (719) 555-8370
Comments		Last Invoice Date		Balance Due	\$0.00	
		Payments	Invoices			

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 *Field Define in Reference*) or press Exit (F7) to exit Define Panel mode.

Panel text is typed to describe the contents of panels and fields. It is different from the optional field name you can assign when you define a field.

Password

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 change the user's password. If supervisors forget the supervisor password, the data perfect definer must either set up a new one or tell the supervisor the password.

Important: Be very careful with your password. If you lose or forget the password, there is no way to unlock the database.

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 delete 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, an error message is displayed.

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 *Record, Delete 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 (Press **Shift-F9**).
- 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 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 User 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

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 or change 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.

Record

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.

BROWNSING RECORD	Exit-F7	Create-F9	Edit-F6	Lookup-F1	Help-F3
CUSTOMER PER-30					
CUSTOMER INFORMATION					
Customer ID 00006 Last Name Father	First Wendy	Middle Leigh			
Address 199 West Dublin Avenue	City Pueblo	ST ZIP CO 81002-0000			
		HM Phone (719) 555-3859	WK Phone (719) 555-1112		
Comments		Last Invoice Date			
		Balance Due	\$1,638.63		
		Payments #	Invoices #		

Related Information

You can find related information about creating, editing, and deleting records following sections of *Reference*:

- Record, Create
- Record, Delete
- Record, Edit

Record, Create

To add a new record,

- 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 *Auto-Save* under *Panel Options* 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 *Field Format, Display Mode Indicators* in *Reference*). If you fill every space in an auto-enter field, the cursor moves to the next field without your 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 in Reference*). When the cursor is on a field and you press Select, the desired information from the 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 do not have a ::C or ::N display mode indicator (see *Field Format, Display Mode Indicators 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.

Record, Delete

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.

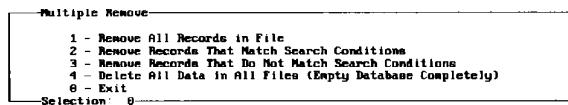
Delete Multiple Records

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 *Keep a Total* under *Field Options in Reference*). When prompted, type **y** to reset the total or type **n** to leave the totals unchanged when the records are deleted.

If you delete all the records in a subpanel (through a panel or data link), you are returned to the panel that holds the link.

Important: Once records are deleted from the database, they cannot be restored unless you have a backup copy of the database.

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.

Delete All Records in Database

An option available in the Multiple Remove menu lets you delete all the data in a database at one time.

To remove every record in the database,

- 1** Place the cursor in one of the panels in the database.
- 2** Press **Multiple Remove** (Alt-F5).

The Multiple Remove menu is displayed.

- 3** Select **Delete All Data in All Files (Empty Database Completely)** (4) to delete every record from the database.
- 4** Type **y** to confirm the deletion.

or

Type **n** to cancel the deletion.

Important: Once records are deleted from the database, they cannot be restored unless you have a backup copy of the database.

Record, Edit

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/Mcnu on the Panel Options menu (see *Auto-Edit/Auto-Create/Menu* under *Panel Options* 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 field.

When the cursor is resting on a link, ↓Panel moves the cursor to the destination panel and starts a new record. Down Arrow lets you look at related records in the destination panel. For more information, see *Link 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 *Field Format, Display Mode Indicators* 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.

Record, Print

DataPerfect will print a single record without setting a search condition. Report Record (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, Report Record defaults to the settings of the last report that was entered.

The Reports feature in DataPerfect is both powerful and versatile. Reports let you print data from a database, send data to a disk file, modify database records, and perform many other useful tasks (see *Common Uses of Reports* below).

The following sections describes the two different kinds of reports: built-in system reports and custom 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.

DataPerfect allows report sizes of up to 32 kilobytes of data. You can create up to 169 reports per database.

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 *Password* in *Reference*).

Database Definers, Supervisors, and Read/Write Users

Database definers, supervisors, and read/write users can create, edit, delete, and save reports. Reports created by these users are saved when they exit the database.

Network users can create, edit, set up, and run reports simultaneously.

Read-Only Users

Although read-only users cannot create reports, they can temporarily modify reports created by a database definer, supervisor, or read/write user. All other settings on the Report menu can be modified except Edit Report Form (option 1) and Edit Report Name (option 9). 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 send data to the Clipboard. Also, by running a report you can create, edit, or delete records in the database.

The most common uses of reports are to:

- 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.
-

Report, Built-In Short

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 *Data Export* 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
  3 - Index Number      1
  4 - Search Conditions No Search
  5 - Sort Direction   Forward
  6 - Disk File Mode WZ/DOZ Wraparound
  7 - Print Margins    Top     Bottom   Left     Text Lines
                        6       8       8       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)  8
```

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, 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 *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 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 the clipboard. The clipboard is part of Shell. See *Shell Options Menu* in *Reference* for more information.

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 (\uparrow) and Down Arrow (\downarrow) 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 condition 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, DataPump 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.

You have the option of toggling between the two only if Report/Export Format (8) is set to Columns, Single Line or Columns, Text Wrapped. With any other format selection, Disk File Mode is set automatically.

If you want to change the Disk File Mode setting,

- 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" page using a dot-matrix printer, 60 typed or printed lines on an 11" page using a laser printer.)

For example, using one-inch top and bottom margins (6 lines each) with a dot-matrix printer,

$$6 + 54 + 6 = 66 \text{ (66 lines on an 11" page)}$$

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),

$$3 + 54 + 3 = 60 \text{ (60 available lines on an 11" page)}$$

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 the left edge of the page. 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. 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 (F7) to save the changes.

Report/Export Format

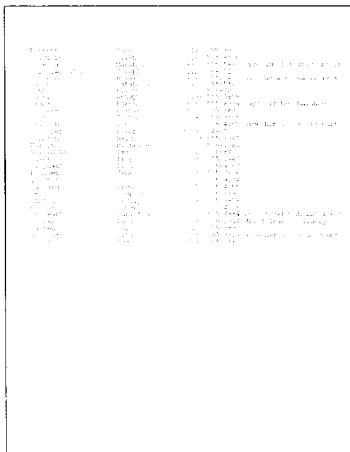
When you select Report/Export Format (8), the Built-In Report Format Selection menu is displayed. The default setting is WordPerfect Merge format.

```
BUILT-IN REPORT FORMAT SELECTION
1 - Columns, Single Line
    (All destinations OK: disk file both WP and DOS)
2 - Columns, Text Wrapped
    (All destinations OK: disk file both WP and DOS)
3 - List
    (All destinations OK: disk file DOS text only)
4 - WordPerfect List
    (WordPerfect disk file destination only)
5 - WordPerfect Merge (Can be imported)
    (WordPerfect disk file destination only)
6 - Export DOS Delimited Text (Can be imported)
    (DOS text disk file destination only)

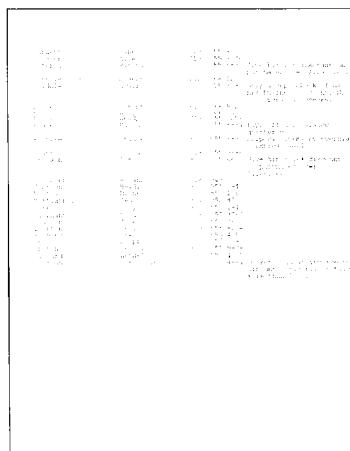
Selection: 9
```

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

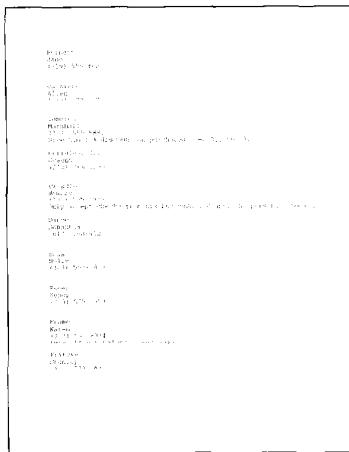
columnar look. Only the first line of a text field is printed. This report can be sent to any of the possible destinations (see *Destination* earlier in this section).



The Columns, Text Wrapped report is similiar 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.



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.



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 *Data Export* 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 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.

Report, Custom

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.

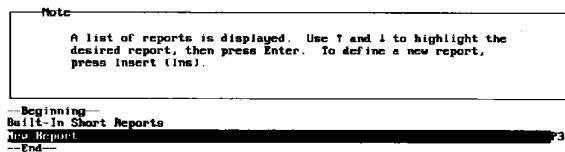
If no custom reports have been defined, Built-In Short Reports will be the only item displayed on your screen.

- 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 indicates the panel number on which the report is based.



After pressing Insert to add a new report, the Report menu appears on the screen.

```
REPORT: New Report
Destination: Screen Only
  1 - Printer On/Off
  2 - Disk File On/Off
  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       6        9        54
  8 - Edit Report Form
  9 - Edit Report Name

Selection: (Press Shift-F7 to begin the report) 8
```

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 organization of the data which will be included in the report (see *Report Form 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 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 the Clipboard. The Clipboard is part of the WordPerfect Office Shell program, see *Shell Options Menu* in *Reference* for more information.

Index Number

See *Menu Options* under *Report, Built-In Short* in *Reference*.

Search Conditions

See *Menu Options* under *Report, Built-In Short* in *Reference*.

Sort Direction

See *Menu Options* under *Report, Built-In Short* 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 *Menu Options* under *Report, Built-In Short in Reference*.

Edit Report Form

This option (8) lets you create/edit the report form (see *Report Form 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 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 (in other words, an alphanumeric field can't be changed to a date field). For more information on the available field format options, see *Field Format in Reference*.

The maximum size accepted for an alphanumeric field in a report is 180 characters.

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,

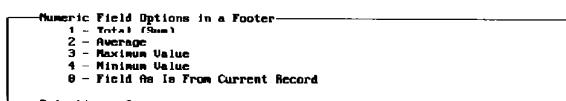
- 1 Be sure the Report menu is on the screen, then select Edit Report Form (8).
- 2 Position the cursor on the field you want to edit in the report form, then press Edit (F6).

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

DataPerfect allows up to 231 characters per report line. However, there is no preset right margin in a custom report. When entering text in the report form, you can refer to 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 (for example, 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, Delete

If passwords have been assigned to the database, only database definers, supervisors, and read/write users can delete reports (see *Password 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.*

Report, Export and Import

You can export reports from one database and import them into another database providing the two database structures are identical.

Using this feature, database definers and supervisors who use the same database structure on several computers can install the same reports in each database.

Specific instructions for exporting and importing reports are found in *Report Descriptions* in *Appendix B: Description Language*.

Report, Parallel Text Fields

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.

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 spatial details necessary for true stereophonic sound.	Author: Warren C. James
School:	Colorado State University	
Address:	Electrical Engineering Dept. Fort Collins, CO 80521	

However, suppose you want the report to look like the illustration below, with the text fields printed parallel to the other fields.

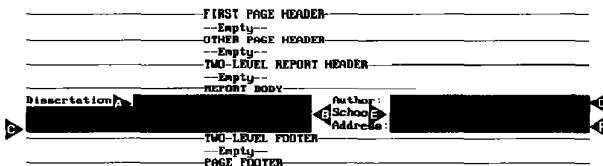
Dissertation:	Because loudspeaker cables are interactive with both audio amplifiers and loudspeakers, they should be considered a critical component of audio reproduction. Resistance, impedance, capacitance, and inductance affect both amplifier performance and sound reproduction. Phase-shift of frequency extremes due to their varying transmission times through most conductors can be shown by laboratory analysis, and may alter the spatial details necessary for true stereophonic sound.	Author: Warren C. James
School:	Colorado State University	
Address:	Electrical Engineering Dept. Fort Collins, CO 80521	

To do this, DataPerfect provides a format which is specified by editing each line of the text field format(s) to end with A1 (such as A25A1).

To print the report as shown in the second illustration, the fields you select for report form should look like this:

- ▲ A25A1
- ▲ A40A1
- ▲ A40A0
- ▲ A30
- ▲ A30
- ▲ A30A0

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-R). If the cursor is on a field, you can press Pg to edit the picture for the report. When finished, press Save (F10)



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 *A1* 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 *A1* (for example, *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 *A1*, 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 change the text field format in the second use to include the *;N* print mode indicator (see *Field Format, Print Mode Indicators in Reference*). This indicator tells DataPerfect that it has a new occurrence of the field, and that it will be printed from the beginning.

This section consists of several commonly used custom reports: Archiving, Custom WordPerfect Merge Files, Export Data to Other Database Programs, Form Letter, Mailing Labels, POSTNET Bar Code Labels, Search and Replace, Skip If No Data Is in a Subpanel, Total for Each Group, 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 *Panel, Define* 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 (the active records panel, not the archive panel).
- 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 (for example, 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 (in other words, 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, 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 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 (*n* represents the number where the link is located; *m* represents the panel number to which the link is attached).

- 16 With the cursor still in the Report Body section, move the cursor below Create Record code, then press **Report Options**.
- 17 Select Store Report Variable in Field (8), then enter **1** for the name of the 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.

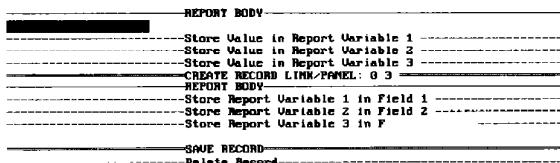
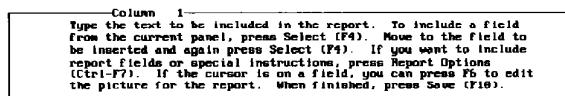
Next, add a code which deletes the record from the current panel.

- 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

DataPerfect lets you create and run reports that can be used as secondary merge files in WordPerfect. You can choose whether you want to use named fields or unnamed fields in the report.

For example, if you decide to use named fields, you could assign the name Address to a merge field in a DataPerfect report (the secondary file). The data from the field would be merged into a field called Address in the WordPerfect primary merge file.

You must have WordPerfect 5.0 or later to use named fields.

If you decide to use unnamed fields, DataPerfect numbers the fields for you to make sure that the fields in the primary and secondary files correspond (are in the same order) so that the data from the secondary file goes into the field you intend. For example, primary file Field 1 must correspond to the first field in the secondary file, primary file Field 2 must correspond to the second field in the secondary file, and so on) in the DataPerfect merge file.

A custom WordPerfect secondary merge file can include data from more than one panel. If you want to include information from other panels, the panel you select for the report should contain links to those panels, or you can define a Virtual Report Link within the report (see *Subreport Using Virtual Link* under *Menu Options in Report, Sub* in Reference).

To create a secondary merge report,

- 1 Be sure the cursor is in the panel from which you want to create 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.
or

If you want to edit an existing report, move the cursor to the report and press Enter. Skip to step 5.

- 4 Select Edit Report Name (9), type the desired report name (for example, WordPerfect Merge), then press Enter.

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 Type the desired file and path name, or leave the default filename SCRATCH.REP, then press Enter.

If you choose the default filename, the file will be placed in the directory that contains the DataPerfect program files (for example, c:\DP23\SCRATCH.RP).

- 8 Select Disk File Mode WP/DOS (6) to change from DOS file to WordPerfect merge file format.

- 9** Choose Edit Report Form (8) to display the report form.
- 10** While the cursor is in the First Page Header section, press **Report Options** (Ctrl-F7).
- 11** Choose Create Secondary Merge Report (9).
- 12** Choose Add Data Field (Field in Database) (1).

If the database fields are named, you will see the name of the field the cursor is on above the left corner of the panel. If the fields are unnamed, nothing appears in that area.

▲ FIELD NAME

-Selecting Field for Report or Formula-

Move to the desired field, then press Select (F4). If you reach a panel link on data link that leads to another panel, you can use ↓ to move into the panel.

► First Name

Mr./Mrs./Dr./etc	First Name	MI	Last Name
Title:	Customer ID:		
Company:	Work Phone:		
Address:	Home Phone:		
City:	State:	Zip:	
Comments:	Date Mailing was sent		

Your panel may look different from the example shown.

If you want to select a field from another panel, move the cursor to the desired data link or panel link and press Down Arrow (↓), then select the desired field.

- 13** Use **Tab** to move the cursor to the desired field, then press **Select (F4)**.

The field name prompt appears.

If the field is named in the panel, the field's name appears on the prompt line. If the field is not named, nothing appears on the prompt line. Unnamed fields are identified by their position in the export record.

- 14** Determine whether the field is unnamed or named.

If the field is unnamed, go to step 16. If the field is named, continue to step 15.

When naming fields, remember that the merge field name must match the field name in the WordPerfect primary file.

Unnamed fields merge into the primary merge file in order. For example, data from the first field in the DataPerfect merge report (secondary merge file) merges into Field 1 in the WordPerfect primary merge file.

- 15** If the field is unnamed and you want to name it, type a merge field name (example, Address), then press **Enter**. Skip to step 17.

or

If the field is unnamed and you don't want to name it, press **Enter**. Skip step 17.

- 16** If the field is named and you don't want to change the name, press **Enter**.

or

If the field is named and you want to change the name, delete the old name, type the new name, then press **Enter**.

- 17** Repeat steps 12-16 for each of the fields you want to include in the report.

If you are modifying an existing merge file, new fields are inserted after any existing fields regardless of cursor position.

- 18** Once you have selected all necessary fields, press **Exit** (F7) twice to return to the report screen.

- 19** Press **Report/Export** (Shift-F7) to run the report. The resulting file can be used as a secondary file in a WordPerfect merge.

For information on how to do a WordPerfect merge, see *Merge* in your WordPerfect reference manual.

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 *Field Format, Print Mode Indicators 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,

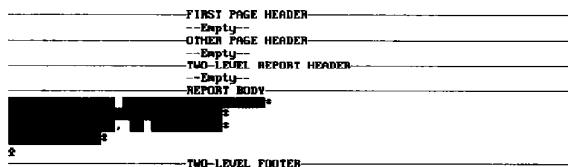
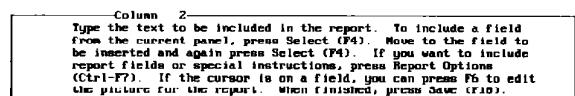
- 1** Be sure the cursor is in the Report Body section of the report form.
- 2** Position the cursor within the reverse video blocks representing the alphanumeric field or text field you want to edit, then press **Edit** (F6).
- 3** If you are editing an alphanumeric field, change the field format to include the **;;T** print mode indicator.

or

If you are editing a text field, change the field format to **A0A0**.

- 4** Press **Enter** to change the field format.

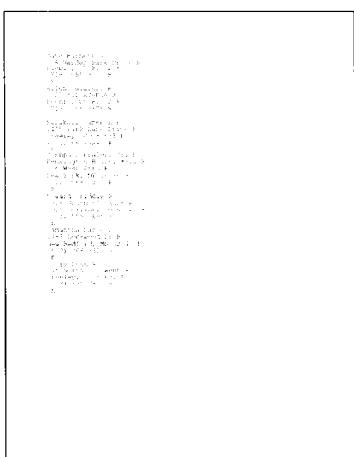
The report form will look similar to this:



- 5 Press **Exit** (F7) or **Save** (F10) to save the report form and return to the menu.
- 6 Press **Report/Export** (Shift-F7) 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:



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 delimited file format. In the steps below, a comma (,) is used as a field delimiter, 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 in 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 (for example, 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 **S**. 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 mark 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**. The 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 page, press Select (F4). Move to the field to be included 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 Pg 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
--Empty--
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	"Corrales, Jr.	"New York	",(212) 068-1200
"Edward	"Criddle	"Fort Collins	",(303) 555-3895
"Samantha	"Dance	"New Bedford	",(617) 068-6320
"Mcily	"Dunn	"Greeley	",(303) 555-7800
"Wendy	"Facer	"Pueblo	",(719) 555-3859
"Karen	"Frame	"Denver	",(303) 555-8934
"Stanley	"Fritzke	"Golden	",(303) 555-3893
"Thomas	"Grant	"Grand Junction	",(719) 555-9388
"Tom	"Grayson	"Port Collins	",(303) 555-4857
"Rosanna	"Jacobsen	"Brooklyn	",(718) 052-1230
"Heidi	"Johnsen	"Golden	",(303) 555-3947
"Michelle	"Mann	"Denver	",(303) 555-1082
"Ted	"Mortenthal	"Silver Spring	",(301) 052-8700
"Troy	"Oakes	"Greeley	",(303) 555-1947
"Lisa	"Oliphant	"Denver	",(303) 555-9767
"Dave	"Poulson	"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) 555-9578
"Wendell	"Richards	"Greeley"	",(303) 555-4035
"Christian	"Sergeant	"Golden	",(303) 555-4884

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 the 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.

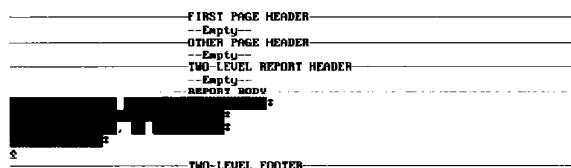
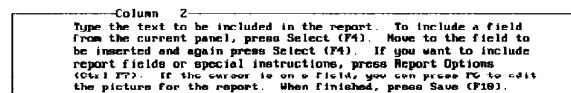
- 1** Be sure the cursor is in the panel from which you want to run the report.
- 2** Press **Report/Export** (Shift-F7) to access the report list.
- 3** With the cursor on Built-In Short Reports, press **Insert** to create a new report.
- 4** Select Edit Report Name (9), then enter the desired report name (for example, 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.

If the ZIP Code field does not include the **;E** print mode indicator in its format, you need to add this indicator to the field now. This will truncate any empty four-digit subfield in a ZIP Code.

- 14** Position the cursor on the ZIP Code field, then press **Edit** (F6) to edit the field's format.
- 15** Add **;;E** to the end of the field format, then press **Enter** to return to the report form.

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.

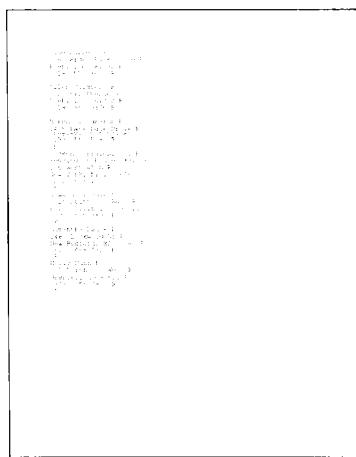
The report form will look similar to this:



- 5 Press **Exit** (F7) or **Save** (F10) to save the report form and return to the menu.
- 6 Press **Report/Export** (Shift-F7) 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:



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.

35 Type the following text:

Please disregard this notice if payment has already been sent. We tha

36 Press **Enter** to move to the next line.

37 Type the following text:

you for your patronage.

38 Press **Enter** twice, then type **Sincerely**, and press **Enter** four times.

39 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 ends the page from the printer, then prints another.

40 Press **Report Options** (Ctrl-F7) to access the Report Options menu.

41 Select Skip to Bottom of Page (4).

The code “Skip to Bottom of Page” is displayed.

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
[REDACTED]
TWO-LEVEL FOOTER
--Empty--
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.

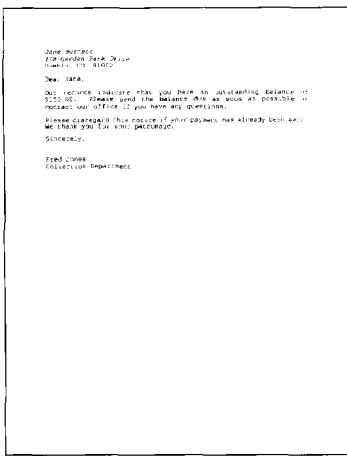
Using the report form shown above, the report will look like this when it is run:

“Jane	,”Burnett	”, “Pueblo	”, (719) 555-9000
“Alice	,”Salvador	”, “Rockwood	”, (303) 555-9996
“Marshall	,”Cameron	”, “Greeley	”, (303) 555-5890
“Joseph	,”Cochran, Jr.	”, “New York	”, (212) 568-1200
“Howard	,”Cridle	”, “Fort Collins	”, (303) 555-3895
“Samantha	,”Dance	”, “New Bedford	”, (617) 568-5120
“Holly	,”Dunn	”, “Greeley	”, (303) 555-7800
“Kendra	,”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
“Resanne	,”Jacobsen	”, “Brooklyn	”, (718) 049-7770
“Helen	,”Johnson	”, “Golden	”, (303) 555-3047
“Michelle	,”Kartin	”, “Denver	”, (303) 555-1082
“Ted	,”Mortenthal	”, “Silver Spring	”, (301) 052-8700
“Troy	,”Oakes	”, “Greeley	”, (303) 555-1947
“Lisa	,”Oliphant	”, “Denver	”, (303) 555-9767
“Jane	,”Poulsen	”, “Denver	”, (303) 555-2676
“Leslie	,”Quenton	”, “Pueblo	”, (719) 555-9274
“Drew	,”Rasband	”, “Pueblo	”, (303) 555-4555
“Stephen	,”Reid	”, “Golden	”, (303) 555-3390
“Cecily	,”Whorton	”, “Denver	”, (303) 555-9878
“Wendell	,”Richards	”, “Greeley”	”, (303) 555-4035
“Christian	,”Sergeant	”, “Golden	”, (303) 555-4884

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.

The report should look like this when it is run:



When the report is finished, the message “Report Finished—Press Any Key to Continue” is displayed.

44 Press any key to return to the report list.

Mailing Labels

The instructions below are for printing labels which are two across on a page, one inch deep. 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.

Important: *These instructions work only for mailing labels that start one-half inch down from the top of the page. If you want to print mailing labels that start flush with the top of the page, or if you want to use special print features, it is best to print the labels in WordPerfect. To do this, you will need to export the data to disk in WordPerfect Format (see Data Export in Reference 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 Edit Report Name (9), then enter the desired report name (for example, Mailing Labels).

If you need to add **;;T** to these field formats,

- 16** Move the cursor to the First Name field, then press **Edit** to edit the field format.
- 17** Add **;;t** to the end of the field format, then press **Enter** to return to the report form.
- 18** Repeat steps 16 and 17 for the City field.
- 19** Move the cursor to the end of the ZIP Code field, then press **Enter** twice.

Now type the body of the letter.

- 20** Type **Dear** and then press the **Space Bar** once.
- 21** Press **Select** to display the current panel, then move the cursor to the First Name field.
- 22** Press **Select** again to select the field, then type a comma (,).
- 23** If the First Name field you just selected does not include a **;;T** print mode indicator, follow steps 16 and 17 above.
- 24** Move the cursor to the end of the line, then press **Enter** twice to insert a blank line.
- 25** Type the following text:

Our records indicate that you have an outstanding balance of

- 26** Press the **Space Bar** once to include a space at the end of the phrase.
- 27** Press **Select** to display the current panel, then move the cursor to the Balance Due field.
- 28** Press **Select** again to select the field, then type a period (.).

If the Balance Due field does not include a **;;S** print mode indicator in its format, you need to add this indicator to the field now. This will truncate any extra blanks in the field.

- 29** Position the cursor on the Balance Due field, then press **Edit** to edit the field format.
- 30** Add **;;s** to the end of the field format, then press **Enter** twice to move to the next line of the letter (DataPerfect does not wrap text in the report form).
- 31** Type the following text:
Please send the balance due as soon as possible or contact our office
- 32** Press **Enter** to move to the next line.
- 33** Type the following text:
if you have any questions.
- 34** Press **Enter** twice to begin a new paragraph.

13 Press **Exit** (F7) or **Save** (F10) to save the report form and return to the Report menu.

14 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 printed:

JANE WILSON 521 1/2 PARK AVENUE NEW YORK, NY 10022	JOHN HANCOCK 1000 BROADWAY NEW YORK, NY 10036
MARGARET FARNHAM 1235 PARK AVENUE NEW YORK, NY 10028	JOSEPH GOLDBECK 1000 BROADWAY NEW YORK, NY 10036
KAREN KELLOGUE 2000 GARDINER EXPY EAST PORT COQUITLAM, BC V3J 1G1	CHARLES DEPP 1100 UNIVERSITY DR. BOULDER, CO 80303
HELEN L. JONES 1015 FAIRFIELD AVENUE SPRINGFIELD, MA 01102	MARK FALCON 1000 BROADWAY NEW YORK, NY 10036
SARAH PARKS 1235 EAST 10TH ST. NEW YORK, NY 10028	CHARLES W. STEWART 1211 BROADWAY NEW YORK, NY 10036
THOMAS GRANT 1015 EAST 10TH PARKWAY NEW YORK, NY 10028	JOHN JAMESON 111 SOUTH 21ST ST. PHILADELPHIA, PA 19103
MARYANN MCKEEGAN 1015 EAST 10TH ST. NEW YORK, NY 10028	ROBERT JONES 1000 BROADWAY NEW YORK, NY 10036
MARLENE T. PEARCE 1015 EAST 10TH ST. NEW YORK, NY 10028	EDWARD WATKINS 1000 BROADWAY NEW YORK, NY 10036
LOIS SMITH 1015 EAST 10TH ST. NEW YORK, NY 10028	JOHN D. STONE 1000 BROADWAY NEW YORK, NY 10036

When the report is finished, the message “Report Finished—Press Any Key to Continue” is displayed.

15 Press any key to return to the report list.

POSTNET Bar Code Labels

A POSTNET bar code is a series of short and tall lines used by the United States Postal Service to sort mail more efficiently. Because the bar code automates sorting, the Postal Service may provide discounted postage for those who use bar codes. The bar codes can be placed on envelopes, mailing labels, or in an address block that will show through an envelope window. The sample in this section explains how to create bar codes on mailing labels.

For detailed information on how you can use POSTNET bar codes to take advantage of Postal Service discounts on mass mailings, check with your Postal Service account representative, Postal Business Center, or your local postmaster.

Printers

POSTNET bar codes must meet the specifications that the Postal Service sets. All printers have the ability to meet those specifications. To verify that your printer is supported by DataPerfect to print the POSTNET bar codes, check the README files included with your version of DataPerfect.

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 page, press Select (F4). Move to the field to be included 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
[REDACTED]

Dear [REDACTED],

Our records indicate that you have an outstanding balance of [REDACTED]. 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--

42 Press **Exit (F7)** or **Save (F10)** to save the report form and return to the Report menu.

43 Press **Report/Export** to run the report.

The screen clears and the message "Report in Progress" is displayed.

The DPBC formula first finds the last two digits in the street address by dividing the street address by 100 and keeping the remainder. Those two digits are then concatenated to the ZIP code by changing the numeric strings to character strings. The character string is then converted back to a numeric string.

After you exit the formula for the Bar Code field, choose "Automatically computed at any change and when record is saved" for the initialization option.

When you have finished editing the panel, you can restore the records to the file. For information on importing data into a database, see *Importing Data* under *Data Import* in *Reference*.

When the data has been imported into the database, you can begin entering ZIP code or address and ZIP code information.

Creating a Bar Code Field in a New Panel

If you are creating a new panel and don't want to use the DPBC codes for creating bar codes, make sure you include a ZIP code field in the panel. The ZIP code format should include the ;;P indicator to tell DataPerfect to print codes.

If you want to use the DPBC codes to create the bar codes, see the table above for the fields, formats, and formula you should include in the panel.

Printing POSTNET Bar Codes

POSTNET bar codes can be printed on labels, envelopes, or on an address block that will show through an envelope window. The instructions below are for printing POSTNET bar codes on labels which are two across on a page and one inch deep. These are general instructions. You may need to modify the settings for your particular application.

Important: To print POSTNET bar codes you must print from DataPerfect with DPPrint active. You cannot print POSTNET bar codes by exporting your data into WordPerfect. If DPPrint is not active, exit from DataPerfect until you are at the DOS prompt. At the DOS prompt, change to the DataPerfect directory and enter **dpprint**. When DPPrint is active, you can return to DataPerfect. See Appendix L: Utilities—DPPrint for more information about the DPPrint program.

- 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 (for example, Bar Code 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 **2** 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 (such as 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 *Field Format, Print Mode Indicators in Reference*).

If you have more than one Address field, you may want to include an Eliminate Line if Blank code at the beginning of these fields. Because some addresses contain two lines of information, while others contain only one line, this code enhances the appearance of the mailing labels.

The report form should look like this:

<p style="text-align: center;">Column 1</p> <p>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).</p>
<p style="text-align: center;">FIRST PAGE HEADER</p> <p>--Empty--</p> <p style="text-align: center;">OTHER PAGE HEADER</p> <p>--Empty--</p> <p style="text-align: center;">TOP-LEVEL REPORT HEADER</p> <p>--Empty--</p> <p style="text-align: center;">ARMED ANN</p> <p>--Empty--</p> <p style="text-align: center;">3 Records per Line. Record Width 8 Depth: 25 6</p> <p>[Redacted area]</p> <p style="text-align: center;">TWO-LEVEL FOOTER</p> <p>--Empty--</p>

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 F6.

FIRST PAGE HEADER
OTHER PAGE HEADER
—Empty—
TWO-LEVEL REPORT HEADER
—Empty—
REPORT BODY
2 Records per Line. Record Width 6 Depth: 16 9



TWO-LEVEL FOOTER

- 13** Press **Exit (F7)** or **Save (F10)** to save the report form and return to the Report menu.
 - 14** 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 printed:

When the report is finished, the message "Report Finished—Press Any Key to Continue" is displayed.

- 15** Press any key to return to the report list.

Creating a Bar Codes Field

DataPerfect will convert 5-digit ZIP codes, ZIP + 4, and Delivery Point Bar Codes (DPBC) into bar codes.

The DPBC is the most specific of the POSTNET bar codes. It places the last two digits of the house number at the end of the ZIP + 4 code. For example, the DPBC for 234 North 1000 East would append "34" at the end of the bar code. If you want to create mailing labels with a DPBC, begin with *Adding a Bar Code Field to a Panel* below.

If your database already contains a ZIP code or ZIP + 4 field, and you do not want to use the DPBC code, go to *Printing POSTNET Bar Codes* below. The ZIP code field in your database can be used directly to create POSTNET bar codes.

Adding a Bar Code Field to a Panel

If you want to create an DPBC field to generate bar codes or if you need to add a ZIP code field to a database that contains data, you will need to export the records to a disk, remove the data in the database, create the fields and formulas, and import the data. See *Exporting Data* under *Data Export* in *Reference* for information about exporting data from a database.

After you have removed the data from the database you can edit the structure of the panel. If you don't plan on using the DPBC to generate bar codes, make sure that you have a ZIP code field in the panel. The ;;P print mode indicator should be included in the field format.

If you want to use the DPBC to generate the bar codes, you should include the following fields in the panel: House Number, Street, ZIP Code, and Bar Code. The House Number and Street fields take the place of an Address field. In the House Number field you enter the first number of the address. The remainder of the address is entered in the Street field. The two fields let DataPerfect extract the last two digits from the House Number field and place them in the DPBC code.

Use the formats and formulas in the table below to edit the panel. The panel codes shown in the table may be different in your panel.

Panel	Format	Formula
House Number (PIF3)	GZZZZZZ	
Street (PIF4)	A25A2	
ZIP Code (PIF6)	N99999-9999	
Bar Code (PIF7)	N99999-999999;;P	CONVERT["N99999-999999";CAT. T[APPLY FORMAT["N99999-9999" ;PIF6];APPLY FORMAT["N99";(PI F3//100)]]]

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 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.

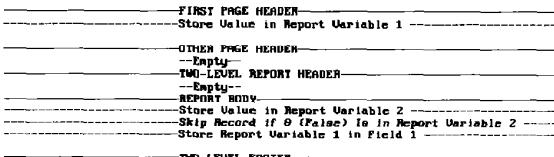
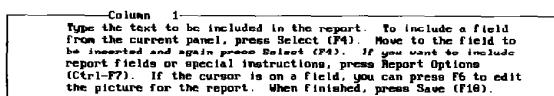
The current panel is displayed.

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 (n represents the field number you selected).

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 to store a value in a field. If you need to select a field from a destination panel, you must use a subreport (see *Report, Sub-* in Reference).

The report form should look like this:



21 Press **Exit** or **Save** to save the report form and return to the Report menu.

- 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 **2** as the number of labels across the page.
- 10** Enter **40** 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 (such as Bar Code, Name, Address, City, State, ZIP Code). You should place the Bar Code field above the address field on the mailing label. Also, be sure that the field length on each line is 40 characters or less and that the bar code field includes the **;; P** print mode indicator. All alphanumeric fields should be edited to include the **;; T** print mode indicator (see *Field Format, Print Mode Indicators* in Reference).

If you have more than one address field, you may want to include an Eliminate Line if Blank code at the beginning of these fields. Because some addresses contain two lines of information, while others contain only one line, this code enhances the appearance of the mailing labels.

18 Type **1** for the Report Variable Number, then press **Enter**.

Now you will enter the formula.

19 Type **IF** and a **space**.

20 Select the field you want to search on. (Press F4, tab to the field you want to search on, and press F4 again.)

21 Type the rest of the formula. You will type an operator, then the information you are looking for, then **THEN 1 ELSE RV1 ENDIF**. For example, if you want to search for records dated after 1980, type **> 1980 THEN 1 ELSE** **ENDIF** after you have selected the field.

If you want to search for alphanumeric information (with an A format), type the information within quotation marks. For example, if you want to search for records that contain the words "10% discount" in the comments field, type **IF** (then select the comments field) = **"10% discount"** **THEN 1 ELSE RV1 ENDIF**.

For more information, see *Formulas in Reference*.

22 Press **F10** to save the formula and return to the report form.

23 Move the cursor down just below the double lines that show the End of Subreport. This will put you back in the main report body.

24 Press **Report Options** (Ctrl-F7).

25 Select option 9, Skip Record If RV Is False.

26 Type **1** for the Report Variable Number and press **Enter**.

27 Select the fields you want to print in the main report body and press **Enter**, the last one.

Now you will create another subreport.

28 Be sure the cursor is still in the main report body section of the report form just below the reverse video blocks that represent the fields you selected in **27**. Then press **Report Options** (Ctrl-F7).

29 Select option 6, Subreports.

30 Select option 1, Include Subreport.

31 Move to the panel link that goes to the subpanel you want to search in, then press **Select** (F4).

32 Move the cursor down to the Report Body section of this Subreport form. You will create another report variable.

33 Press **Report Options** (Ctrl-F7).

34 Select option 1, Select Report Field.

35 Select option 4, Store Value in Report Variable.

36 Type **2** for the Report Variable Number and press **Enter**.

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 (in other words, 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
- 15 Press **Exit** or **Save** to save the formula and return to the report form.

- 7** Move the cursor to the field you want to sort on. 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 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 down to the Two-Level Report Header section of the report form. If you want to print other information besides the total for each group of records, select those fields you want to print.
 - 10** Press **Report Options** (Ctrl-F7).
 - 11** Select option 1, Select Report Field.
 - 12** Select option 4, Store Value in Report Variable.
 - 13** Type **1** as the Report Variable Number, then press **Enter**.
 - 14** Type **0** (zero) as the formula for this report variable and press **Exit** (F7) to return to the report form.
 - 15** Move the cursor down to the Report Body section of the report form. If you want to print any fields for each record, select those fields.
 - 16** Press **Report Options** (Ctrl-F7).
 - 17** Select option 1, Select Report Field.
 - 18** Select option 4, Store Value in Report Variable.
 - 19** Type **1** as the Report Variable Number, then press **Enter**.
 - 20** Type **rv1+1** as the formula and press **Exit** (F7).
- To print a total of the amounts in a numeric field, you need to modify the formula for this report variable. Instead of **rv1+1**, type **rv1+** and then select the field you want to total.
- 21** Move the cursor down to the Two-Level Footer section of the report form.
 - 22** Press **Report Options** (Ctrl-F7).
 - 23** Select option 1, Select Report Field.
 - 24** Select option 5, Print Report Variable.
 - 25** Type **1** as the Report Variable Number, then press **Enter**.
 - 26** Type a format for the field that will show the total (for example, N999), and press **Enter**. (See *Field Format* in *Reference* for more information.)
 - 27** Press **Save** (F10) to save the report form specifications and return to the **File** 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.

Skip If No Data Is in a Subpanel

Sometimes you may want to print a report that skips a record in a subpanel if it doesn’t contain the data you are looking for. This is a useful option when you want to print only certain records, such as those dated after a particular date.

To skip records with no pertinent data, first be sure your cursor is in the main panel from which you want to run the report. Then,

- 1** Press **Report/Export** (Shift-F7) to access the report list.
- 2** Be sure the cursor is on Built-In Short Reports, then press **Insert** to create a new report.
- 3** Select option 8, Edit Report Form.
- 4** Move the cursor down to the Report Body section of the report form.
- 5** Press **Report Options** (Ctrl-F7).
- 6** Select option 1, Select Report Field.
- 7** Select option 4, Store Value in Report Variable.
- 8** Type **1** for the Report Variable Number, then press **Enter**.
- 9** Type **0** (zero) and press **Save** (F10). This will set the value of the report variable back to 0 for each record in the main panel.
- 10** Be sure your cursor is still in the Report Body section of the report form and just below the line that says “Store Value in Report Variable One.” Then press **Report Options** (Ctrl-F7).
- 11** Select option 6, Subreports.
- 12** Select option 1, Include Subreport.
- 13** Move to the panel link that goes to the subpanel you want to search in, then press **Select** (F4).
- 14** Move the cursor down to the Report Body section of the subreport.
- 15** Press **Report Options** (Ctrl-F7).
- 16** Select option 1, Select Report Field.
- 17** Select option 4, Store a Value in Report Variable.

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 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 beginning date, and if the invoice date is less than or equal to the ending date, print the specified fields.”

- 23 Press **Exit** (F7) or **Save** (F10) to save the formula and return to the report

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.

- 37** For the formula, type **IF** and a **space**, then select the field you want to sort on (F4). Then type another **space**, the appropriate operator, and the information you are looking for. Then type **THEN 1 ELSE 0 ENDIF**. (As in step 21 above, if you are searching for alphanumeric data, type the information within quotation marks.)

For example, if you want to search for all records that contain the words "10% discount" in the Comments field, you would type **IF** (F4 to select comments field) = "**10% discount**" **THEN 1 ELSE 0 ENDIF**.

- 38** Press F10 to save the formula and return to the report form.
- 39** Press **Report Options** (Ctrl-F7).
- 40** Select option 9, Skip Record If RV Is False.
- 41** Type 2 for the Report Variable Number, then press **Enter**.
- 42** While still in the report body of the subreport, select with F4 the fields you want printed from that subpanel.
- 43** Save the report form specifications by pressing F10.

When you run your report, the report will print only those records that contain the information you are looking for.

Total for Each Group

Sometimes you may want to print a report that totals the number of records that fall within each group in the report. For example, if you sort by city and have 10 records for Los Angeles, you will get the number 10 printed out in the two-level footer for that group.

You can also print a total of the amounts in a numeric field for each group. For example, if you sort the groups by the Payment Amount field, the total of the amounts paid in each group will be printed in the two-level footer for each group.

To get a total of the records or amounts in a field for each group in a two-level report, do the following:

- 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 will be sorted into groups and totaled based on this field.

Report, Sub-

A subplot is used inside a main report form to group related information from two linked panels. A subplot saves time and space by printing the data in the source panel only once at the beginning of all the related records, rather than 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 subplot lists each customer's transactions (from the Transactions panel). Without a subplot, the Customer Information would print before every transaction, and related data would not be grouped together.

The screenshot shows a Microsoft Access report window. The main report body displays customer information in three columns: Company Name, Address/Phone, and City/State/Zip. Below this, a subplot displays transaction details in four columns: Date, Inv#, Desc, Unit, and Total. The subplot is grouped by customer, with the first group for 'ABC Company' containing three transactions and the second group for 'XYZ Company' containing one transaction. The report concludes with a summary section at the bottom.

Company Name	Address/Phone	City/State/Zip
ABC Company	123 Main Street, Anytown, USA 555-1234	Anytown, USA
XYZ Company	456 Elm Street, Anytown, USA 555-2345	Anytown, USA
ABC Company	789 Oak Street, Anytown, USA 555-3456	Anytown, USA
ABC Company	543 Pine Street, Anytown, USA 555-4567	Anytown, USA

Date	Inv#	Desc	Unit	Total
1/1/90	1234	123456	EA	123.45
1/1/90	1235	123456	EA	123.45
1/1/90	1236	123456	EA	123.45
1/1/90	1237	123456	EA	123.45

Creating a Subreport

A subplot can be created only in the Report Body section of the report form.

To create a subplot,

- 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 Shortcuts, then press **Insert**.

or

If you are adding a subplot to an existing report, move the cursor to that report, then press **Enter**.

When you run your report, it will print a total for each group separately along with any other information you have selected to print.

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 (for example, 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).

Report Body section (*n* represents the field number where the link is located; *p* represents the panel number to which the link is attached).

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

REPORT BODY
SUBREPORT LINK-PANEL: 16 5
FIRST PAGE HEADER
—Empty
OTHER PAGE HEADER
—Empty
TWO-LEVEL REPORT HEADER

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.

- 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:

The screenshot shows a report form editor window. At the top, there is a note in a box: "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)." Below this note, the report structure is defined:

Prompt: Enter Beginning Date	FIRST PAGE HEADER	
Format: 0999-99-99	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 **03/01/92** as the beginning date.

The second prompt (Enter Ending Date:) is displayed.

- 33** Enter **06/01/92** 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.

1 Move the cursor to the panel you want to link, then press **Enter**.

Now you must select the index for the panel. The index you select from the destination panel must list all of fields common to both panels as the first field in the index.

2 Use **Up Arrow** (\uparrow) and **Down Arrow** (\downarrow) to locate the index you want to link, then press **Select** (F4).

3 Select **Add Field From Preceding Panel** (1), then select the field you want to link, then press **Enter**.
or

Select **Add Report Variable** (2), then enter the report variable number.

4 Press **Exit** (F7).

5 Define the sections for the subreport.

Nested Subreports

Subreports can be nested inside another subreport when several levels of records 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 is grouped by Company, Employee, and Children. Data is shown for 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	

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.

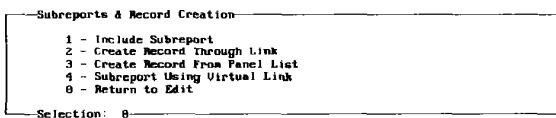
First define the part of the report that uses data from the current panel.

- 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 *n m*" is now included in the

choose when setting up the two-level report code in the first page header, the top level report in a subreport will always sort on the field following the last command field in the index used in the link for the subreport.

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 index as indicated in the illustrations below:

- ▲ INDEX FIELD 1
- ▲ INDEX FIELD 2
- ▲ PANEL LINK TO CASES PANEL

BROWSING RECORD		Exit-F7	Create-F9	Edit-F6	Lookup-T	Help-F3
 -CLIENTS-0 Client #: <input type="text"/> Client Name: <input type="text"/> Address: <input type="text"/> ST.: <input type="text"/> Zip: <input type="text"/> City: <input type="text"/> Cases: <input type="text"/>						

- ▲ INDEX FIELD 1
- ▲ INDEX FIELD 2
- ▲ DATA LINK TO ATTORNEY PANEL
- ▲ PANEL LINK TO CHARGES PANEL

BROWSING RECORD		Exit-F7	Create-F9	Edit-F6	Lookup-T	Help-F3
 CASES-0 Case #: <input type="text"/> Attorney #: <input type="text"/> Name: <input type="text"/> Total Charge: <input type="text"/> Charges: <input type="text"/>						

Two codes appear in the Report Body section: "Create Record Link/Panel: *n m*" and "Save Record."

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 (F18).

FIRST PAGE HEADER
---Empty---
OTHER PAGE HEADER
---Empty---
TWO-LEVEL REPORT HEADER
---REPORT BODY---
CREATE RECORD LINK/PANEL: 16 5
---REPORT BODY---
---Empty---
SAVE RECORD
TWO-LEVEL FOOTER

This option must be used with report variables and the Store Report Variable in Field option (see *Archiving under Report, Samples 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 *n m*" and "Save Record."

This option must be used with report variables and the Store Report Variable in Field option (see *Archiving under Report, Samples in Reference*).

When you run the report, a record is created in the selected panel, according to the specified report variable(s).

Subreport Using Virtual Link

This option provides a way to get information from another panel without having an actual link in DataPerfect. You can create a subreport link between panels that are not linked.

When you select **Subreport Using Virtual Link** (4), a panel list is displayed. You need to select the panel to which you want to create the virtual link.

- 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, t
press **Report Options**.
- 11** Select Do Report in Subgroups (7).
- 12** Add the rest of the 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
Clients Name: [REDACTED] SUBREPORT BODY/PANEL: 12
FIRST PAGE HEADER
Empty
OTHER PAGE HEADER
Empty
TWO-LEVEL REPORT HEADER
Empty
REPORT BODY
Case: [REDACTED] Store Value in Report Variable 1
SUBREPORT BODY/PANEL: 13 1

FIRST PAGE HEADER
Do Report in Subgroups
OTHER PAGE HEADER
Attorney: [REDACTED]
Date Description Charge
Include Header Before Data
TWO-LEVEL REPORT HEADER
Empty
REPORT BODY
Store Value in Report Variable 1
TWO-LEVEL FOOTER
Empty
PAGE FOOTER
Empty
FINAL FOOTER
Charges for [REDACTED] TWO-LEVEL SUMMARY
Charges for Case [REDACTED]
TWO-LEVEL FOOTER
Empty

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		
Invoice #	Invoice Date	Invoice Amount
100001	1996/10/05	\$198.00
Total Invoices:		\$198.00
Payment Date	Payment Amount	
6/8/96/89	\$123.00	
6/8/96/89	\$75.00	
Total Payments:		\$198.00
CUSTOMER: Cameron, Marshall		
Invoice #	Invoice Date	Invoice Amount
30051	07/27/96	\$25.34
30052	08/01/96	\$225.00
Total Invoices:		\$250.34
Payment Date	Payment Amount	
6/8/10/90	\$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 *Link 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.

Subgroups always sort by the second field in the index used in the link for the subreport. Two-level reports sort by the field directly after the last common field in the index used for the link in the subreport. Two-level reports in subreports rely on the linking index for sorting purposes. In other words, no matter what field you

Subreports and Two-Level Reports

A two-level report can be included inside of a subreport (see *Report, Two-Level 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.

Report, Two-Level

A two-level report categorizes records from one panel into groups. The records will 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 generate a report by company name and then alphabetically list all employees of each company as follows:

Aerospace Laboratories		
Davis	Mr. Matthew	(800)-555-1234
Hawkins	Mr. Kevin	(800)-555-1235
Johnson	Mrs. Susan	(800)-555-1236
Jones	Ms. Kathy	(800)-555-1237
Smith	Ms. Jennifer	(800)-555-1238
Smith	Mr. Paul	(800)-555-1239
Number of Employees		9
D & M Engineering		
Jackson	Mr. David	(801)-555-9876
Lee	Mrs. Mary	(801)-555-9877
Robinson	Mr. William	(801)-555-9878
Number of Employees		3
Heathcliff Insurance		
Brady	Mr. Charles	(900)-123-3456
Brown	Ms. Christine	(900)-123-3457
Edwards	Mr. Raymond	(900)-123-3458
Frestwich	Mrs. Kellie	(900)-123-3459
Number of Employees		4

- ▲ INDEX FIELD 1
- ▲ PANEL LINK TO CASES PANEL

BROWSING RECORD	Exit-F7	Create-F9	Edit-F6	Lookup-T	Help-F3
ATTONEY - 0					
Attorney #: [REDACTED]					
Name : [REDACTED]					
Comments :					
Cases : [REDACTED]					

- ▲ INDEX FIELD 1
- ▲ INDEX FIELD 2
- ▲ INDEX FIELD 3
- ▲ INDEX FIELD 4
- ▲ DATA LINK TO ATTORNEY PANEL

BROWSING RECORD	Exit-F7	Create-F9	Edit-F6	Lookup-T	Help-F3
CHARGES - 0					
Charge #: [REDACTED]					
Case #: [REDACTED]					
Attorne #: [REDACTED]					
Date : [REDACTED]					
DescriptionD [REDACTED]					

To include subgroups as a part of your subreport definition,

- 1 From the Clients panel, press **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.

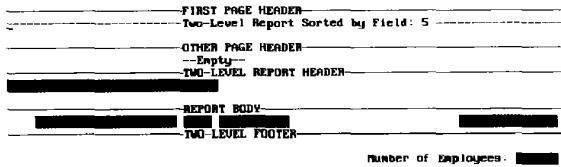
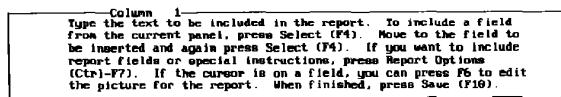
A new report form appears on the screen.

- 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.

If you want the Two-Level Report Header to print consistently at the top of the page, insert a Page Eject code at the beginning of the Two-Level Report Header and the Report Body (see *Conditional Page Eject* under *Report Options* 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 *Skip if Start of Two-Level* under *Report Options* 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.
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 be placed in the footer.
- 13 Define the layout of the footer by pressing Report Options (Ctrl-F7) and selecting Number of Records in Section (5).

The following illustration shows what the report form would look like for the two-level report shown above.



In the above example, you could list the companies (sorted by name) without all of the additional data. Simply specify that you want a two level report when 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 *Report, Sub-* in *Reference*).

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
01-11-96 CORRESPONDENCE \$14.00
Letter requesting property titles
01-11-96 CONFERENCES \$35.00
Meeting concerning possible settlement
Charges for Ronald M. Smith \$49.00

► Attorney: John C. Miller
Date Description Charge
01-05-96 OPEN FILE \$150.00
01-06-96 TELEPHONE \$7.00
Called witness A. Jones
01-11-96 PREPARATION FOR HEARING \$76.00
01-15-96 DEPOSITIONS \$14.00
Charges for John C. Miller \$241.00

► Charges for Case 10-005-0086 \$295.00

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
01-11-96 CORRESPONDENCE \$14.00
Letter requesting property titles
01-11-96 CONFERENCES \$35.00
Meeting concerning possible settlement
01-05-96 OPEN FILE \$150.00
01-06-96 TELEPHONE \$7.00
Called witness A. Jones
01-11-96 PREPARATION FOR HEARING \$76.00
01-15-96 DEPOSITIONS \$14.00
Charges for John C. Miller \$241.00

Charges for Case 10-005-0086 \$295.00

When you generate the report, if you turned off display, DataPerfect will show status screen. If you turned the display on, DataPerfect will show the report generation in progress.

Related Information

For specific information about how to run a report, see the following sections:

- Report, Built-In Short
- Report, Custom

Report Form

A report form is the layout of the data included in a custom report.

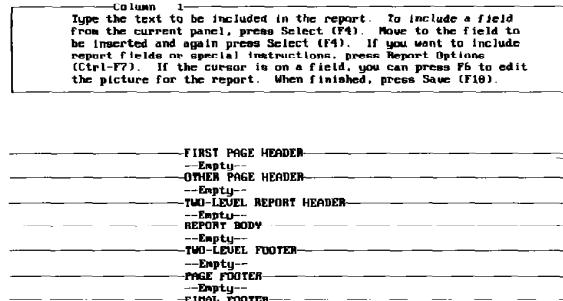
Create/Edit a Report Form

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 content and uses of each section of the report form. The report options available for each section are described in *Report Options in Reference*. To see the report options for a particular section, position the cursor in the section and press Report Options (Ctrl-F7).

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.

You can see the field a two-level report is based on by pressing Reveal (Alt-F3) while the cursor is on the two-level report code.

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 desired 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.

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 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 new 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 reevaluates 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 Opt** (Ctrl-F7).
- 5 Select the desired option.

Report Attributes

Text and fields in a report may be bolded and/or underlined using Attributes. (Bold and underline will print only if you are using DPPrint.)

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* 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* in *Reference*.

Report Display

In the Screen feature (Ctrl-F3), the Report Display option controls report display. You can turn off the report generation display. DataPerfect will then show a status screen that informs you a report is in progress and displays the number of records processed.

To change Report Display,

- 1 Press **Screen** (Ctrl-F3), to access the User Screen Options menu.
- 2 Select Report Display On/Off (7).

Display Off is the default. If the display is on, these steps will turn it back off.

Do Report in Subgroups (FPH)

A subgroup may be run inside a subreport. A subgroup uses the second field index defined for the link (the first field is used for the subreport). For information on defining a subreport and using subgroups, see *Report, Sub-* in *Reference*.

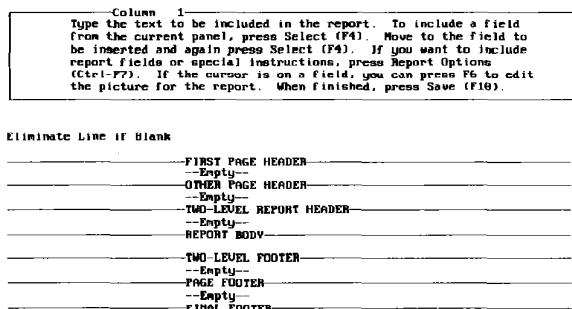
Eliminate Line If Blank (All Sections)

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 the 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 address were moved up one line, eliminating the blank line in the middle.

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 top of the page to print the Final Footer (if one is defined).

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 in Reference*).

Two-Level Report Header

You can define a header to appear at the beginning of each two-level section. To do this, choose the Two-Level Report option in the First Page Header section of the report form. For more information on two level reports, see *Report, Two-Level* 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 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.

Repeat Record if RV is True (RB)

This option causes the report body to be repeated if the value of the report variable is true. This option is normally used following a skip or stop command.

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 have been 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 *Mailing Labels* under *Report, Samples 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 (for example, GZZZZZ9) appears. DataPerfect tallies the number of records in the report area 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

Various report options are available for the seven sections of the report form. Each option is discussed below. Codes in parentheses denote the section(s) to which each 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 *Store Report Variable in Field* below).

Create Secondary Merge Report (FPH)

This option lets you easily create WordPerfect secondary merge files by using field names instead of following the edit order imposed by field codes. See *Custom Merge Files* under *Report, Samples 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 *Report, Sub-in Reference*). You can use this option with a two-level report if your report index first held is the held the report is based on.

See *Archiving* under *Report, Samples in Reference* for an example of a report which uses Delete Record in a subreport.

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 your 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 GZZ9.

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 *Formulas in Reference*. Also see *Report Variables in Reference*.

See *Report, Samples in Reference* for examples of reports with 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 file. 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.

Set Page Number

This option lets you set the beginning page number for a report. If you want to begin numbering at a number other than one, enter the number you want at the prompt.

When used in a two-level report, this option should be the last command entered.

Turn Print Off/On

This option lets you place comments in reports that are being sent to a printer. Information within the Turn Print Off and Turn Print On codes will not print. This is useful if you want to explain parts of a report, but don't want the comment to print.

To use this option,

- 1** Place the cursor where you want the comment to appear.
- 2** Press **Turn Print Off** (7), then type the comment.

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.

Iteration Control**Skip Record if RV is False (RB)**

This option lets you include or exclude records in a report based on a formula. When you select this option, you are prompted to enter the report variable (RV) number to be used in the report.

After entering the report variable number, the following message appears in the Report Body section: "Skip Record if 0 (False) is in Report Variable *n*" (*n* represents the report variable number you selected).

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.

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:

```
IF P2F7 > 25,000 THEN 1 ELSE 0 ENDIF
```

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 *Formulas in Reference* for more information on setting up formulas.

See *Search and Replace* and *Variable Search Conditions* under *Report, Samples in Reference* for examples of reports that use this option.

Stop [Sub]Report if RV is False (RB)

This option prompts you for a report variable. During a report, if the returned value of the report variable is false, the report stops. While running a subreport, if the value of the report variable is false, control is returned to the report.

Skip to Record at RV (FPH, RB)

This option performs a search of the selected index of the report, and locates the first record that matches the report variable. If this occurs in the First Page Header section and an exact match is not found, an approximate match will be accepted. If it occurs in the Report Body section, an exact match must be found or the report will be terminated.

Choose Next Record Using Lookup (FPH)

This option tells DataPerfect to use the selected index to display a lookup list from the data panel and lets the user select a record.

Subreports (RB)	This option lets you access the Subreports and Record Creation menu. This menu provides four options. See <i>Report, Sub-</i> in <i>Reference</i> for detailed information.
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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 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 stored in the destination panel through a link you select.

When you select this option, the current panel is displayed, and you must select a 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 (even if no links exist). 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 <i>Report, Two-Level</i> in <i>Reference</i> for detailed information.
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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

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 (for example, D99/99/9999).

The field format must be appropriate to the type of data which should be entered. Text fields are not allowed. The maximum value accepted for an alphanumeric field is 180 characters.

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 *Variable Search Conditions* under *Report, Samples 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 (such as 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.

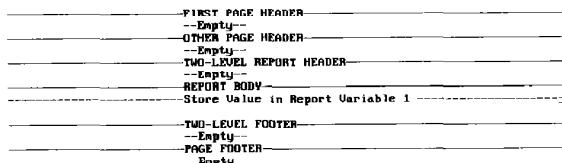
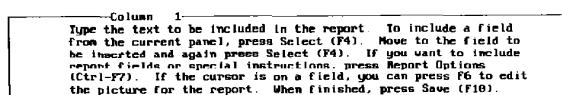
Select Report Field (All Sections)

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.

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 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 code (for example, P1F9), move the cursor to the field code 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* 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.

3 Press Turn Print On (8).

Turn File Off/On

This option lets you place comments in reports sent to a disk file. The information within the Turn Print Off and Turn Print On codes will not print. This is useful if you want to explain parts of a report, but don't want the comments in the disk file.

To use this option,

- 1** Place the cursor where you want the comment to appear.
- 2** Press **Turn File Off** (9), then type the comment.
- 3** Press **Turn File On** (A).

**Printer Control
(All Sections)**

This option lets you insert control strings for your printer, such as page orientation, print density, and font. See your printer manual for information about specific printer control strings.

**Skip if Start of
Two-Level (OPH)**

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.

Any text in the Other Page Header above the Skip if Start of Two-Level Header code will be printed on every page except the first page. Text below the code will be skipped if a two-level header is to be printed.

**Skip to Bottom of
Page (FPH, RB, TLF,
PF)**

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.

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 *Storing a Report Variable in Field* under *Report Variables* in Reference.

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 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 use a Skip Record if False code).

See *Variable Search Conditions* under *Report, Samples* 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 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 *Report, Sub-* 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, press **Select** (F4) to select the field.

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.

- 1** Be sure the report form is on the screen with the cursor 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 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 *Variable Search Conditions* under *Report, Samples 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**.

- 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,

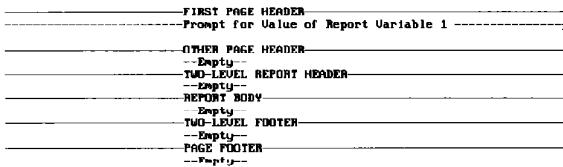
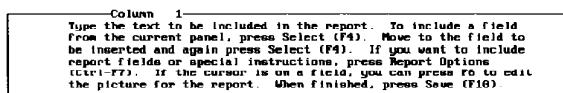
- 1** Be sure the cursor is in the report form in the First Page Header section.
- 2** Press **Report Options** (Ctrl-F7).
- 3** Select Prompt for Report Variable (6).
- 4** Enter the desired number for the report variable.

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. (The maximum value accepted for an alphanumeric field is 180 characters.)

A code appears in the report form: "Prompt for Value of Report Variable *n*."



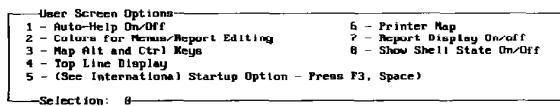
Save

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.

Screen

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 edit the database list to define the new database. All of the defaults in the database previously accessed will be assumed for the new database you create. These defaults can be changed later if necessary.

The code appears in the Report Body section: “Store Report Variable *n* in Field *m*.”

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 variable or specific instructions, press Insert (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
REPORT BODY
Store Value in Report Variable 1
Store Report Variable 1 in Field 1
TWO-LEVEL FOOTER
--Empty--
PAGE FOOTER

When the report is run, the value in the report variable is stored in the designated field.

See *Search and Replace* and *Archiving under Report, Samples 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, type 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 (for example, 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,

You see either the message ♦*Searching* or ♦*Search* in the lower left corner instruction box, specifying the direction of the search which DataPerfect is performing.

The screenshot shows a DataPerfect session. In the top left, there is a small window titled 'SEARCHING 15 - CUSTOMER.PEN-30'. Below it is a larger window titled 'CUSTOMER INFORMATION'. This window contains fields for Customer ID, Last Name, Address, Comments, First, Middle, City, ST, ZIP, HH Phone, UK Phone, Last Invoice Date, Balance Due, Payments, and Invoices. The 'Comments' field is currently active.

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 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 to select records in a report, export, import, or multiple remove, you are asked if you want to use the conditions as 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.

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* 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.

Reveal

You can press Reveal (Alt-F3) once in any mode to display the field formats in a panel (see *Field Format* 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 *Change Edit Order* under *Panel Options* 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* 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 code (see *Select* in *Reference*). This displays the actual panel and field represented by the field code. For example, because the field code P1F8 represents the eighth field created in the first panel, pressing Reveal displays the actual panel and field represented by P1F8.

If you are editing a two-level report, you can place the cursor on the Two-Level Report Sorted by Field code and press Reveal to see what field the two-level report is based on.

**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 wildcards characters. The original wildcard characters are restored when the search is finished.

A template search on a G, H, or D formatted field requires an exact template value you want. For example, if you were looking for 45 in a G field, you would not find the value 0045. On a date field, a template search for 03/12/1993 must be entered as 03/12/1993 and not 03121993.

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 *Formulas in Reference*).

The following is an example of a formula:

P1F4 * P1F8 > 250

P1F4 represents Panel 1, Field 4. P1F8 represents Panel 1, Field 8.

A search which specifies this formula finds all of the records where P1F4 multiplied by P1F8 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[P1F1;"BOB"] or contains[P1F1;"LISA"]) and P1F6 = date[10;5;1989]

Related Information

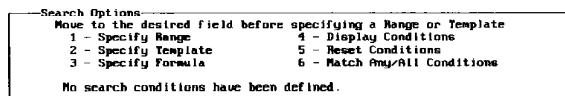
For specific information about each of the options on the User Screen Options menu, see the following sections:

- /int under *Startup Options* in *Getting Started*
- Character Map
- Color
- Date
- Help, Auto
- Report Display
- State
- Time
- Top Line Display
- Top Line Display

Search

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:



XXX

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.

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).

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**.

Examples of search values in an alphanumeric field include A* (high value) through D* (low value) and Aa (high value) through Am (low value).

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.

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 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.

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.

A search which specifies this formula finds all of the records where P1F1 contains the value BOB or LISA and where P1F6 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* 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 (\downarrow) 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. See *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.

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 the Clipboard is erased when you put new information in the Clipboard. If the setting is Append, data is appended to the information in the 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 the clipboard and data for imports is retrieved from the Clipboard. If you select this option, 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 file. It lets you retrieve data from clipboard into the current work area. Some ASCII characters don't retrieve correctly if Shell Option 3 is set to WP Text Merge. If you are having problems retrieving data, set option 3 to WP Text again. Data in the Clipboard is not visible when moving from the Clipboard to DataPerfect. To view the data in the Clipboard, select Clipboard (2) from the menu bar.
Related Information	You can find related information about the Shell and its functions in the Shell sections of this manual.

Sort Order

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 independent of the standard ASCII order. For example, if you use the predefined table, the characters á and à are sorted with the lower and uppercase A, rather than at the end of the alphabet. However, with the System Operations feature of DataPerfect, it is possible to change the order in which index entries are sorted by the index. To do so, 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).

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).

To turn on the top line display,

- 1 Check to see whether the top line display is on or off.

For example, when Top Line Display is turned on, the date and time are displayed in the upper right corner, as shown below.

CLIENT2.DAT-3		Customer Information	
Customer ID 00000	First	Middle	
Last Name			
Address	City	ST ZIP	00000-0000
			MM Phone (000) 000-0000 WK Phone (000) 000-0000
Comments	Last Invoice Date		
		Balance Due	\$0.00
	Payments	Invoices	

- 2 If the top line display is on, skip to step 3.

or

If the top line display is off, press **User Screen Options** (Ctrl-F3), then select **Top Line Display** (4) to turn on the date and time.

- 3 Press **User Screen Options**, then select **Show Shell State** (8).

▲ DECIMAL INDICATOR
▲ HEXADECIMAL INDICATOR

CLIENT2.DAT-3		CUSTOMER INFORMATION	
Customer ID 00000	First	Middle	
Last Name			
Address	City	ST ZIP	00000-0000
			MM Phone (000) 000-0000 WK Phone (000) 000-0000
Comments	Last Invoice Date		
		Balance Due	\$0.00
	Payments	Invoices	

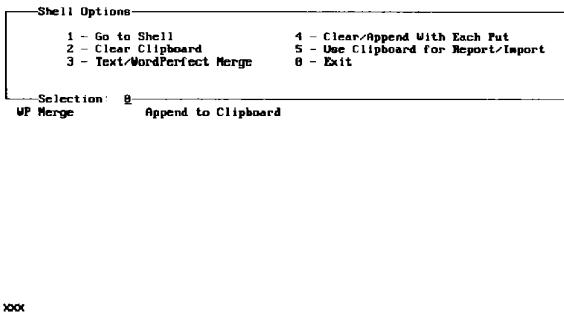
Fields

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 *Formulas and Report, Custom* in *Reference*).

Select is also used to select fields for any type of field list (see *Field List* in *Reference*).

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 the Clipboard.

If you select Clear Clipboard (2), all information currently in the Clipboard is erased.

Text/WordPerfect Merge

Text/WordPerfect Merge (3) lets you change the format of the data going to and from the 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."

	Decimal Value	Explanation	Hexadecimal Value
	32768	Cannot go to Shell—search, save, report, import in progress.	8000
Mask Values and Multiple States		<p>The Shell {STATE} command checks DataPerfect program status. You can use the {STATE} command to determine what actions your macro should perform when a particular state exists in the program.</p> <p>The status of a particular feature of the program (for example, whether a yes/no or other prompt is active) is reflected by the value of a status indicator number. There is one indicator number for each feature that can be checked. If the indicator number is set to zero, the feature is not active (for example, a yes/no or other prompt is not active). If the feature is active, the status number is set to a non-zero value particular to that status.</p> <p><i>See DataPerfect States above for the flags for the {STATE} command in DataPerfect.</i></p> <p>If a yes/no or other prompt is active in DataPerfect, the yes/no or other prompt is set to 1024 decimal (0400 hexadecimal). If the prompt is not active, the flag is set to zero (0).</p> <p>Sometimes several features are active at one time. For example, the Clipboard could be WordPerfect merge, the report could be output to the display, and the main panel could be displayed/selected.</p> <p>The value returned by the {STATE} command is the sum of all active values. This value represents the total status of the program with respect to the features checked for by the command. So, in the above example, execution of the {STATE} command would return the decimal value 137 (1+8+128) and the hexadecimal value 0089 (0001+0008+0080=0089).</p> <p>When many features are active, it may not be easy to tell which status values combine to equal the value returned by the command. Use the following steps to determine exactly which features are active:</p> <ol style="list-style-type: none"> 1 Find the largest value that is equal to or less than the value returned by the command. That feature is active. 2 Subtract the value you found in step 1 from the value returned by the command and consider the result. 3 Repeat steps 1 and 2 until the result of the subtraction is zero (0). <p>The values you subtracted in this process represent the currently active features.</p> <p>For example, if the Clipboard type is WordPerfect merge, the report is output to display, and the main panel is displayed/selected, you might calculate the active features as shown below.</p>	

The current sort order table is displayed.

The 256 characters (0-255) are listed below. The number to the right of each character is its sort value, for example, the character with sort value 65 will be sorted in the index before the character with sort value 69. After changing the sort order, you should delete and recreate all indexes. Use ↑, ↓, ←, and → to move to those you wish to change and enter the new sort order number. Press Save (F10) or Cancel (F1) when finished.

0	0	64	0	64	0	128	C	67	C	192	L	192	L
1	B	2	B	65	A	65	A	129	U	193	J	193	J
2	0	2	0	66	B	66	B	130	6	194	E	194	E
3	▼	3	▼	67	C	67	C	131	8	195	n	195	n
4	♦	4	♦	68	D	68	D	132	4	196	a	196	a
5	◊	5	◊	69	E	69	E	133	A	197	R	197	R
6	+	6	+	70	F	70	F	134	4	198	65	198	65
7	*	7	*	71	G	71	G	135	8	199	67	199	67
8	■	8	■	72	H	72	H	136	6	200	69	200	69
9	◆	9	◆	73	I	73	I	137	8	201	68	201	68
10	■	10	■	74	J	74	J	138	4	202	69	202	69
11	◆	11	◆	75	K	75	K	139	1	203	73	203	73
12	▼	12	▼	76	L	76	L	140	1	204	73	204	73
13	J	13	J	77	M	77	M	141	1	205	73	205	73
14	P	14	P	78	N	78	N	142	8	206	68	206	68
15	+	15	+	79	O	79	O	143	A	207	65	207	65

As you will notice, all the A's (A, a, á, â, ã, and so forth) 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 *Index Recovery* in *Reference*.

State

The Shell {STATE} command returns a number representing the DataPerfect operational state. This lets you create advanced Shell macros that are aware of the environment in which they are executing (for more information, see *Macros* in *Shell Features*). The DataPerfect operational states and their corresponding code numbers are listed below.

Show Shell State (8) in the User Screen Options menu includes the state in the top line display. State only shows if Top Line Display is turned on. The value is shown in decimal and hexadecimal as an aid for Shell macro construction.

Tab

When entering data, press Tab to move the cursor to the next field. Enter can be used to move the cursor to the next field. However, in a text field, pressing Enter 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.

Time

Several features in DataPerfect use time. The information below refers you to sections describing these features.

Time Display

If you turn on Top Line Display, the current time will be displayed on the upper right corner of your screen. With the /int startup option, it is possible to display time in the manner you choose. For information on how to change the time, see */int under Startup Options* in *Getting Started*.

For information on how to turn the time display on, see *Top Line Display in Reference*.

Other Time Features

For information on time fields, see *Time Field in Field Format in Reference*.

For an example time formula, see *Sample Formulas in Formulas in Reference*.

Top Line Display

In the Screen feature (Ctrl-F3), the Top Line Display option controls the display of 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 also 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).

DataPerfect States	Decimal Value	Explanation	Hexadecimal Value
1		Clipboard type is WP merge (else DOS text)	0001
2		Clipboard used for report/import (else disk file)	0002
4		Clipboard will clear (else append) with each put to the Clipboard	0004
8		Report output goes to display	0008
16		Report output goes to printer	0010
32		Report output goes to file	0020
64		Panel List displayed if decimal value for 128 is 0 (hexadecimal value 0080 is 0)	0040
128		Panel displayed/selected— depth is 1 (at main panel)	0080
192		Panel displayed/selected— depth more than 1	00C0
256		Help active (help/edit help) or information message showing	0100
512		DataPerfect Shell menu active	0200
1024		Yes/No or other prompt active	0400
2048		Report/Export/Import is running	0800
4096		Search menu active	1000
6144		Look-up active	1800
8192		Define active (define index/panel/field)	2000
10240		Reveal codes active	2800
12288		Create/Edit record active	3000
14336		Report List active	3800
16384		Should not got to Shell— Report in main menu/edit (reports locked)	4000

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 in a text editor, and then imported. The transactions would then be executed in the database, making the transaction log current. Any fields that have been deleted from the database while the data was out of DataPerfect will be skipped during an import.

Log Format

The transaction log file is a DOS text file. This file can be created or edited in a 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 and the date and time the transaction was made. The body of each transaction is different depending on the type. Each syntax is shown below.

Transaction	Syntax
Create	#C: date time =panel number=field list**
Edit	#E: date time =panel number=index 1 =index field list++
Delete	#D: date time =panel number=index 1=index field list++

Create and Edit each contain a field list with the following syntax.

**field number* (for example 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.""

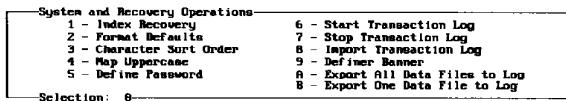
Text fields are also enclosed within quotation marks. The letters CR (carriage return) are included in the transaction log to indicate when a carriage return has been inserted in the field. If the text has been allowed to wrap, CR is not inserted.

Each line of a transaction is delimited by a <CR><LF> (carriage return, line feed) in DataPerfect. However, DataPerfect imports a file containing any combination of

Active Feature	Decimal Value	Hexadecimal Value
Value displayed	137	0089
Subtract panel displayed	128	0080
	9	0009
Subtract report output to display	8	0008
	1	0001
Subtract Clipboard type is WP merge	1	0001
	0	0

System Operations

You can access and edit system operations by pressing System (Shift-F9). The System Operations menu is displayed.



If a password has been defined, only a person with password privileges can access these options (see *Password* in *Reference*).

Related Information

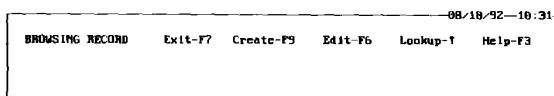
For more information about the options available on the System Operations menu, see the following sections in *Reference*:

- Index Recovery
- Format Defaults
- Characters, Uppercase
- Sort Order
- Password
- Transaction Log
- Definer Banner

In a Delete Transaction, only the field(s) in the index field list are recorded. 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 work very quickly. If you want to delete many records using a search condition, a report should be used. All records deleted by a report are recorded in the log. For more information, see <i>Delete Record under Report Options in Reference</i> .
Starting the Log	To start the transaction log, <ol style="list-style-type: none">1 Be sure the System Operations menu is on the screen (press Shift-F9).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: “<i>Filename</i> 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 the Transaction Log	To stop the transaction log, <ol style="list-style-type: none">1 Be sure the System Operations menu is on the screen (Press Shift-F9).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.
Exporting One Data File To Log	You can export the data from a single panel to a transaction log. The data is exported in log format to the file you specify. To export a single data file to a transaction log, <ol style="list-style-type: none">1 Be sure the System and Recovery Operations menu is on the screen (press Shift-F9).2 Select Export One Data File To Log (B).3 Type the filename, then press Enter. A list of panels is displayed.4 Use ↑ and ↓ to highlight the panel you want, then press Enter.

The current date and time are displayed on the top line of the screen.



You can change the date and time format in the Top Line Display with the /int option. For information on how to use the /int option, see */int under Startup Options* in *Getting Started*.

Related Information

You can find related information in the following areas of *Reference*:

- Date
 - Screen
 - Time
-

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

Underline

Underline (F8) can be used both in a report and in a text field.

Reports

To print underlined text or fields in a report, either use DPPrint or save the report as a WordPerfect file and print from WordPerfect.

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* 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.

of <CR><LF> (for example, <CR>, <LF>, <CR><LF>, or <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  
=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.

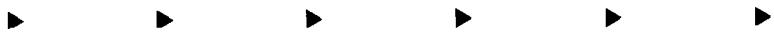
```
#E: 09/23/1988 10:01:34  
=1=1+1"519-42-3853"++  
*3"Smyth's Bakery"  
CR "3059 30th Street"  
*4"Denver"**
```

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  
=1=1+1"519-42-3853"++
```



The progress of the export is displayed on the screen.

- 5 Press any key, then press **Exit** (F7).

Exporting All Data Files To Log

You can export all of the data files in a database to a transaction log. The data will be exported in log format to the file you specify.

To export the data files to a log,

- 1 Be sure the System and Recovery Operations menu is on the screen (press **Shift-F9**).
- 2 Select **Export All Data Files To Log** (A).
- 3 Type the filename of the log, then press **Enter**.

The progress of the export is displayed on the screen.

- 4 Press any key.

Importing the Transaction Log

The transaction log is a recording of changes made to data. Should you need to recover changes made to the data, the log can be imported into your database.

To import the transaction log,

- 1 Be sure the System Operations menu is on the screen (press **Shift-F9**).

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 you return 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 *Log Format* above).

Introduction

Shell lets you organize programs and commands into menus for easy access. run a large number of programs, you can create submenus to group similar programs. Once you set up a program or command on a Shell menu, you can simply type a menu letter to start the program or execute the command.

Shell also acts as a program integrator and memory manager. While running a program from Shell, you can switch to a different program without exiting the current one. You can keep as many programs resident at the same time as your computer's memory and hard disk space will allow.

Also included in Shell is a clipboard feature. The Shell Clipboard is a temporary buffer you can use to transfer information between programs running under S

Documentation

Shell Installation and Operation explains how to install and use the WordPerfect Office Shell. It also contains information about the Clipboard and about supplemental Shell macros that can be used with DataPerfect. *Shell Features* additional information about display appearance, setup, memory management macros, and other Shell options and features.

Occasionally, changes are made to a program after a manual has been printed. README files shipped with Shell contain information about these changes.

3 Press **Underline** again to turn off Underline.

To underline existing text,

1 Block the text you want to underline (see *Block* in *Reference*).

2 Press **Underline** (F8) to underline the text.

2 Select Options (2).

The Shell Setup Options menu appears.

- 3 Select Macro directory (6), then enter the full directory name of the directory you want to specify as the default macros directory (such as c:\macros).**
- 4 Press Exit (F7) twice to return to the Shell menu.**

**Setting the
CONFIG.SYS File**

The CONFIG.SYS file contains commands that help set up your computer. This file will only function if it is located in your computer's root directory.

Before installing the WordPerfect Shell program, you need to set the FILES= and BUFFERS= commands in the CONFIG.SYS file to at least FILES=40 and BUFFERS=6. The FILES= command represents the maximum number of files DOS allows to be open at the same time. The BUFFERS= command represents the number of disk buffers DOS allocates in memory, and resetting this command should speed up some Shell functions.

The following instructions will help you determine if you have a CONFIG.SYS file that contains the correct commands. Then, they will lead you through the process of creating or modifying your CONFIG.SYS file.

You can find more information on the CONFIG.SYS file in your DOS documentation.

Hard Disk

If you have a hard disk, after starting your computer,

- 1 If you are not working from your C drive, type **c:** at the DOS prompt and press **Enter**.**

- 2 Type **cd c:** at the DOS prompt and press **Enter** to change to the root directory.**

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

*If your hard disk requires a special startup disk, insert that disk in drive A, type **a:** and press **Enter**.*

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

If a "File Not Found" message appears, or if a listing that *does not* include the FILES=40 (or more) and BUFFERS=6 (or more) commands appears, proceed to step 4. If a listing that *does* include the FILES=40 (or more) and BUFFERS=6 (or more) commands appears, then your CONFIG.SYS file is set to run the Shell program and no editing of the CONFIG.SYS file is necessary; you can skip these instructions.

- 4 Type **copy config.sys+con config.sys** and press **Enter** to begin copying the FILES= and BUFFERS= commands to the CONFIG.SYS file.**

At this point, the word CON should appear on the screen.

If an error message appears, make sure the spaces in your command are in the proper places.



If the DataPerfect program is installed in a directory other than data, substitute appropriate directory name in the *path* command.

Since the *shell* command starts the Shell program, it should always be the last command in your AUTOEXEC.BAT file.

If you have an optional ^Z (end-of-file) character in the AUTOEXEC.BAT file, it should follow the *shell* command.

Creating or Editing an AUTOEXEC.BAT File

You can use WordPerfect, Editor, or another DOS text editor to create or edit an AUTOEXEC.BAT file. The instructions below are for WordPerfect. If you are using another text editor, read the manual that came with it for specifics on how to retrieve, edit, save, and exit files.

You may already have an AUTOEXEC.BAT file. To check,

1 Press **List Files** (F5).

2 Enter the full pathname of the root directory of your hard disk plus *.bat as **c:*.bat**.

or

For two disk drive systems, insert your DOS diskette in drive B and enter **b:*.bat**.

If you have an AUTOEXEC.BAT file, it will appear in the list of files.

3 Press **Exit** (F7) to return to the normal editing screen.

To edit or create an AUTOEXEC.BAT file,

4 If you do not already have an AUTOEXEC.BAT file, check to be sure you are in a clear normal editing screen, then skip to step 9 below.

5 Press **Format** (Shift-F8), then select **Line** (1).

6 Select **Margins** (7) and enter **0** (zero) for both left and right margins, then press **Exit** (F7) to return to the blank normal editing screen.

Setting the margins to zero reduces wrapping when you retrieve the AUTOEXEC.BAT file. Some printers do not allow margins of zero. If the printer currently selected does not support zero margins, a minimum margin for the printer appears when you enter margins of zero. If you are using a text editor other than WordPerfect, you probably don't need to adjust the margins.

7 Press **Retrieve** (Shift-F10).

8 Enter **c:\autoexec.bat** to retrieve the AUTOEXEC.BAT file.

or

If you are using a two disk drive system, insert your DOS diskette in drive B, then enter **b:\autoexec.bat**.

9 Enter the commands you want in the file.

Installing Shell and the Shell Macros

This section explains how to install the files from the Shell program diskette and how to adjust the settings in your CONFIG.SYS file to run Shell. It also includes information on creating or modifying an AUTOEXEC.BAT file to start Shell when you turn on your computer.

Installation

The Shell program is designed to be used on a hard disk system.

New Users

If you do not currently have the WordPerfect Shell program installed on your machine, follow the installation instructions included with the DataPerfect program diskettes.

Update Users

If an earlier version of Shell is installed on your machine, you can update it. Follow the installation instructions included with the DataPerfect program diskettes, then copy SHELL.*.* from the DATA directory to the directory from which you will run Shell.

If you install the new Shell files to the directory where your old Shell files are located, your old Shell menu (located in the SHELL.FIL file) is used when you start the Shell program.

However, if you install the new Shell files to a new directory, (and your SHELL.FIL file is not in your path) a new Shell menu (located in the SHELL.NEW file) is used when you start the Shell program. You can use your old Shell menu with the new version of Shell by copying your original SHELL.FIL file to the new Shell directory.

Important: *Shell macros created with a later version of Shell are not compatible with earlier versions of Shell and vice-versa. Also, you cannot use Macro Editor from Office or Library version 2.0 or earlier to edit Shell macros you create using Shell 3.0 or higher.*

Shell Macro Location

If you used the Installation program to install the Shell program, the Shell macros ALTSHFTE.SHM, EXPORT.SHM, MERGE.SHM, and SPELL.SHM were copied to the correct directory for use with Shell in stand-alone mode.

If you did not use the Installation program to install Shell, or if you are using Shell in network mode, you need to copy the Shell macros (*.SHM) from the Shell/Utilities diskette to the correct directory. For these macros to work, they must reside in the default macro directory specified in the Shell setup screen.

To specify a default macro directory in the Shell setup screen, start at the Shell menu,

- 1 Select Setup (4).

The Shell Setup menu is similar to the Shell menu.

Using Shell

This section gives you a brief overview of Shell. For more information on specific features, refer to the alphabetically listed sections in *Shell Features*.

Starting Shell

Each time you turn on your computer, it searches for a DOS batch file named AUTOEXEC.BAT. If the AUTOEXEC.BAT file is found, the commands it contains are executed. If you do not have an AUTOEXEC.BAT file or you are not set up to start Shell, you can create the file or add the necessary command yourself (see *AUTOEXEC.BAT File* in the previous section) or you can start from DOS (see *Starting Shell from DOS* below).

Starting Shell with an AUTOEXEC.BAT File

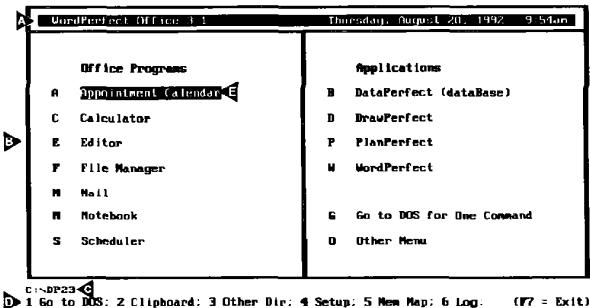
If your AUTOEXEC.BAT file includes the commands necessary to start Shell, all you have to do is turn on your computer to start the Shell program.

Starting Shell from DOS

To start Shell from DOS,

- 1 Turn on your computer.
- 2 Change to the drive and directory containing the Shell program file.
- 3 Enter **shell** to start the Shell program.

- ▲ HEADER
- ▲ SHELL MENU
- ▲ DEFAULT DIRECTORY
- ▲ SHELL OPTIONS
- ▲ CURSOR



The Shell menu displayed on your screen is the default menu. Shell provides several options to customize the default menu to meet your needs.

Starting a Program from Shell

To start any of the programs (or commands) listed on the Shell menu, type the corresponding menu letter. You can type an uppercase or lowercase letter.

You can also use the arrow keys to move the cursor to a menu item, then press Enter to start the program.

- 5** Press **Enter**.
- 6** Type **files=40** and press **Enter** to add the command.
- 7** Type **buffers=6** and press **Enter** to add the command.
- 8** While holding down the **Ctrl** key, type **z** (Ctrl-z).
- 9** Press **Enter**.

A message appears telling you that the file has been copied.

If the CONFIG.SYS file did not previously exist, then the steps listed above created the file and added the necessary commands. If the CONFIG.SYS file already existed, the FILES=40 and BUFFERS=6 commands were appended to the file. If more than one FILES= or BUFFERS= command exists in the CONFIG.SYS file, the one nearest the end of the file will be used.

- 10** Turn off your computer, then turn it on again.

You must turn the computer off, then on again for the new CONFIG.SYS file to take effect.

AUTOEXEC.BAT File

You can include an AUTOEXEC.BAT file in the root directory on your hard drive or on the startup disk in drive A which will automatically start the Shell whenever you start your computer.

In your AUTOEXEC.BAT file, you can use the DOS *path* command (discussed in your DOS manual) to set up a list of directories to be stored in memory. The path you create specifies the directories where Shell searches for files it needs to run the various programs. Consequently, you will probably want to include in your *path* command all the directories containing the program files you are going to have on the Shell menu.

You can use the *cd* command on the next line after the *path* command to change to the directory where the Shell program is located and make it your default directory.

When using Shell, you might include a path similar to the one below in your AUTOEXEC.BAT file. This sample path includes possible directories. Obviously, if you do not have these directories, this example will not work for you.

```
path c:\;c:\wp;c:\data  
cd\data  
shell
```

In the example above, whenever you start a program from Shell, Shell first searches for the program file in the default directory (C:\data), then in each directory in the path (c:\;c:\wp;c:\data) until it finds the program.

For those programs found in the directories in the path, you do not need to include the full pathname in the Shell's Program Information screen (see *Program Information in Shell Features*). For instance, in the example above, you do not need to enter c:\data\dp on the Program Information screen for the DataPerfect program because c:\data is in the path. You can simply enter **dp**.

Clipboard

Select Clipboard (2) to view the contents of the Shell clipboard. With the Clipboard displayed, you can clear (delete) the contents, save the contents as file, or retrieve a text file into the Clipboard (see *Clipboard* in *Shell Features* as details).

Other Directory

The name of the directory you are in when you start Shell is displayed in the left corner of the Shell menu screen. This is the default directory for the Shell program. It is also the default directory for all programs you start from the Shell menu unless a separate default directory is specified (see *Default Directory* under *Program Information Options* in *Shell Features* for details).

To change the Shell default directory, select Other Directory (3), then enter the pathname of a different directory (for example, c:\work).

Setup

Use Setup (4) to set up programs on the Shell menu and change the default settings for several Shell features (see *Setup* in *Shell Features* for details).

Memory Map

Select Memory Map (5) to view a list of the programs currently residing in memory and the amount of memory available (see *Memory Management* in *Shell Features* for details).

Log

The Log option (6) is available with WordPerfect Office, and is not supported by the Shell shipped with DataPerfect.

Function Key Features

Select the following features by pressing the function key indicated:

Cancel (F1)

Use Cancel to *back out of* (cancel) any Shell menu or prompt. You may need to press Cancel more than once. Pressing Cancel will not save any changes you have made.

Exit (F7)

You can use Exit to exit Shell (see *Exiting Shell* below) and use it throughout the Shell program to exit screens and options and save any changes you have made.

Help (F3)

Press Help to display information about a current Shell feature.

Exiting Shell

To exit Shell and return to DOS,

- 1 Press **Exit (F7)** from the main Shell menu.

If you have already exited all the programs you started from Shell, you are immediately returned to DOS.

If any programs you started from the Shell menu or submenus are still resident in memory, Shell asks if you want to save the information in all resident programs.

- 2 Type **y** for Yes to save all files currently active in resident programs and exit those programs.

or

Type **n** for No to exit without saving currently active files, then type **y** to exit Shell.

If you type **y**, Shell goes to each program that is currently active, starting with the most recently started program. Each program checks to see if the file currently active has been modified. If it has not been modified or if it is a program in which you cannot modify a file, the program is exited for you. If the file has been modified, the program prompts you for a filename to save the file. After you save the file(s) in a resident program, the program is exited and Shell moves to the next resident program (if any).

If you decide you do not want to save one of the active files, press Cancel when prompted for a filename, then exit the program as you normally would. As soon as you exit that program, the Shell continues the exiting process.

After all programs have been exited, a prompt asks if you want to exit Shell.

- 3 Type **y** to exit Shell and return to DOS.

Using DataPerfect Supplemental Shell Macros

Included with the Shell are several macros you can use with DataPerfect, WordPerfect, and WordPerfect Office Notebook. One macro runs DP Export (DP.EXP) to create an .STE file and gives you the option of modifying a copy of the .STE file to make an .STM file that is easier to read. Another converts a Notebook file into a DataPerfect database. Another lets you merge a DataPerfect file with the current WordPerfect document. Yet another lets you check the spelling of words in a text field.

Requirements

To use supplemental Shell macros, you must meet the following requirements:

- You must use DataPerfect version 2.2 or later, Office version 3.0 or later, and WordPerfect 5.1.
- DataPerfect, Notebook, and WordPerfect must be listed as options on the Shell menu.
- The Shell macros must reside in the correct directory (see *Installing Shell and the Shell Macros* in *Shell Installation and Operation*).

Creating the STE or the STM

ALT-SHIFT-E lets you hotkey from DataPerfect and run DP Export (DPEXP.COM) on the current database or modify a copy of the .STE file that was created by running DPEXP.COM. The structure of a DataPerfect database is a .STR file. DPEXP.COM converts a database's .STR file into a readable file called a .STE. This macro can modify a copy of the .STE file to make it easier to read.

From any panel of the database you want to export to a .STE,

- 1** Press ALT-SHIFT-E.

The DataPerfect Export screen appears.

- 2** Select Export (1) to export the database to a .STE File.

You will see the .STE scroll on your screen as it is created. You are then returned to the DataPerfect Export screen.

- 3** Select Create/Print .STM (2).

While the macro is executing, do not touch keys until you are prompted. The Create STM screen appears.

This screen gives you the option of creating a .STM with or without cross-references. Cross-references give you useful information about the database. For example, if a field is cross-referenced in the .STM, all the places where that field is used in the database (in reports, links, indexes or formulas) are listed below the field name in the .STM.

- 4** Choose Create only (1) to create a .STM without cross-references.

or

Choose Create & Cross-Reference (2) to create the .STM and cross references, fields, reports, links, indexes and formulas.

The Print STM screen appears.

- 5** Choose the desired option(s). Available options are listed in the table below.

Option	Description
Print (1)	Prints the .STM and returns you to the Print .STM screen.
Save to Disk (2)	Saves the .STM to the path and file name described in Destination (D) and returns you to the Print .STM screen.

Option	Description
Edit Document (3)	Lets you edit the document in WordPerfect (you must have WordPerfect installed and listed in the Shell menu). Press Exit (F7) to return to the Print STM screen.
Destination File (D)	Lists path and file name to which the .STM will be saved if you choose to save it. To change, choose D and enter the new path and file name.

- 6** When you have finished choosing options in the Print STM screen, press **Exit** (F7) to return to DataPerfect.

Important: *Editing the .STE in a text editor can damage the structure of your database. You should make a backup copy of the database before editing the .STE so that if your structure file is damaged, you can restore from the backup. WordPerfect Customer Support is unable to fix a structure file damaged by editing.*

Creating a Database from a Notebook File

EXPORT.SHM lets you create a database from a Notebook file by using the current Notebook field information to define a matching DataPerfect database. The new database has the same name as the parent Notebook file and is created in the default DataPerfect directory as defined in Shell setup.

Because a DataPerfect record uses only two-thirds of a screen instead of a full screen, as a Notebook record does, the fields may be slightly rearranged in the new database. If there is not enough room, the macro will reduce the size of multi-line fields until they fit. Parallel multi-line fields do not rearrange well, so you will want to adjust any of these before running the macro.

The macro won't work if the Notebook file has more than 20 fields or if the field order does not match the field creation order. Once you begin the macro, the Notebook file and database names are not user definable.

If you are using the default Shell workspace (6K), EXPORT.SHM may be too large to execute. You can increase the workspace by using the /w-kilobytes Shell Startup option (see *Startup Options* in *Shell Features*).

From the DOS prompt,

- 1** Enter **shell/w-10** to start Shell with 10K workspace, then enter Notebook from the Shell and retrieve the Notebook file you'd like to convert into a DataPerfect database.
- 2** Press **Shell Macro** (Alt-Shift-F10) and type **export** as the name of the macro.

The macro checks the field names and default field formats. The macro displays the Create a Database screen, which lists the field names and their field formats. All of the field formats are alphanumeric, but can be changed to other valid

DataPerfect field formats. If the field names and formats are correct, skip to step 4.

To change field formats,

3 Select Change Format (2) to select from a menu of standard formats.

or

Select Edit Format (3) to manually type in the field format you want.

Once the field names and formats are correct,

4 Select Create Database (1).

The macro displays the Create Database screen. This screen has a path option and three numbered options: Create Database (1), Import the Notebook (2), and Merge the Database (3).

Options Path lists the current path for DataPerfect and is set when you invoke the macro. If the path listed shows the database where you want it, skip to step 5. If the current path does not put the new database in the directory you want, change it.

5 Select Path and enter the correct path in the reverse video bar.

6 Select Create Database (1).

The macro creates a database in the directory specified by the path option. The macro makes a single panel database and attempts to create the database with the same fields as the Notebook.

The database is created with an index that includes all the single-line fields. If you want to modify the index, you should do it now before merging the Notebook into the database structure.

To view the database and modify it if necessary before importing data,

7 Select Edit the Database (3) and make any necessary modifications before pressing Esc to return to the Create Database menu.

8 Select Import the Notebook (2).

The macro imports the Notebook file data into the newly created database structure and returns to the Create Database screen.

9 Press Exit (F7) to exit the macro screen and return to the new database.

Creating a Merge in WordPerfect

MERGE.SHM lets you merge addresses stored in DataPerfect into the current document in WordPerfect, using any number of records selected from the current database in DataPerfect. For more information, see *Lesson 12: Using Shell to Integrate DataPerfect*, in the *DataPerfect Workbook*.

This macro inserts primary merge file codes into your WordPerfect document so you don't have to. However, so that the fields appear in the correct order, you must set up a lookup list from one of the fields in the panel that lists the fields in the order that you want them to appear.

To merge addresses stored in DataPerfect with a letter you have written in WordPerfect,

- 1 Start WordPerfect and retrieve the letter you have written.
- 2 Place the cursor where you want the address to appear.

If you want only one line of space between the address and the text that follows, put the cursor under the first character of the first line of text.

- 3 Press **Switch to DataPerfect** (Ctrl-Alt-D) to switch to DataPerfect. If the letter assigned to DataPerfect on the Shell menu is not D, press **Ctrl-Alt-assigned letter**.
- 4 Enter the database and panel you want to merge addresses from.
- 5 Move the cursor to the field that has the lookup list you prepared earlier to list the fields in the correct order for the address.
- 6 Press **Shell Macro** (Alt-Shift-F10) and type **merge** to run the MERGE.SHM macro.

The macro sets up a short report and prepares the Clipboard. The cursor can be in the field or in the lookup list when you select a record to be merged.

By default, the macro assumes you want to merge six fields in this order: First Name, Last Name, Address, City, State, ZIP code. If you want to use the default merge setting, skip to step 11. If you don't want to use the default merge setting,

- 7 Select Merge Format (1) to customize the merge format.

A screen listing fields and line numbers for the default merge setting appears.

- 8 Enter the number of the line you want to change.
- 9 Enter field numbers, commas (if needed), and spaces (if needed) to arrange the merge format the way you want.
- 10 Enter **0** or press **Exit** (F7) to exit the customization screen.
- 11 Select all the records you want to merge by placing the cursor on them in the lookup list and then pressing Save Record (2) or **Enter**.

(The macro runs a report and appends the addresses to the Clipboard.) When you have marked all of the records you want to merge,

- 12 Select Merge Records (3).

You are returned to WordPerfect.

If you hadn't positioned the cursor correctly earlier, you could do it now by selecting Move Cursor/Merge (2) and moving the cursor with the arrow keys. Because you have already positioned the cursor correctly,

- 13 Select Merge the Record(s) (1).

The merged documents appear in WordPerfect.

Checking Spelling in a Field

You can use the Shell macro SPELL.SHM to check spelling of words in text fields. To use SPELL.SHM in DataPerfect, you must be running DataPerfect under Windows and have WordPerfect on your Shell menu. SPELL.SHM will check the spelling of words in the text field where the cursor is located when you start the macro.

SPELL.SHM calls other macros during execution. To ensure that SPELL.SHM can find the macros it needs, you should enter the full pathname of the directory where you keep your DataPerfect Shell macros as the default macro directory in your Shell setup. See *Shell Macro Location* under *Installing Shell and the Shell Macro* in *Shell Reference*.

To check spelling of the text inside a DataPerfect text field using WordPerfect:

- 1** Type the text in the field.
- 2** Press **Save** (F10) twice to save the field and the record.
- 3** Press **Shell Macro** (Alt-Shift-F10).
- 4** Type **spell** and press **Enter**.

The text is saved and a copy is taken into WordPerfect. Do not press keys until prompted to do so.

- 5** When Spell stops and highlights a word, use the menu in the lower half of the screen to make any corrections and continue.

When checking is complete, the corrected text is returned to the DataPerfect field.

Customizing and Standardizing Your Database

Included with DataPerfect 2.3 are several new Shell macros to help you customize and standardize the appearance of the databases you create. You can find more step-by-step information about them in the DataPerfect 2.3 README files.

BANNER.SHM

The Banner Shell macro helps you create an opening-screen banner to describe your database or to give information about it.

BOXES.SHM

The Boxes Shell macro helps you create “button” or “well” boxes with a three-dimensional or “shadowed” appearance in menus, help screens, and panels.

COLORS.SHM

The Colors Shell macro helps you set standardized colors for your database, help screens, and boxes.

HELP.SHM

The Help Shell macro creates a help screen box for the field your cursor is on. It helps maintain a uniform look for the entire database.

MENU.SHM

The Menu Shell macro simplifies and standardizes menu creation by creating a database menu which you can then customize to meet your requirements.



Clipboard

The Clipboard is a special buffer in Shell that you can use to temporarily store selected information. You can then retrieve the Clipboard contents at another location in the current program or switch programs to retrieve the information in a different program.

Using the Shell feature in Shell-compatible programs or the Screen Copy and Screen Retrieve features with programs that are not Shell-compatible, you can or append information to and retrieve information from the Clipboard.

Using the Shell Feature

Shell-compatible programs include a Shell feature with options for using the Clipboard. How you use these Clipboard options and what type of information can save to and retrieve from the Clipboard varies from program to program.

Put Field/Record/Panel Into Clipboard

You can copy data from a field, record, or panel into the Clipboard with the following keystrokes.

These features are only available if Shell is running.

Put Field (Shift-F10)

This function puts the data from the current field into the Clipboard. The data can be retrieved using Get Field (Shift-F1).

Put Record (Alt-F10)

This function puts the data from the current record into the Clipboard. The data can be retrieved using Get Record (Alt-F1) if the Shell option in DataPerfect is selected in WordPerfect Merge.

Put Panel (Ctrl-F10)

This function puts the data and panel text from the current panel into the Clipboard.

If you save a DataPerfect panel to the Clipboard, it can't 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 the Clipboard.

Get Field (Shift-F1)

Inserts data from the Clipboard into the current field.

Get Record (Alt-F1)

Inserts data from the 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 the 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^).

Saving/Appending with Screen Copy

The Screen Copy feature lets you save a block of text to the Clipboard from any program running under Shell. This feature is designed primarily for use with programs that are not Shell-compatible (do not have a Shell feature). It is also useful in Shell-compatible programs for saving information that you cannot save to the Clipboard with the Shell feature. For example, you could save a DataPerfect screen to the Clipboard with Screen Copy.

To save or append text to the Clipboard using Screen Copy,

- 1 Press **Screen Copy** (Alt-Shift—) (hold down Alt and Shift and type a dash) from any program running under Shell, including DOS.

The Screen Copy menu appears at the bottom of the screen.

- 2 Select **Rectangle** (1) to copy in the Rectangle mode.

or

- Select **Block** (2) to copy in the Block mode.

The Rectangle mode lets you save a rectangular-shaped block of text to the Clipboard. All highlighted text in the block—including borders and display attributes—is saved.

Use the Block mode to block irregularly-shaped areas of text (for example, a sentence within a paragraph). Using Block mode, you cannot block border characters (such as ASCII characters 176 through 223).

If you have a Hercules graphics card in your computer and you have selected six or twelve fonts for display, not all display attributes will be copied correctly with Screen Copy. Also, the text in the rectangle or block may not appear in reverse video.

When you select Rectangle or Block, the cursor doubles in height.

- 3 Use any of the cursor movement keys to move the cursor to the beginning of the text you want to copy, then press **Enter** to anchor the beginning of the rectangle or block.

The cursor doubles in height again.

- 4 Move to the opposite end of the rectangle or block.

As you move the cursor, the text in the rectangle or block is displayed in reverse video. If you are in Block mode, remember that you cannot block border characters and cannot, therefore, move the cursor over a border character.

- 5 Press **Enter** to finish defining the rectangle or block.

At this point, you can select an End-of-Line code. An End-of-Line code is added to the end of each line of text in the rectangle or block when it is saved or appended to the Clipboard or macro variable.

- 6 Select **Format** (3).

- 7** Select **Hard Return** (1) to insert a Hard Return (CR/LF) code at the end of line. This is the default Format option.

or

Select **Soft Return** (2) to insert a Soft Return at the end of each line.

or

Select **Merge Return** (3) to save the text in WordPerfect merge file format. Merge R (^R) code is inserted at the end of each line and a Merge E (^E) at the end of the text.

The option you select becomes the new default setting for the Format option until you change it again or exit Shell.

- 8** Select **Save** (1) to save the selected text to the Clipboard.

or

Select **Append** (2) to append the selected text to the end of the Clipboard contents.

or

Select **Macro Variable** (4), then enter the variable number (0 - 9) to save the selected text to that variable.

You can also press Macro Commands (Ctrl-PgUp) to assign the selected text to a macro variable. You can access a numbered macro variable by pressing Alt-Shift-#, where # is the number you entered for the variable.

Retrieving with Screen Retrieve

You can use the Screen Retrieve feature to retrieve the Clipboard contents into a program running under Shell. When you use Screen Retrieve, all formatting characters are removed and text is retrieved one character at a time in a continuous string. You can format text retrieved with Screen Retrieve using an End of Line macro (see *Macro Names* under *Program Information Options in Shell Features*).

Because the Retrieve option of the Shell feature retains formatting characters, it is usually best to use the Shell feature instead of Screen Retrieve to retrieve text into WordPerfect or other third-party programs.

To use Screen Retrieve with any program running under Shell, including DOS programs:

- 1** Position the cursor where you want the contents of the Clipboard inserted.
- 2** Press **Screen Retrieve** (Alt-Shift-+).

Appending with a Clipboard Filename

For programs that do not have a Shell feature, you can also append information to the Clipboard by first saving it to a special Clipboard file (see *Clipboard File* under *Program Information Options in Shell Features*). When you switch programs or exit the program, the information in the file is appended to the Clipboard. You can then retrieve the contents of the Clipboard into another program. This method of saving to the Clipboard is an alternative to Screen Retrieve.

Viewing the Clipboard Contents

You can view and manage the contents of the Clipboard with the View Clipboard feature.

- 1** From the Shell menu, select Clipboard (2) to display the contents of the Clipboard.

This is not an editing screen, but you can scroll forward through the displayed text using Down Arrow (\downarrow) or Page Down (PgDn or + on the number pad).

You can only move forward through the Clipboard contents.

If you only want to view the text in the Clipboard, press Exit (F7) when you are finished to return to the Shell menu. Otherwise,

- 2** Select Clear (1) to clear (delete) the contents of the Clipboard.

or

Select Save as Text File (2), then enter a filename to save the contents of the Clipboard as a DOS text file.

or

Select Retrieve Text File (3), then enter the full pathname of a DOS text file to retrieve a file into the Clipboard.

You should only retrieve DOS text files into the Clipboard from this screen. Any file you retrieve is appended to the end of the Clipboard contents (if any).

- 3** Press Exit (F7) to return to the Shell menu.

Clipboard Memory Management

Shell allots 1K of memory for the Clipboard. When you save information to the Clipboard that requires more memory, Shell creates a temporary file on disk to store the additional information. Both the Clipboard and the temporary file are deleted when you exit Shell.

You can use the /c-n startup option to change the amount of Clipboard memory to 2K, 3K, 4K, or 5K. This does not affect the amount of information that can be stored in the Clipboard; it only affects how soon the Clipboard overflows to disk. See *Startup Options* in *Shell Features*.

If you use the Clipboard frequently to transfer large blocks of text, increasing the amount of Clipboard memory may increase the speed at which text is saved to and retrieved from the Clipboard.

Note

If you are on a network and Shell is running from a network directory, you may not have the network file rights necessary to create overflow files in that directory.

You can use the /d-pathname Shell startup option to redirect overflow files to a directory to which you do have rights (see *Startup Options* in *Shell Features*). If you are not sure what rights you have with various directories, consult your system administrator.

Colors

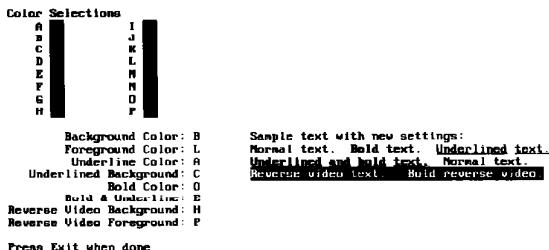
If you have a color monitor, the Colors option on the Setup Options menu lets you change the screen colors for Shell.

If you do not have a color monitor, changing Colors settings has no effect on screen display.

To change the Shell colors,

- 1 Select Setup (4) from the Shell menu.
- 2 Select Options (2).
- 3 Select Colors (1) to display the Color Setup screen.
- 4 Select the type of monitor you have (color, single color, or Hercules RAM card), then enter the necessary information (see *Color Setup Options* below).

Depending on your selection, your screen and some of the options may be different from the ones shown here.



- 5 Press **Exit** (F7) twice to save the changes and return to the Shell menu.

Color Setup Options

The Color Setup options correspond to three different types of color monitors:

Color Monitor

Use this option to adjust the colors on computers with a CGA or compatible system.

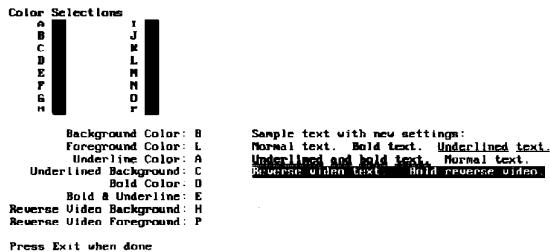
- 1 Select **Color Monitor** (1) from the Color Setup screen.
Shell asks if you want to use fast text display.

- 2** Type **y** to increase the speed at which Shell displays text. (This may cause *snow* on some monitors.)

or

Type **n** if you do not want to use fast text display.

A table appears from which you can select colors for background, foreground, and several text attributes.



- 3** Make the desired changes.

As you make changes, the changes are reflected in the sample text.

- 4** Press **Exit** (F7) to save the changes and return to the Setup menu.

Single Color Monitor

To change the underline display on a black and white or Compaq monitor,

- 1** Select Single Color Monitor (2) from the Color Setup screen.

You are asked if you want to use fast text display.

- 2** Type **y** to increase the speed at which Shell displays text. (This may cause *snow* on some monitors.)

or

Type **n** if you do not want to use fast text display.

- 3** Select Underline Displayed as Reverse Video (1).

or

Select Underline Displayed as Underline (2).

- 4** Press **Exit** (F7) to save the changes and return to the Setup menu.

Hercules RamFont Card

If you have a Hercules InColor Card or Hercules Graphics Plus Card, Select **Hercules RamFont Card (3)** from the Color Setup screen.

Three new options appear.

```
Color Setup

Monitor Characteristics: 3
  1 - Color Monitor
  2 - Single color Monitor (e.g. Black & White or Compaq)
  3 - Hercules RamFont Card (InColor or Graphics Plus)

Hercules RamFont Card Support: 0
  1 - Monochrome Mode
  2 - CGA Mode
  3 - No Mode Changes (See Manual)
```

- 1** Select **Monochrome Mode** (1) to emulate a monochrome monitor with true bolding and underlining.

or

Select **CGA Mode** (2) to emulate a standard CGA color monitor. The same color table appears as when you select **Color Monitor** as the monitor type (*Color Monitor* above).

or

Select **No Mode Changes** (3) to use the color and/or extended font capabilities of the Hercules RamFont card. The same color table appears as when you select **Color Monitor** (see *Color Monitor* above), except that the colors you selected for the Hercules color palette appear instead of the CGA colors. (See your Hercules manual for details on setting up the color palette.)

The CGA Mode option does not work with all monitors. If you select this option and your monitor does not support it, the selection is ignored.

If you select **Monochrome Mode**, you are returned to the Setup menu. If you select **CGA Mode** or **No Mode Changes**,

- 2** Make the desired changes in the color table.

As you make changes, the changes are reflected in the sample text.

- 3** Press **Exit** (F7) to save the changes and return to the Setup menu.

Note

If you select No Mode Changes to use the Hercules color palette, your color settings may not hold when you switch to a different program and return or when you exit and then restart the current program. This may cause text to be almost invisible due to nearly identical background and foreground colors. You can avoid this problem by using the same color settings in all programs, or you can create a DOS batch file that restores the Hercules color settings when a problem occurs.

Use a text editor to create a DOS batch file (a file with .BAT extension) that contains the commands necessary to reset the Hercules card state, font, and colors. The commands listed below represent a sample batch file named RESET.BAT:

Command	Meaning
palette mycolors.pal	Reset Hercules card state and colors
ramfont courier.fnt	Reset font

To execute the batch file, select Go to DOS For One Command from the *Shell* menu, then enter the full pathname of the file. After the batch file is executed, press any key to return to the *Shell* menu.

If you have room on your *Shell* menu, you can add the batch file as a *Shell* menu item. Then you can simply select that item to reset your Hercules colors. (See *Program Information* in *Shell Features* for details on setting up a DOS batch file as a menu item.)

A Note of Caution

In WordPerfect version 5.0 or later or PlanPerfect version 5.0 or later, it is possible to use 512 characters with the EGA, VGA, or Hercules InColor Card. However, while using WordPerfect or PlanPerfect with 512 characters, *Shell* prompts may be unreadable because the display attributes used (bold, underline, and so forth) are interpreted differently in this mode.

You can avoid this problem with the EGA or VGA card by using only colors A through F for your display attributes in any *Shell* program. When using the Hercules InColor Card, use only colors A, C, E, G, H, I, K, M, and O in *Shell*.

Help

You can use Help to display information about Shell features.

- 1** Press **Help (F3)**.

The main Shell Help screen is displayed with instructions for using the Help feature.

- 2** Type one of the letters in the topical guide to learn about a specific topic.

If the information for the feature or topic occupies more than one screen, the “More” prompt appears at the bottom of the screen. Type **1** to view successive screens on the same feature or topic.

You can return to the main Help screen at any time by pressing Escape (Esc).

When you finish using Help,

- 3** Press the **Space Bar** or **Enter** from any Help screen to exit the Help feature.

Context-Sensitive Help

You can also access Help from any menu or prompt to display information about the feature you are using. For example, if you select Clipboard (2) from the S menu and then press Help (F3), information about the Clipboard feature is displayed.

Macros

Using the Macro feature, you can record the keystrokes you press for a certain task, then later execute the macro to have Shell perform those keystrokes for you.

For example, you can define a macro to perform the following tasks:

- Back up the files in a directory to a disk.
- Save text to the Shell Clipboard.
- Change the initial (default) settings for a program.

Almost any task you can do manually from Shell or a program running under Shell, you can automate with a Shell macro. You can also use macro programming commands to program a Shell macro for specific tasks. To create advanced Shell macros, you need WordPerfect Office Editor 3.01 or later.

Defining a Shell Macro

You can define a Shell macro while in Shell or in any WordPerfect Corporation program running under Shell.

To define a simple Shell macro that executes keystrokes,

- 1 Press **Define Shell Macro** (Ctrl-Shift-F10).

The Shell Macro prompt appears.

- 2 Enter one to eight characters to name the macro.

or

Hold down **Alt** and **Shift** and type a letter from a to z.

- 3 Enter a description for the macro (no more than 39 characters).

or

Press **Enter** to bypass entering a description.

The “*Starting shell macro*” message is briefly displayed at the bottom of the screen. Also, “*Macro Def*” appears at the bottom of the Shell menu screen until you finish defining the macro.

- 4 Press the keystrokes you want recorded in the macro.

- 5 Press **Define Shell Macro** again to end macro definition.

The “*Shell Macro Ended*” message appears briefly at the bottom of the screen.

Shell Macro Filename

Shell uses the name you give plus a .SHM extension to create the filename for the macro. For example, if you enter **print** as the macro name, the filename for the macro will be PRINT.SHM; if you hold down Alt and Shift and type p for the macro name, the filename will be ALTSHFTP.SHM.

Global Macro Directory

Shell macros are saved to the global macro directory, which is the directory specified with the Macro Directory option in Setup (see *Macro Directory under Setup in Shell Features*).

If you do not specify a macro directory and you are on a network, the global macro directory is the directory containing Shell Setup file (XXXSHELL.FIL, where XXX represents your file ID).

See Setup in Shell Features for details on the location of the Shell Setup file.

If you do not specify a macro directory and you are using WordPerfect Office on a stand-alone machine, the global macro directory is the directory containing Shell program file (SHELL.EXE).

Important: You can override the default macro location for named macros by including full pathname when naming the macro in step 2 above (for example, c:\macros\format.shm).

If a macro with the same filename already exists in the destination directory, WordPerfect asks if you want to replace the original macro. Type **y** to replace the original, **n** to continue defining the new macro, or type **m** and enter a new macro name to preserve the original.

Executing a Shell Macro

The way you execute a Shell macro depends on how you named the macro.

If you named the macro with one to eight characters,

- 1** Press **Shell Macro** (Alt-Shift-F10) from the Shell menu or from any program running under Shell.

Important: When you execute a Shell macro, make sure you are in the same location (program and state) as you were when you defined the macro. This ensures that the macro does what you want it to do.

- 2** Enter the name of the Shell macro. You do not need to include the .SHM extension.

If you do not include a pathname for the macro (for example, c:\macros\print.shm), Shell looks for the macro in the default directory specified on the Program Information screen for the current program.

To start a macro named with the Alt-Shift keystroke, simply press Alt-Shift-*letter* (where *letter* is the letter you used to name the macro; such as Alt-Shift-d).

Macro Not Found

If no macro is found when you press Alt-Shift-*letter*, the keystroke performs the same function as the Switch Program feature (Ctrl-Alt-menu letter). See *Switch Program in Shell Features* for details.

For example, if you press Alt-Shift-w and no file named ALTSHTFW.SHM is found, you will be switched to whatever program is assigned to W on the Shell menu. If there is not a menu item assigned to that letter, you are returned to the Shell menu.

Macro Execution Directory

When starting a named macro (with no pathname) or an Alt-Shift macro from within a program running under Shell, Shell looks for the macro first in the program-specific Shell macro directory. The program-specific macro directory is the default directory specified on the Program Information screen for that program (see *Default Directory* under *Program Information Options in Shell Features*). If no default directory is specified on the Program Information screen, the program's current default directory is the program-specific macro directory.

If the macro is not found in the program-specific macro directory or if you are starting a Shell macro from the Shell menu or from DOS, Shell looks for the macro in the global Shell macro directory (see *Global Macro Directory* above).

International Macro Interface

Macro prompts can cause difficulties with international versions of WordPerfect products because the mnemonics for yes and no may not be y or n in a language other than English. To resolve this difficulty, all versions of Shell (including the original English and all international versions) can use character equivalents for yes and no. The equivalents are:

Answer	Equivalent
Yes	+
No	-

Cancelling a Shell Macro

You can cancel a Shell macro in progress by pressing one of three keys. If you have not pressed any keys since starting the macro, press Cancel to stop the macro. If you have pressed other keys, press Cancel Macro (Alt-Shift-F1) or Shell Macro (Alt-Shift-F10) to stop the macro.

Memory Management

One of the most useful applications of Shell is the ability to keep multiple programs resident in memory and switch from program to program with a single keystroke (see *Switch Program* in *Shell Features*). If you plan to use this feature, it is helpful to understand how Shell uses your computer's memory to keep programs resident.

When you start Shell, there are already at least two programs resident in memory: DOS and Shell. If you loaded any other programs before starting Shell (such as network device drivers), those programs are also resident. As you continue to start programs from Shell and leave them resident in memory, more and more of your computer's memory or disk space is used. It logically follows that the more memory and disk space your computer has, the more programs you can have resident at the same time.

How Shell Uses Memory

When you start a program, the information necessary to run that program resides in conventional memory. When you leave a program resident to switch to another program (see *Switch Program in Shell Features*), the current program is either in conventional memory or swapped to one of several locations, depending on current operation mode and conditions.

The sections below describe several Shell startup options that help you control how Shell uses memory.

Default Mode

In its default operation mode, Shell uses any available expanded memory, hard disk space, and/or RAM drive space to swap programs. However, there must be more space available in these combined locations than in conventional memory (as is always the case) or the program is left in conventional memory.

Shell supports the Lotus/Intel/Microsoft (LIM) Expanded Memory Specification.

When swapping to one of these locations, expanded memory (if any) is used before hard disk or RAM drive space.

If you use the default mode, you can use the /o startup option to specify the drives (a maximum of two) you want Shell to use after it uses all available expanded memory. For example, you could specify a hard disk and a RAM drive or a local hard disk and a network hard disk. You can also use the /ne or /v startup option (see *Virtual Mode* below) if you do not want expanded memory used. For more information on startup options, see *Startup Options in Shell Features*.

Virtual Mode

Use the /v (virtual) startup option to run Shell in the virtual mode. In the virtual mode, Shell uses only hard disk and/or RAM drive space to swap programs. However, there must be more space available on the RAM drive and/or hard disk than in conventional memory or the program is left in conventional memory.

As with the /o startup option (see *Default Mode* above), you can use the /v startup option to specify the drive or drives (a maximum of two) you want Shell to use and limit their use to a specific number of kilobytes.

Conventional Mode

If you do not want Shell to use expanded memory or hard disk and/or RAM drive space for program swapping and want to use only conventional memory, use the /ne startup option.

Insufficient Memory

If there is not enough memory to swap a program while operating in any of the modes above, the following message is displayed:

ERROR: Insufficient memory

You will need to exit one or more resident programs before you start the new program (see *Using the Memory Map* below).

Using the Memory Map

Select Memory Map (5) from the Shell menu to display a screen similar to the one below.

Memory Map	
Program Description	Memory Used
1 DOS	9528
2 (Unknown Name)	11232
3 Loadhi	96
4 (Unknown Name)	2898
5 Shell	53744

Available Memory:	577212
Available Expanded Memory:	671244
Available Disk Space:	1832192

(Press any key to return to the shell)

Any currently active programs are listed by name in the top window in the order they were started. Programs or device drivers loaded into memory before starting Shell may appear as (Unknown Name) on the list. The amount of memory (number of bytes) used by each program is displayed to the right of each program name. An E appears next to any program currently swapped to expanded memory, and a D appears next to any program currently swapped to disk.

If there are more programs resident than can be displayed in the window, press Down Arrow (\downarrow) or Page Down (PgDn) to view the remaining programs.

The amount of available memory is displayed in a separate window below the program list. The amount of conventional DOS memory available is always listed. If you are operating in the default mode (/o), the amount of expanded memory (if any) and disk space is also displayed. If you are operating in the virtual mode (/v), the amount of available disk space is displayed.

Using the available memory information and the approximate memory specifications for the programs you use, you can determine which combinations of programs you can have resident at the same time. See *Program Memory Requirements* below for the memory requirements of WordPerfect Corporation programs. For the memory requirements of other programs, see their respective reference manuals.

After viewing the Memory Map, press any key to return to the Shell menu.

Program Memory Requirements

The table below lists the memory requirements for WordPerfect Corporation programs. The figures given are only approximations. The actual memory requirements may be slightly higher or lower, depending on the conditions under which the programs are operating.

Program	Memory Required
Shell	48K
DataPerfect 2.0	112K
DataPerfect 2.1	112K
DataPerfect 2.2	112K
DataPerfect 2.3	220K
DrawPerfect 1.0	384K
DrawPerfect 1.1	384K
WP Presentations 2.0	500K
LetterPerfect 1.0	330K
PlanPerfect 3.0	260K
PlanPerfect 5.0	384K
WordPerfect 4.2	196K
WordPerfect 5.0	384K
WordPerfect 5.1	384K

Program Information

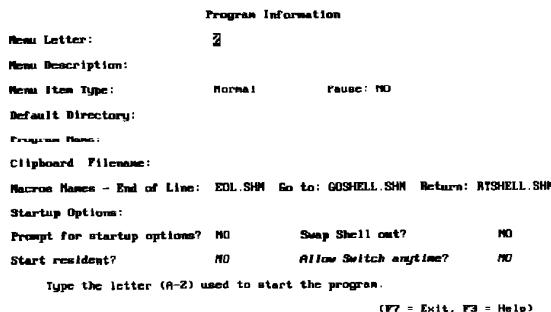
When you add a program or command to the Shell menu, you must enter the information Shell needs to display the item on the menu and to execute the program or command when you select that item.

Entering Program Information

To enter the program information for a new menu item,

- 1 Select Setup (4) from the Shell menu screen.
- 2 Use the arrow keys or type a menu letter to move to an empty item in the Setup menu.
- 3 Select Edit (1) or press **Enter** to display the Program Information screen for that letter.

You cannot display the Program Information screen for a program that is resident in memory.



- 4 Use **Down Arrow** (↓) or **Tab** to move forward through the Program Information options, and use **Up Arrow** (↑) or **Shift-Tab** to move backward through the options.

As you move from option to option, a help message about the current option is displayed at the bottom of the screen.

- 5 Enter the information necessary for the program or command you are adding.

The options you will need to use depend on the type of menu item you are adding. For details on which settings to use with a particular menu item, see *Program Information for Menu Item Types* in *Shell Features*. See *Program Information Options* in *Shell Features* for descriptions of the Program Information options and instructions on how to use them.

- 6 Press **Exit** (F7) twice to save the changes and return to the Shell menu.

Editing Program Information

You can follow the steps above to edit program information after you have entered it. While in the Program Information screen, you can use any of the following cursor movement and editing keys to edit text:

Name	Key
Character Left/Right	Left/Right Arrow (\leftarrow/\rightarrow)
Beginning/End of Line	Home, Left/Right Arrow (Home, \leftarrow/\rightarrow)
End of Line	End
Delete Character Left	Backspace
Delete Character at cursor	Delete (Del)
Delete to End of Line	Ctrl-End

If you begin typing before you use a cursor movement or editing key, the existing text is replaced by the text you type.

Canceling Changes

When editing a line of text, you can press Cancel (F1) to restore the original text, but you must do so before pressing Enter or moving to a different line.

To cancel all changes made since filling in the entire Program Information screen for a menu item, move to any setting and press Cancel before pressing any other key. (Pressing Cancel after you begin editing restores the original text for that setting only.) The original Program Information screen is restored, and you are returned to the Setup menu.

You can also cancel all changes made since you entered the Setup menu by pressing Cancel from the Setup menu, then typing **y** at the prompt.

Switching Program Information Screens

While editing a Program Information screen, you can press Page Down or Page Up to display the Program Information screen for the next or previous item on the menu. This also saves any changes you have made to the current Program Information screen.

Program Information for Menu Item Types

The type of Shell menu item you create determines what the settings for certain Program Information options should be and which options you can and cannot change. The sections below contain tables of the Program Information options and what settings for those options should be for specific menu item types.

For details on how to change the settings, see Program Information in Shell Features.

If the setting for an option that requires you to enter text is “Not applicable,” you cannot enter anything for that option. If the setting for any option is “Optional,” refer to the explanation of that option in *Program Information Options* in *Shell Features* to decide whether you need to use that option.

Normal Programs

To add a normal program (not a DOS command, DOS batch file, submenu, Shell macro, or heading) as a Shell menu item, include the following information on the Program Information screen:

Option	Setting
Menu Letter	Any nonduplicate letter
Menu Description	A description of the program
Menu Item Type	Normal
Pause	NO or YES
Default Directory	Optional
Program Name	The name of the executable (program) file
Clipboard Filename	Optional
Macro Names	Optional
Startup Options	Optional
Prompt for startup options?	NO or YES
Swap shell out?	NO or YES
Start resident?	NO or YES

DOS Command or Batch File

To add a DOS command or batch file of DOS commands as a Shell menu item, include the following information on the Program Information screen:

Option	Setting
Menu Letter	Any nonduplicate letter
Menu Description	A description of the command or batch file
Menu Item Type	DOS/Batch
Pause	NO or YES
Default Directory	Optional
Program Name	The name of the executable file
Clipboard Filename	Optional
Macro Names	Optional
Startup Options	DOS command parameters
Prompt for startup options?	NO or YES
Swap shell out?	NO or YES
Start resident?	NO
Allow switch anytime?	NO or YES

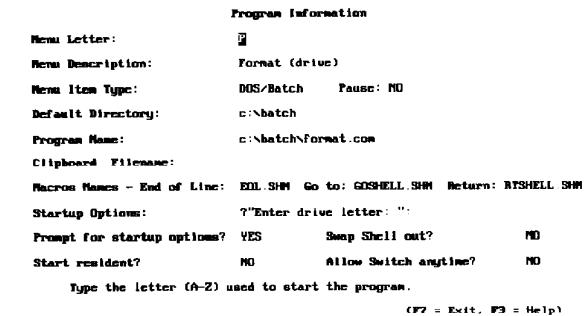
If the item is a DOS command (for example, FORMAT.COM), enter the parameters for that command (if any) on the Startup Options line. Set "Prompt for startup options?" to YES if you want to enter command parameters when executing the command. If the item is a batch file, do not enter anything on the Startup Options line and set "Prompt for startup options?" to NO.

Set "Prompt for startup options?" to YES or enter a prompt on the Startup Options line (see *Startup Options* in *Shell Features*) if you want to enter command parameters when executing the command.

The Go to DOS for One Command option on the Shell menu is simply a DOS/Batch item with nothing on the Program Name Line and a DOS Command: prompt on the Startup Options line.

For a DOS command or batch file menu item to work properly, you must have a COMMAND.COM file in your root directory. When you execute the DOS command or batch file from the Shell menu, Shell loads another copy of DOS to execute the command or batch file. When the command or batch file has been executed, you are returned to the Shell menu immediately if the Pause option in the Program Information screen is set to NO. If Pause is set to Yes, you are prompted to press any key to return to continue.

For example, the Program Information screen below is set up to execute the FORMAT.COM command when the user selects "Format (drive)" from the Shell menu.



Notice the message on the Startup Options line. When the user enters a drive letter at the prompt, a colon is added to the drive letter, and the result is passed to the format command as the command's parameters.

Submenu

If you run out of room on the Shell menu, you can create submenus for additional items. You can also use submenus to create separate menus for groups of similar items.

To add a submenu as a Shell menu item, include the following information on the Program Information screen:

Option	Setting
Menu Letter	Any available letter
Menu Description	A description of the submenu
Menu Item Type	Submenu
Pause	Not applicable
Default Directory	Optional

Option	Setting
Program Name	Not applicable
Clipboard Filename	Not applicable
Macro Names	Not applicable
Startup Options	Submenu filename
Prompt for startup options?	NO or YES
Swap Shell out?	Not applicable
Start resident?	NO or YES

When you select this item from the Shell menu for the first time after setting it up, the message "ERROR: File not found" may be displayed because you have not yet created the file for the new submenu. A blank Shell menu is then displayed.

Set up the submenu using the Setup feature (see *Setup* and *Program Information* in *Shell Features*). When you exit the submenu, any changes you made to the menu are saved in the file indicated by the filename on the Startup Options line.

Notice that you can only use the *filename*, */m-macro name*, and */n* startup options with a submenu. However, any other startup options that you included for the main Shell menu (*/c*, */o*, */v*, etc.) are used by the submenu.

Shell Macro

To add a Shell macro as a Shell menu item, include the following information on the Program Information screen:

Option	Setting
Menu Letter	Any available letter
Menu Description	A description of the Shell macro
Menu Item Type	Macro
Pause	Not applicable
Default Directory	Not applicable
Program Name	Full pathname of the Shell macro
Clipboard Filename	Not applicable
Macro Names	Not applicable
Startup Options	Optional
Prompt for startup options?	NO or YES
Swap Shell out?	Not applicable
Start resident?	NO or YES
Allow switch anytime?	Not applicable

The screen below is an example of how you might set up a Shell macro as a menu item.

```
Program Information
Menu Letter: H
Menu Description: Format a menu
Menu Item Type: Macro      Pause: NO
Default Directory: c:\dp23\macros
Program Name: menu.smc
Clipboard Filename:
Macro Names - End of Line: EOL.SWM Go to: GSHELL.SWM Return: RSHELL.SWM
Startup Options: ?"Include Date? (Y/N): "
Prompt for startup options? YES      Swap Shell out? NO
Start resident? NO      Allow Switch anytime? NO
Type the letter (A-Z) used to start the program.
(F7 = Exit, F3 = Help)
```

If there is any text you want to be able to use within the macro, you can enter text on the Startup Options line. You can also set "Prompt for startup options?" to YES and then enter the text when you start the macro.

The text you enter is assigned to macro variable 0 and can be used in the macro with the {VARIABLE}0 and {ALT-SHIFT-0} commands.

If you set "Start resident?" to YES, the macro is executed when you start Sh

Heading

You can create bolded headings in a Shell menu to set apart similar program display other types of information.

To create a bolded heading as a Shell menu item, enter the following information on the Program Information screen:

Option	Setting
Menu Letter	Space (leave blank)
Menu Description	The text of the heading
Menu Item Type	Normal
Pause	NO
Default Directory	Not applicable
Program Name	Must be empty
Clipboard Filename	Not applicable
Macro Names	Not applicable
Startup Options	Not applicable
Prompt for startup options?	NO
Swap Shell out?	Not applicable
Start resident?	NO
Allow switch anytime?	Not applicable

The menu description is displayed on the Shell menu as a bolded heading, without a menu letter. (If you use a menu letter for a heading, the letter appears next to the heading in the Setup menu, but not in the main Shell menu.)

Important: *For this menu item type to work properly, you must leave the Program Name line blank.*

Program Information Options

This section provides a description of each of the Program Information options. The options are listed in the order in which they appear in the Program Information screen.

See Program Information in Shell Features for instructions on how to display the Program Information screen for a particular program. Also, see Program Information for Menu Item Types in Shell Features for details on which of the options described below you should use with particular types of menu items.

Menu Letter

The menu letter is the letter that appears next to an item on the Shell menu. This is the letter you press from the Shell menu to select an item. To change the current menu letter, move to the Menu Letter option, then type a new letter.

You can also change the menu letter from the Setup screen (see Setup in Shell Features). While in the Setup screen, move to the item whose menu letter you want to change, then hold down Alt and type the new menu letter.

Menu Description

Use this option to enter the text (a maximum of 30 characters) you want to appear next to the menu letter on the Shell menu.

Menu Item Type

Shell must know what type of item a program or command is in order to execute it correctly. Move the cursor to the Menu Item Type setting, then type a letter from the list below to select the correct type.

If you type an invalid letter, the setting is not changed.

Letter	Setting
d	DOS/Batch (DOS command or batch file)
m	Macro (Shell macro)
n	Normal
s	Submenu

Normal (for normal programs) is the default setting for Menu Item Type. If you are adding a menu item that must be handled differently than a normal program, (not a DOS command, DOS batch file, submenu, Shell macro, or heading) select the appropriate item type. See *Program Information for Menu Item Types in Shell*

Features for an explanation of which menu item type you should select for various programs.

Pause

This option affects only Normal and DOS/Batch menu items. Type **y** to have Shell pause the program, DOS command, or DOS batch file after it has executed and prompt you to press any key to continue. Or type **n** to be immediately returned to the Shell menu when the program, command, or batch file is completed. The default setting is NO. The Pause option is useful for programs, commands, or files that perform a function and then exit (or quit) when that function is complete. If the program, command, or batch file displays the results of its function upon exiting, set Pause to YES to have Shell display that screen until you press any key to continue.

Default Directory

The directory you enter here becomes the default directory for this menu item. If you do not enter a default directory, the item uses the Shell default directory displayed at the bottom of the Shell menu.

Program Name

Use the Program Name line to enter the filename of the program (for example, DP.EXE), DOS command (for example, FORMAT.COM), DOS batch file (for example, PRINT.BAT), or Shell macro (for example, FIND.SHM) you are adding to the Shell menu.

If you do not include a path when entering the filename, Shell looks for the file in the current Shell default directory, and then in the directories specified with the DOS PATH command. It is a good idea to include the full pathname of the file (for example, c:\data\dp.com) so Shell will find the file even if you later change the default directory or PATH command.

Clipboard Filename

You can use the Clipboard Filename option to append to the Clipboard from programs that are not Shell-compatible (do not have a Shell feature with options for saving to the Clipboard).

Important: You can also use the Screen Copy feature to save text to the Clipboard from programs that are not Shell-compatible (see *Clipboard* in *Shell Features*). Using a Clipboard filename is simply an alternative to using Screen Copy.

To use this method of appending text to the Clipboard from a program, you must enter a filename on the Clipboard Filename line for that program. When you start the program, you can append selected text to the Clipboard file. When you switch programs or exit the program, the text in the Clipboard file is appended to the Clipboard. You can then retrieve the text from the Clipboard with the Clipboard Retrieve or Screen Retrieve feature (see *Clipboard* in *Shell Features*).

Macro Names

You can define an End of Line macro for a program to add specific characters to the end of each text line when you use Screen Retrieve in that program. You can also define Go to Shell and Return from Shell macros to make the Switch Pro-

feature (Ctrl-Alt-menu letter) work the same way in a program that is not Shell-compatible as in a program that is.

See Clipboard and Switch Program in Shell Features for details on the Screen Retrieve and Switch Program features.

Changing Macro Names

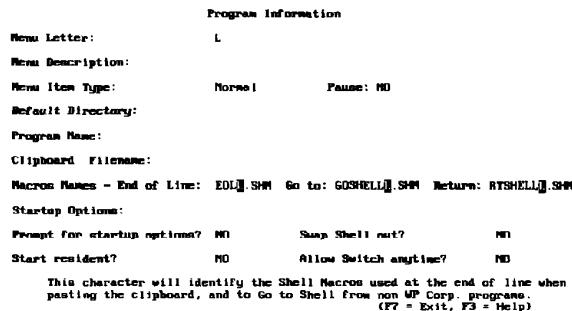
When you define an End of Line, Go to Shell, or Return from Shell macro for a program (see *Defining Special Macros* below), you must use the name that appears on the Program Information screen for that program. The pre-set macro names are listed below.

Macro Type	Macro Name
End of Line	EOLX.SHM
Go to Shell	GOSHELLX.SHM
Return from Shell	RTSHELLX.SHM

When you first enter information for a program, the X (the variable character) in each macro name above is usually the same as the menu letter for that program. If desired, you can change the menu letter to a different character (letter or number).

To change the variable character for the macro names,

- 1 Move the cursor to the Macro Names line.



Notice that the variable characters in all three macro names are highlighted. All three macro names use the same variable character.

- 2 Type the desired letter or number.

Press the Space Bar if you only want to clear the current character.

The character you type appears in all three macro names.

Whenever you use Screen Retrieve in a program, Shell looks for the End of Line macro name that appears on the Program Information screen for that program.

Whenever you use Switch program, Shell looks for the Go to Shell and Return from Shell macros specified on the Program Information screen for that program.

In stand-alone mode, Shell looks for the macro(s) first in the directory containing SHELL.EXE and then in the current default directory for the program you are using. In network mode, Shell looks for the macro(s) first in the directory containing the XXXSHELL.FIL file (where XXX represents your file ID) and in the current default directory for the program you are using. Shell executes macro(s) if it finds them.

If no variable character is specified in the macro name, the program does not look for a macro.

Defining Special Macros

To define an End of Line, Go to Shell, or Return from Shell macro,

- 1 Press **Define Shell Macro** (Ctrl-Shift-F10) from the Shell menu or from the program running under Shell.
- 2 Enter **eolx** (where x is a letter or number) as the macro name if you are defining an End of Line macro.

or

Enter **goshellx** (where x is a letter or number) for a Go to Shell macro.

or

Enter **rtshellx** (where x is a letter or number) for a Return from Shell macro.

Shell adds the .SHM extension to the macro filename.

- 3 Enter a description.

or

Press **Enter** to bypass the description.

- 4 Press the necessary keystrokes (see *End of Line*, *Go to Shell*, and *Return from Shell* below).

- 5 Press **Define Shell Macro** again to end macro definition.

You can define a separate End of Line, Go to Shell, and Return from Shell macro for each program on the Shell menu. You can also use one macro with more than one program by specifying that macro name on the Program Information screen for all the desired programs.

End of Line

When defining an End of Line macro for the Screen Retrieve feature, press the necessary keystrokes (for example, Tab, Hard Page) and/or type the characters you want added to the end of each line.

Go to Shell

You can define a Go to Shell macro to use Switch Program with a program that is not Shell-compatible. However, the program must have a way to go to DOS or execute a single DOS command without exiting the program.

It is usually easiest to define a Go to Shell macro from within the program you are defining it for. After entering the macro name and description, press the keystrokes that take you to DOS or let you execute a single DOS command (for example, the RUN SHELLDOS command for dBASE or the /s command for Lotus 1-2-3).

When running a program from Shell, pressing the keystrokes to go to DOS returns you to Shell.

Defining a Go to Shell macro for a program is usually sufficient to make the Switch Program feature work. However, a Return from Shell macro is necessary for some programs (see *Return from Shell* below).

Return from Shell

You need to define a Return from Shell macro for a program if you cannot return directly back to that program by simply selecting that program from the Shell menu. For example, some programs return you to DOS where you must enter an additional command to return to the program.

When defining a Return from Shell macro, press the keystrokes you would normally press to return to the program from Shell (only the keystrokes you must press *after* selecting that program from the Shell menu).

Startup Options

You can use the Startup Options line to include startup options for a program, to include parameters for a DOS command, or to include text you want stored in a Shell macro variable.

See Startup Options in Shell Features for the startup options you can use with Shell and for an explanation of how to use startup options.

The Startup Options line can contain 30 characters. If you run out of room, you can also set "Prompt for startup options?" to YES (see *Prompt for Startup Options* below) and enter the remaining startup options, parameters, or text when you select the item from the Shell menu.

If you want to be able to enter different startup options, parameters, or text each time you start a program, execute a DOS command, or execute a Shell macro, you can either set "Prompt for startup options?" to YES (see *Prompt for Startup Options* below), or you can create your own customized prompt on the Startup Options line. Shell then displays the prompt and waits for input when you select the item from the Shell menu. Creating a prompt on the Startup Options line is especially useful when you only need to change part of a startup option or parameter, or part of some text.

To create a prompt on the Startup Options line, type a question mark (?) followed by the text of the prompt in quotes (""). For example, if you want to be able to

access any of the database panels directly, you could enter ?"Panel Number:" Startup Options line. Then, whenever you start DataPerfect from the Shell menu, Shell pauses, displays the Panel Number: prompt, and waits for you to enter a number. The number you enter replaces the entire prompt on the Startup Options line and in this case is used as the panel number parameter of the /p=panel number startup option.

If you include more than one prompt on the Startup Option line, Shell will pause and display the prompts in the order they were entered.

Prompt for Startup Options

If the "Prompt for startup options?" setting is Yes, Shell displays the "Enter options:" prompt each time you start that program. Shell then waits for you to enter startup options (as many as 60 characters). The startup process continues as you press Enter.

Whenever you enter text at the options prompt for a particular menu item, Shell records the text you enter in a special buffer. If you start that program again or exit the program, the last text you entered appears at the "Enter options:" prompt.

As you continue to use the prompt for startup options with this menu item, each line of text you enter is recorded separately in the buffer. The buffer can hold 256 lines of normal characters of information. If the buffer is full when you enter startup options at the "Enter options:" prompt, Shell deletes the oldest set of text to make room for the new one. Entries are stored separately for each Shell menu item's prompt for startup options. All startup options buffers are cleared when you exit the Shell.

If you create your own prompt on the Startup Options line (see Startup Options above), the Startup Options buffer also stores text entered from that prompt.

Use the following keys to view and edit the startup options entries displayed at the "Enter Options:" prompt.

Action	Keystroke
Previous/Next Entry	Up/Down Arrow (\uparrow/\downarrow)
Delete Current Entry	Ctrl-Page Down (Ctrl-PgDn)
Delete All Entries	Ctrl-Page Up (Ctrl-PgUp)
Clear Line	Escape (Esc)
Execute and Save Entry	Enter
Execute Entry	Ctrl-Enter

Action	Keystroke
Previous/Next Entry	Up/Down Arrow (\uparrow/\downarrow)
Delete Current Entry	Ctrl-Page Down (Ctrl-PgDn)
Delete All Entries	Ctrl-Page Up (Ctrl-PgUp)
Clear Line	Escape (Esc)
Execute and Save Entry	Enter
Execute Entry	Ctrl-Enter

If desired, you can set "Prompt for startup options?" to YES and include startup options on the Startup Options line (see *Startup Options* above). If you do, the options on the Startup Options line will be inserted in the command line before the text you enter at the "Enter options:" prompt.

Swap Shell Out

By default (when "Swap Shell out?" is set to NO), the Shell program stays resident in memory and uses about 48K of random access memory (RAM) when you start a program from the Shell menu. If you do not have sufficient memory to start a particu-

program or use certain features in a program while Shell is resident, you can set “Swap Shell out?” to YES to swap the Shell program to disk when you start that program, thus freeing up the memory usually used by Shell.

However, if you set “Swap Shell out?” to YES for a program, you will not be able to use any Shell features while in that program. You will not be able to use Switch Program, Go to Shell, the Shell Clipboard, or Shell macros. To return to the Shell menu or use any Shell features, you must exit the program.

If you only need the additional memory occasionally (for example, to print a very large document in DataPerfect), you may want to create two menu items for the same program. Set “Swap Shell out?” to NO for the first menu item and use that item for most of your work. Then set “Swap Shell out?” to YES for the second item and use it only when you need the additional memory. This way, you have the Shell features available most of the time.

Start Resident

If you set “Start resident?” to Yes, a plus sign (+) appears next to that item in the Setup menu indicating that the item will be loaded into memory each time you start Shell. You should only set WordPerfect Corporation programs to start resident.

You can also change the “Start resident?” setting from the Setup menu by moving to a menu item, then typing a plus sign (+).

If you set a program on the main Shell menu to start resident, that program is loaded into memory when you start Shell. If you want a program on a submenu to start resident, you must set both the program and the submenu to start resident.

When a program or submenu is set to start resident, an asterisk (*) appears next to that item in the menu after you start Shell to indicate that it has already been loaded into memory.

You can also set Shell macro menu items to start resident. A Shell macro that is set to start resident is executed as soon as you start Shell if the macro is on the main Shell menu or as soon as you start the submenu on which the macro is a menu item.

Allow Switch Anytime

By default (when “Allow switch anytime?” is set to No), you can use the Switch Program feature from within WordPerfect Corporation programs anywhere you can use the Go to Shell feature (Ctrl-F1,1). You can also use Switch Program within non-WordPerfect Corporation programs by defining a Go to Shell macro for each of those programs (see *Macro Names* under *Program Information Options* in *Shell Features*).

If you set “Allow switch anytime?” to YES, you can use Switch Program from almost any location in any program, including non-WordPerfect Corporation programs.

With certain programs and certain graphics cards, however, you may experience display problems while using Switch Program with “Allow switch anytime?” set to YES. If you experience any display problems, such as the screen going blank when you switch to a program, try setting “Allow switch anytime?” to NO to correct the problem. You only need to set “Allow switch anytime?” to NO for those programs (if any) in which you experience display programs with the Switch Program feature.

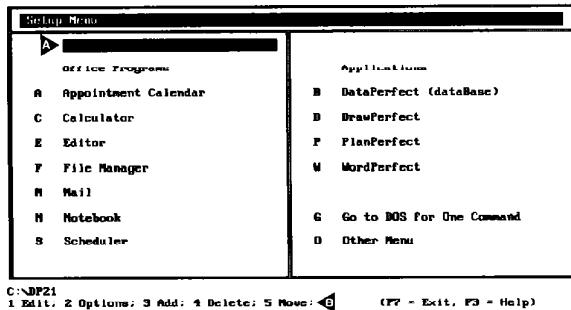
Setup

With the Setup options you can change the Shell menu and the default setting for several Shell features.

Select Setup (4) from the Shell feature menu to display the Setup menu. The "Setup Menu" appear in the Shell menu header, and the menu letters for any menu items appear. Also, the Setup options appear at the bottom of the screen.

If the "Enter Password:" message is displayed when you select Setup, the Setup feature has been protected with a password (see Password below).

- ▲ EMPTY ITEM
- ▲ SETUP OPTIONS



Four of the Setup options (Edit, Add, Delete, and Move) are used to make changes to the Shell menu (see *Shell Menu Setup* below). Use Options to change the default settings for several Shell features (see *Shell Menu Setup* below).

Settings you change with the Setup feature are saved in a Setup file and remain in effect until you change them again. If you are on a network, the Setup file is called XXXSHELL.FIL (where XXX represents your file ID). If you are using WordPerfect Office PC on a stand-alone machine, the Setup file is called SHELL.FIL.

If you use the /ps-pathname (path to Setup file) startup option (see *Startup Options in Shell Features*), Shell looks for the Setup file only in the directory you specify. If the Setup file is not found in the directory specified with the /ps-pathname option, a new Setup file is created in that directory.

If you do not use the /ps-pathname startup option, Shell looks for the Setup file in the current default directory, then in the directory containing the Shell program file (SHELL.EXE), and finally in the directories in your DOS path. If the Setup file is not found in any of these locations, a new one is created in the directory containing the Shell program file. If for any reason the file cannot be created in that directory, it will be created in the current default directory.

Shell Menu Setup

Use the options described below to edit the Shell menu. If you decide you don't want to change the Shell menu after you begin editing it, press Cancel (F1), then type y for YES at any time before exiting the Setup feature to restore the original Shell menu.

Edit

Selecting the Edit option displays the Program Information screen. You use this screen to enter the information Shell needs to start a specific program or execute a specific command.

From the main Shell menu,

- 1** Select Setup (4) to display the Setup menu.
- 2** Use the arrow keys or type a menu letter to move to the menu item you want to edit.

or

Move to an empty line if you are creating a new menu item.

- 3** Select Edit (1) or press **Enter** to display the Program Information screen.

Shell will not let you edit a menu item that is currently resident in memory (resident programs are marked with an asterisk on the Shell menu).

Use Down Arrow (↓) or Tab to move forward through the Program Information settings, and use Up Arrow (↑) or Shift Tab to move backward through the settings. As you move through the settings, a help message explaining each setting is displayed at the bottom of the screen.

Press Help (F3) to display additional information about the Program Information screen or see *Program Information Options* in *Shell Features*.

- 4** Edit or enter the program information for the menu item.
- 5** Press **Exit** (F7) to save any changes and return to the Setup menu.
- 6** Press **Exit** again to return to the Shell menu.

Add

Use this option to add (insert) a space for a new menu item. From the main Shell menu,

- 1** Select Setup (4) to display the Setup menu.
- 2** Use the arrow keys or type a menu letter to move to where you want to insert a space for a new menu item.
- 3** Select Add (3).

When you select Add, a space is inserted and any menu items below the space are moved down one space. There must be at least one empty space at the bottom of the Shell menu for Add to work. Also, Shell will not let you add a space if the cursor is resting on a program that is resident in memory or if any programs below

the cursor are resident in memory (resident programs are marked with an asterisk on the Shell menu).

- 4 If you select Add just to move the existing items down one space, press **Enter** (F7) to return to the Shell menu.

or

If you select Add to make room for a new menu item, follow steps 3 through 6 under *Edit* above to add the item.

Delete

Use this option to delete a menu item or menu item space. From the main Shell menu,

- 1 Select Setup (4) to display the Setup menu.
- 2 Use the arrow keys or type a menu letter to move to the menu item or space you want to delete.
- 3 Select Delete (4) to delete the item and move all items below up one space.

or

Press **Ctrl-End** to delete the item and leave the space blank.

You cannot use the Delete option with a menu item that is resident in memory or with a cursor resting above any items that are resident in memory (resident programs are marked with an asterisk on the Shell menu).

Shell asks if you really want to delete this item.

- 4 Type **y** for YES to delete the item.

or

Type **n** for NO to cancel the deletion and return to the Setup menu.

Important: When you delete an item, you also delete all the information on that item from the Program Information screen.

- 5 Press **Exit** (F7) to save the changes and return to the Shell menu.

*You can press Cancel (F1), then type **y** to exit Setup without saving any changes. This will not restore any menu items you deleted or modified since selecting Setup.*

Move

You can use this option to move a menu item to a new location, create a duplicate menu item, or swap the locations of two menu items. When you move a menu item, the menu letter is also moved.

From the main Shell menu,

- 1 Select Setup (4) to display the Setup menu.

- 2** Use the arrow keys or type a menu letter to move to the menu item or space you want to move.
- 3** Select Move (5).
- 4** Type the letter to which you want to move, copy, or swap the item.
If more than one location has the letter you type, Shell displays different letters for each of these locations and asks you to select a letter again.

5 Select Move (1) to move the item to the specified menu letter.

or

Select Copy (2) to create a duplicate of the item at the specified menu letter.

or

Select Swap (3) to swap the current item with the item at the specified menu letter.

If you select Move or Copy and an item already exists for the specified menu letter, Shell asks if you want to overwrite that entry. Type **y** for YES to overwrite (replace) the entry, or type **n** for NO to cancel the move or copy command.

6 Press **Exit** (F7) to return to the Shell menu.

Shell Feature Setup

To change the default settings for Shell features,

- 1** Select Setup (4).
- 2** Select Options (2) to display the Options menu.
- 3** Select an option and make the necessary changes (the options are described below).
- 4** Press **Exit** (F7) to save the changes and return to the Shell menu.

or

Press **Cancel** (F1), then type **y** to exit Setup without saving any changes. This will restore the settings that were in effect before you selected Setup.

Any settings you change remain in effect until you change them again.

Colors

If you have a color monitor, this option lets you change the display colors for Shell (see *Colors* in *Shell Features* for details).

Date Format

Shell displays the current date and time in the heading of the Shell menu. Use the Date Format option to change the display format of the date and time.

- 1** Select Date Format (2) from the Options menu.

- 2** Enter a new format string (as many as 29 characters) using the special characters displayed on the screen. Include in the format string any text characters (such as spaces, commas, and colons) you want displayed with date and time.

Several examples of date formats are displayed on the Date Format screen. The default date format is 6, 3 1, 4 8:90.

Menu Title

The menu title is the title displayed in the heading of the Shell menu. To change the menu title,

- 1** Select Menu Title (3) from the Options menu.

- 2** Enter a new title (as many as 30 characters).

or

Edit the existing title, then press **Enter**.

When editing the title, use Right Arrow (\rightarrow) and Left Arrow (\leftarrow) to position the cursor, and use Backspace and Delete (Del) to delete characters.

Screen Save

Displaying the same screen for long periods of time can leave a *ghost* of that screen etched in the monitor screen. If you display the Shell menu (or submenus) or a screen for long periods of time, you can use Screen Save to protect your monitor screen. Screen Save causes the screen to go blank if no keystrokes are pressed within a specified time period. You can then press any key to redisplay the Shell menu screen.

Make sure that the Swap Shell Out option on the Program Information screen is set to No for any program you want affected by Screen Save.

- 1** Select Screen Save (5) from the Options menu.

- 2** Enter the number of minutes (1 to 255) you want to elapse before the screen goes blank.

or

Enter 0 (zero) to turn off Screen Save. (This is the default setting.)

Macro Directory

Use this option to indicate where you want Shell to store Shell macros you define. The pathname you enter for Macro Directory also indicates where Shell will look for macros you attempt to execute under certain conditions. For complete details on how Macro Directory is used when defining and editing Shell macros, see *Macros in Shell Features*.

To change the Macro Directory setting,

- 1** Select Macro Directory (6).

- 2 Enter the full pathname of your Shell macro directory (for example, c:\data\macros).

The Macro Directory setting can contain 24 characters.

Password

On a network, this option is designed primarily for use by the system administrator. Using Password, the system administrator can set up the Shell menu for all users and then lock it with a password so the menu cannot be changed by users.

If you are on a network and your system administrator has protected Setup with a password, you can still access Options from the Setup menu to change the Colors, Date Format, Menu Title, Work Log Setup, Screen Save, and Macro Directory settings. Select Setup (4), then press **Enter** when prompted for the Setup password. The message "ERROR: Invalid Password" appears, then the Setup menu appears with only the Options option displayed. You can then select Options (2) to display the Setup options (except Password and Go to DOS).

If you are using WordPerfect Office on a stand-alone machine, or if you are on a network and Setup is not already password-protected, you can assign a password to protect your Setup settings from unwanted changes.

- 1 Select Password (7) from the Options menu.
- 2 Enter a password (as many as 8 characters).

The Password feature is not case-sensitive. It doesn't matter whether you use uppercase or lowercase letters when defining, and later entering, the password.

The characters do not appear as you type them, so you are asked to re-enter the password to verify that you entered it correctly.

- 3 Enter the password again.

After you exit Setup, you will be prompted for the password each time you or someone else selects Setup.

Important: *Please note that if you forget the password, there is absolutely no way to access the Setup feature without creating a new Shell menu.*

If you want to later remove the password,

- 1 Select Setup (4) from the Shell menu screen, then enter the password to display the Options menu.
- 2 Select Options (2), then select Password (7).
- 3 Press **Enter** twice.
- 4 Press **Exit** (F7) twice to return to the Shell menu.

Allow Go to DOS

On a network, the Allow Go to DOS option (like Password) is designed primarily so the system administrator can decide whether the user should be allowed to use the Go to DOS (1) option at the bottom of the Shell menu.

To change the Go to DOS setting,

1 Select **Allow Go to DOS (8)** from the Options menu.

2 Type **y** to turn on the Go to DOS feature. (This is the default setting.)

or

Type **n** to disable the Go to DOS feature.

If you disable the Go to DOS feature and do not want the user to be able to turn it on again, be sure to assign a password to Setup (see *Password* above).

Important: *The Allow Go to DOS option does not affect the Go to DOS for One Command option on the default Shell menu (SHELL.NEW). If you don't want users to be able to run DOS at all from the Shell menu, be sure to delete the Go to DOS for One Command icon from the default Shell menu.*

Hotkey Assignments

There are three Shell features you can access from any program you start from the Shell: Switch Program, Execute Shell Macro, and Define Shell Macro. You can access these features by pressing specific keystrokes called hotkeys. The default hotkeys for these features are listed below.

Feature	Default Hotkey
Switch Program	Ctrl-Alt- <i>menu letter</i>
Execute Shell Macro	Alt-Shift- <i>letter</i> or Alt-Shift-F10
Define Shell Macro	Ctrl-Shift-F10

*For complete details on these features, see **Switch Program and Macros**, both in the Shell Reference.*

If for some reason these default hotkeys are not convenient for you, you can define hotkeys of your own with the Hotkey Assignments option. The two most common applications for defining custom hotkeys are described below.

- If a program running under Shell uses one of Shell's hotkeys, you can define a custom Shell hotkey to avoid Shell overriding the other program's features.
- With many non-English keyboard drivers, you access extra characters by pressing the Alt key in combination with other keys. To avoid confusion, you could define custom Shell hotkeys that do not include Alt.

Defining Custom Hotkeys

When you define a custom hotkey, you define what keys should replace the first two keys in each default hotkey sequence. In other words, you define which keys should replace Ctrl-Alt in Ctrl-Alt-*menu letter*, Alt-Shift in Alt-Shift-*letter*, and Alt-Shift-F10, and Ctrl-Shift in Ctrl-Shift-F10.

A custom hotkey must be a single command key or a combination of command keys followed by a letter from A to Z. You can use any combination of command keys, provided at least one of the keys is Ctrl or Alt. For example, each of the following is a valid custom hotkey:

- Ctrl-a
- Alt-b
- Ctrl-Alt-c
- Ctrl-Shift-d
- Alt-Shift-q
- Ctrl-Alt-Shift-f

If you have mapped an international character to a keystroke combination (Ctrl plus a letter or Alt plus a letter) and you define the same keystroke combination for a custom hotkey, the hotkey definition will override the international character mapping whenever you use that keystroke.

Some WordPerfect products, other than DataPerfect, support Alt macros (for example, Editor and WordPerfect). If you define the Alt-letter keystroke for a custom hotkey and you use it in a program that supports Alt macros, the custom hotkey will override the macro that uses the same keystroke.

To define custom hotkeys,

1 Select **Hotkey Assignments (9)** from the Options menu.

The cursor moves to the Standard Shell Hotkey Enabled option. If this option is set to Yes, all default Shell hotkeys are enabled (active), but a default hotkey is overridden if you replace it with a custom hotkey. If the Standard Shell Hotkey Enabled option is set to No, all default Shell hotkeys are disabled. This means that the only way you can perform the function assigned to one of the default hotkeys is to define a custom hotkey for that function.

2 Type **y** if you want all default Shell hotkeys enabled.

or

Type **n** if you want all default Shell hotkeys disabled.

The cursor moves to the next option.

As mentioned previously, the last three Hotkey Assignments options let you define custom hotkeys for the Switch Program (Ctrl-Alt), Execute Shell Macro (Alt-Shift), and Define Shell Macro (Ctrl Shift) hotkeys.

To use the Custom Hotkey for the Ctrl-Alt (Switch Program) option,

3 Press **Enter** to preserve the current setting.

or

Press **Delete** (Del) to restore the NONE setting and use the default hotkey.

or

Hold down one or more command keys and type a letter from A to Z to define a custom hotkey (see examples in the above list). If you enter a valid keystroke, it appears next to the custom hotkey option. If you enter an invalid keystroke, nothing appears next to the option.

4 Repeat step 3 above for the Custom Hotkey for Alt-Shift (Execute Shell Macro) and the Custom Hotkey for Ctrl-Shift (Define Shell Macro) options.

Using Custom Hotkeys

As mentioned previously, when you define a custom hotkey, you are only defining what will replace the first two keys in the default hotkey. The final key you must press (for example, *menu letter* in Ctrl-Alt-*menu letter*, *letter* in Alt-Shift-*letter*, and F10 in Alt-Shift-F10 and Ctrl-Shift-F10) remains the same whether you are using a default or custom hotkey. The way you use a custom hotkey, however, differs slightly from the way you use a default hotkey.

When you use a default hotkey, you press all the keys at once as a single keystroke. For example, to define a Shell Macro using the default hotkey, hold down the Ctrl and Shift keys while pressing the F10 key.

With a custom hotkey, you must press the custom hotkey sequence, release those keys, and then press the final key. For example, if you defined Alt-Shift-F10 as the custom hotkey for Ctrl-Shift, to begin defining a Shell Macro you would press Alt-S, release those keys, and then press F10.

Startup Options

Several options can be included when you start the Shell program. Enter any of these options when you start the Shell from the DOS prompt (for example, shell/n/m=colors/ns) or include them with the SHELL command in your AUTOEXEC.BAT file. For details on creating an AUTOEXEC.BAT file, see *Installing Shell and the Shell Macros* in *Shell Installation and Operation*.

Only three of the startup options (filename, /m, and /n) can be used from within the Shell, and only then if you are loading a submenu of Shell.

filename

The filename option loads the program, then immediately retrieves the Shell specified by *filename* to the screen.

/c-n

The */c-n* option allocates a minimum of 1K and a maximum of 5K of memory to the Clipboard. *The n represents the amount of memory in kilobytes (1K = 1024 bytes).* The default amount allocated to the Clipboard is 1K.

/d-pathname

The */d-pathname* option redirects all temporary files for the Shell program to the directory indicated by *pathname*.

/m-macro name

The */m-macro name* option executes the Shell macro specified by *macro name* as soon as Shell starts.

/n

The */n* option starts Shell, but does not start any programs set to start resident.

/na

This option turns off Bold and Underline in Shell prompts. Some graphic cards have problems interpreting the Bold and Underline attributes. Use the */na (no attributes)* option if you experience display problems with Shell prompts that come up in programs running under Shell (for example, Screen Copy or Shell macro prompts).

/ne

The */ne* option starts Shell, but any available expanded memory is not used. If you do not use this option or the */v* option, Shell makes full use of any available expanded memory.

/nf

The */nf* option must be used with some compatibles and windowing programs (other than TopView). This is the “non-flash” version of Shell and should be used if text is displayed over the window or if the screen goes blank from time to time.

/ng

If you have a Hercules or compatible graphics card and the Screen Copy feature (Alt-Shift-*–*) does not work, you can use the */ng (ignore graphics card)* option to make Screen Copy work.

You cannot use Screen Copy in a graphics mode, and some Hercules or compatible graphics cards make Shell think it is in a graphics mode when it is not.

/no

The */no* option causes Shell to use only the available conventional memory for switching between programs.

/ns

The /ns option starts the non-sync version of Shell by inhibiting synchronization of output to color monitors. It speeds up display on color monitors, but may cause some snow on some.

/nt-x

The /nt-x option lets you specify a network type where x is the network number letter WordPerfect Office uses to identify a specific network software. See your system administrator if you need to use this option but do not know the number letter of your network software.

/o-[limit];path[limit];path[limit]

The /o-[limit];path[limit];path[limit] option causes Shell to use available expanded memory, RAM drive, and/or hard disk space when switching between programs. It also lets you specify the location of and limit (in kilobytes) the use of each of these resources.

If you do not use this option, Shell uses all available expanded memory and available disk space on the drive from which you are running Shell.

The portion of this option following the dash is divided into three parts, separated by semicolons. Use of each of the three parts is optional. If you want to limit the use of expanded memory, specify a *limit* within brackets immediately after the first part (for example, /o-[limit]). If you include one or both of the next two parts, each must include a *path*. Enter the path to a RAM drive or to a hard disk for each. You have the option of specifying a limit for each drive.

/ps-pathname

When you change the default Setup settings in Shell, the changes are saved in the Setup file. You can use the /ps-pathname (path to Setup file) option to have Shell save and subsequently look for the Setup file in the directory you specify.

If you are on a network, the Shell Setup file is named XXXSHELL.FIL (where XXX represents your file ID) and is saved to the current default directory. If you are using WordPerfect Office PC on a stand-alone machine, the Shell Setup file is named SHELL.FIL and is saved to the directory containing the Shell program file (SHELL.EXE).

If you are on a network, you should always use the /ps-pathname option so you know where your Setup file is and can always be sure Shell is using the correct Setup file.

/sa

The /sa (stand-alone) startup option starts Shell in stand-alone mode, even in a network environment.

/ss-rows,columns

The /ss-rows,columns option lets you specify the number of rows and columns you want displayed on the screen. Generally, Shell automatically detects the correct number of rows and columns. However, with some monitors it is unable to determine the number of rows. This option lets you specify the correct number of rows for your monitor.

/v-path[limit];path[limit]

The /v-path[limit];path[limit] option causes Shell to use RAM drive and/or hard disk space only (no expanded memory) for switching between programs. (If you do not include the information following the dash, Shell uses the drive from which you are running Shell.) It also lets you specify the location of and limit (in kilobytes) the use of each resource specified. For each path, enter the path to a RAM drive or your hard disk. You can specify a limit for each drive.

/w-xx

The /w-xx option lets you allocate more memory than normal for executing Shell macros. The xx specifies the amount of memory allocated for Shell macros in kilobytes (1K = 1024 bytes). The default amount the program uses is 6K. You can enter a minimum of 2K and a maximum of 30K.

Switch Program

Using the Switch Program feature, you can switch programs (leave a program resident in memory while starting another) by returning to the Shell menu, then selecting another menu item or Shell feature. You can also use the Switch Program feature to switch directly from any program to any other program on the same Shell menu or to any of the Shell options (such as Go to DOS or Memory Map).

To use Switch Program, press Ctrl-Alt-x (where x is the Shell menu letter or option number of the program or Shell feature you want to switch to). You can also press Switch to Shell (Ctrl-Alt-Space Bar) to simply return to the Shell menu.

You can also use the Alt-Shift-x keystroke to switch to a different program, as in earlier versions of WordPerfect Office. However, because the Alt-Shift keystroke is also used to start Shell macros, Shell looks first for a Shell macro assigned to that keystroke. If a Shell macro is found, Shell executes the macro. If no macro is found, Alt-Shift-x works the same as Ctrl-Alt-x. To ensure that you always switch programs when you want to, we recommend that you always use the Ctrl-Alt keystroke to switch between programs.

For example, to switch to DataPerfect from the current program, you would press Switch to DataPerfect (Ctrl-Alt-d if D is the menu letter for DataPerfect). To switch to Memory Map from the current program, you would press Ctrl-Alt-5.

The locations within a program where you can use Switch Program depend on the “Allow switch anytime?” setting on the Program Information screen (see *Allow Switch Anytime* under *Program Information Options* in *Shell Features*).

Display Problems

If you experience display problems when you switch from a program and then come back to that program (in other words, the screen is not restored when you return), you need to set “Allow switch anytime?” to NO on the Program Information screen for the program in which you experience the display problem (see *Allow Switch Anytime* under *Program Information Options* in *Shell Features*).





Appendix A: Convert

The CONVERT.EXE file is located on the diskette that contains the utility programs. CONVERT.EXE converts files from other formats to WordPerfect merge format, and vice versa.

To use the Convert program,

- 1 If you are using a hard disk drive system, change to the drive or directory where the CONVERT.EXE file is located.

or

If you are using a two disk drive system, change to the drive or directory the files you are converting are located and insert the utilities diskette into A.

- 2 If you are using a hard disk drive system, type **convert** at the DOS prompt then press **Enter**.

or

If you are using a two disk drive system, type **a:convert** and press **Enter**.

- 3 Enter the path and name of the file to be converted (input file) (such as NAME.TXT).

- 4 Enter the path and name for the converted (output) file (such as NAME.DIF). The input and output filenames must be different.

When entering the input and output filenames, you can use the question mark (?) and asterisk (*) as wildcard characters to create a filename pattern. For example, to convert all of the files in a directory that end with a .DOC extension, type *.* for the input filename.

- 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 *Data Import* 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 is used to separate records).

When you select this option, you are prompted 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 perform 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 (in other words, C:\DATA).
- 2 At the DOS prompt, enter **convert <input filename> <output filename> <n> <field delimiter> <record delimiter> <delete characters>** (where n represents the desired Convert 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>** (where n represents the desired Convert 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.

Appendix B: Description Language (DPEXP and DPIMP)

Description Language is the term used to describe the .STE file (a text file that defines the database structure). It is produced by an export program (DPEXP) 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.

Important: *Editing the .STE in a text editor can damage the structure of your database. You should make a backup copy of the database before editing the so that if your structure file is damaged, you can restore from the backup. WordPerfect Customer Support is unable to fix a structure file damaged by ed*

Note to Users of Non-English Versions	Do not translate the Description Language of the .STE file into your language doing so, you will be unable to interchange database descriptions with users of other language versions of DataPerfect.
Exporting a Database Structure	<p>To convert a DataPerfect database structure to the readable form of the .STE file:</p> <p>1 Make a backup copy of your database (see <i>Appendix I: Utilities—DPBac</i>). Be sure you are in the directory in which the DataPerfect program files are located, then follow the steps below.</p> <p>2 At the DOS prompt, type dpexp and press Enter. The database list is displayed.</p> <p>3 If necessary, select Change Directory (I) to move to the directory where the desired database is located.</p> <p>4 Move the cursor to the name of the database you want to export, then press Enter.</p> <p>As the file is exported, it scrolls on the screen. When the export is finished, the DOS prompt returns to the screen.</p> <p>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 (.STR) is retained on the disk. The copy can be retrieved into a text editor (such as 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, use the Save As option and save the .STE file as Generic to ensure that it can be imported properly.</p>

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 name of 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 .IND file.

7 Import any data files you have exported (see *Data Import* in Reference).

The database is now ready for use.

.STE File Information

The .STE file is divided into five sections:

- A description of general 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. 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_LINES:NO
MONTHS:~JANFEBMARAPRMayJUNJULAUGSEPOCTNOVDEC~
```

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 in 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
1 = blue
2 = green
3 = cyan
4 = red
5 = magenta
6 = brown
7 = white
8 = gray
9 = light blue
10 = light green
11 = light cyan
12 = light red
13 = light magenta
14 = yellow
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 *Color* 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* in *Reference* for more information.

DEF.COMMA:

Specifies the character to be used as the thousands separator in G Type number field formats (if the format does not contain that specification). A comma (,), default thousands separator.

Example:

DEF.COMMA:,

See *Format Defaults* 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* 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* 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* in *Reference* for more information.

MONTHS:

Gives the three-letter abbreviations used in the report format DZ9MON9999. Abbreviations are delimited by tildes (~).

Example:

**MONTHS:~JANFEBMARAPRMAPYJUNJULAUGSEP
OCTNOVDEC~**

See *Format Defaults* in *Reference* for more information.

AUTO.HELP

If displayed, specifies that Auto-Help is on.

See *Help, Auto* 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* 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  
224 227 235 228 230 245 225 244 229 243  
CTRL.MAP:158 136 137 138 5 163 129 161 162 167 160 186 130 147 148  
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 *Character*

Map 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 locate 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.

CP.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 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 90 123 124 125 126 127 128 154 144 131 142 133 143 128 130 137 138 139 140 141 142 143 144 146 146 147 153 149 150 151 152 153 154 155 156 157 158 159 150 141 141 129 145 165 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
--

SORT: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

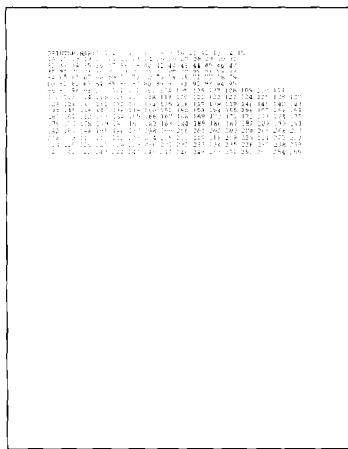
The tables above map the standard international characters correctly.

See *Sort Order and Characters, Uppercase in Reference* for more information.

PRINTER.MAP

If your printer does not print a specific character you need (for example, 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.



See *Character Map* 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 YES WIDTH=77 HEIGHT=14 RECORDSIZE: 169 COLORS=7 112 15  
AUTO,LOOK  
BROWSE,CHANGE,EDIT  
PANEL,TEXT:  
~CR  
~Customer ID ~ RF:1;5 CR  
~Last Name ~ RF:2;20 ~ First ~ RF:3;15 ~ Middle ~ RF:4;15 CR  
C3  
~Address ~ City ~ ZIP~ CR  
RF:5;30 ~ ~ RF:6;15 ~ ~ RF:7;2 ~ ~ RF:8;10 CR  
~ BM Phone ~ FF:9;14 ~ WK Phone ~  
RF:10;14 CR  
CR  
~Comments ~ CR  
RF:11;45 ~ Last Invoice Date ~ DF:13;8 CR  
CR  
~ Balance Due ~  
RF:14;15 CR  
~;~ CR  
~ Payments ~ Door:16;1 ~ Invoices ~  
DOLL,19,1
```

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 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 instruction 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 *Change Color* under *Panel Options* 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.setting

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 *Auto-Edit/Auto-Create/Menu* under *Panel Options* 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 the 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 (;).

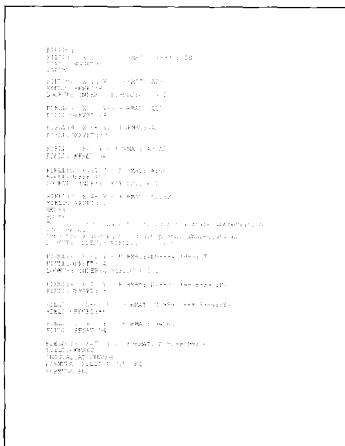
A panel link uses the code *DOOR*, and a data link uses the code *DOORWAY*.

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:



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:~format~

Gives the field's format. The format is delimited by tildes (~).

Example:

FORMAT:~G\$ZZ,ZZ99.99::C~

INITIAL.AT:setting

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 change and when record is saved."

If an initialization statement exists, either a value or a formula statement must be specified.

See *Initialize at Create/Save/Any Change* under *Field Options* in *Reference* for more information.

VALUE=~value~ or FORMULA: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 *FIELD=*. 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 *FORMULAEND*, followed by a semicolon (;).

Example:

**FORMULA:~66,000 - ~ FIELD=P2F3
FORMULA.END;**

See *Initial Value* and *Initial Formula* under *Field Options* in *Reference* for more information.

CHECK AT: setting

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 *Validation Time (Edit/Save)* under *Field Options* 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~`

The range used in this example checks to be sure the field contains a value between 84601 and 84604.

See *Range Check* under *Field Options* 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 *Custom Help* under *Help* in *Reference* for more information.

POSITIVE.TOTAL:`n m` or NEGATIVE.TOTAL:`n m`

These statements give the field number of the link (*n*) and the field number in the destination panel where the total of values in the specified field is kept (*m*).

POSITIVE adds the values together and *NEGATIVE* subtracts the values.

Example:

POSITIVE.TOTAL:`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 *Keep a Total* under *Field Options* 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 List* in *Reference* for more information.

DOORWAY.TO.PANEL:n TFIELD:m INDEX:p FIELDS:

The definition for a data link.

Example:

**DOORWAY.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 *Link, Data* in *Reference* for more information.

NOT.FOUND.SPEC: setting

This statement may follow the data link (doorway) statement above, and specifies an option for when a value is entered in the source panel, but that value 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 *Link, Data* in *Reference* for more information.

SEARCHLIST:

Gives the list of fields included in a search field list specified for the field. All 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 specification.

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 List* 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˜

In this example, the next record created receives the number 1 in this field.

See *Set Value for Next Created Record* under *Field Options* 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 field
- 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:

```
DOOR: 5 X=49 Y=3 TO.PANEL:3 TFIELD:2 INDEX:1 FIELDS:3  
AUTOCUTDISPLAY,TOP X=0 Y=6 WIDTH=5? HEIGHT=6 FIELDS:2 3 4 5  
DOOR: 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.

DOOR:n X=m Y=p TO.PANEL:r TFIELD:s INDEX:t FIELDS:v
The definition for a panel link.

Example:

DOOR: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.

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. The *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 *Link*, *Panel* 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 ;  
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:



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: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:

```
INCLUDE?
SEARCH: FORMULA: FIELD=PIF6 ~ = "Greater"
FORMULA.END;
SEARCH.END;
```

INCLUDE or EXCLUDE

Specifies whether the search includes or excludes records which match the specified 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:formula

Specifies the formula to be included in the search. References to fields included in the formula begin with *FIELD=*. Other parts of the formula are character strings, delimited by tildes (~). Carriage returns are shown as CR. The end of the formula is designated by the code *FORMULA.END* followed by a semicolon.

Example:

FORMULA:~66,000 - ~ FIELD=P2F3
FORMULA.END;

TEMPLATE.ON.FIELD:n ~template~

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 for the word “Johnson” 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 code ~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 code ~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. Letter parentheses denote the sections of the report to which this option applies (see 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* in *Reference*.

CONDITIONAL.EJECT (TLH, RB)

Specifies a Conditional Page Eject code.

CREATE.RECORD.THRU.DOOR:n TO.PANEL:m (FPH, RB, FF)

Specifies a Create Record Through Link code or a Create Record from Panel 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: 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.ON.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:m (RB)

Specifies a Store RV in Field code.

SUBREPORT.THRU.DOOR: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 the report was run, and uses a time field format.

TODAY;`field format` (All sections)

Specifies the date on which the report was run, 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 do this by following the steps under *Exporting a Database Structure* at the beginning of this appendix.

- 1 Retrieve the .STE file into a text editor (such as WordPerfect Corporation's Program Editor).

Next, you need to edit the .STE file to include only the description of the reports you want to import. Everything else in the .STE file should be deleted.

Important: *Editing the .STE in a text editor can damage the structure of your database. You should make a backup copy of the database before editing the .STE so that if your structure file is damaged, you can restore from the backup. WordPerfect Customer Support is unable to fix a structure file damaged by editing.*

- 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 DESK FILE
REPORT INDEX: 1
TEXT, LINES=3 TOP,MARGIN=2 BOTTOM,MARGIN=99 LEFT,MARGIN=4
SEARCH FORMULA: FIELD=PIF6 = "Grecoley".
FORMULA-END;
SEARCH END;
REPORT FORM;
FIRST PAGE HEADER
OTHER PAGE HEADER
TWO LEVEL REPORT HEADER
REPORT BODY
LABELS? WIDTH=35 NUMBER_OF_LINES=6
FIELD=PIF2:-A15;1- FIELD=PIF4:-A15;:P- ~ ~ FIELD=PIF2;~A20~ CR
FIELD=PIF5:-A30A0~ CR
FIELD=PIF6;:A15;:P- ~ ~ FIELD=PIF7;:-U2::E- ~ ~
FIELD=PIF8:-99999-99999:;Z;;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 name of 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 name of 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.

Note: If you run DPEXP.COM with DPIMP.COM, you will have to reset your database passwords.

Appendix C: Error Messages

The error messages which you may encounter most often while using DataPilot 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 while 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 database. 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, then remove them from the original disk.
- Move one or more data files to another drive and change the filename(s) to match the new drive.

A field with that format will not fit in the panel display area

Check to see if there are extra blank spaces on the line where your cursor is located. (To check, press the End key.) If there are extra spaces, delete them.

Case not preceded by CASES or ENDOF.

The word CASES is missing from the beginning of a formula or the word ENDOF is missing somewhere in the formula. Add the missing word or words to the formula (see *Formulas 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 caret (^) in a formula produces this error message.

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 *Field Format, Display Mode Indicators 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 (such as a 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 RVn - 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 in Reference*).

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 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 be eight letters and/or numbers followed by a period and a three-character extension. You can also include a drive or path (for example, CUSTOMER.DAT or C:\DATA\CUSTOMER.ITS).

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, options are displayed on the screen. You can create (regenerate) a new file for 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) to delete the old index.

The program has encountered a problem and is exiting to DOS to avoid possible damage to your database. It is likely that you will be able to continue if you re-enter the DataPerfect program. 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, 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 press Exit (F7) 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 *Formulas 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 *Index 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 *Index Recovery* in *Reference*).

103

This error message is the result of corrupt or disordered indexes, and usually occurs when running reports. Regenerate the indexes (see *Index Recovery* in *Reference*).

104

Temporary work space size exceeded. Too many panels with too much complexity. Simplify panels and formulas. Use the /I startup option to provide DataPerfect with more temporary disk space.

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 (in other words, 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, then import the data (see *Data Export* and *Data Import* 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 file 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 before 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. Records in an index are not unique. Each index must contain at least one field or a combination of fields in which the information will be unique for each record. 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 *Index Recovery* in Reference).

183

Illegal picture encountered. A report has been modified so it is no longer accurate. This can be caused by a report that uses fields, indexes, or reporte variables which have since been deleted. Either redefine the report or delete the references to the information that has already been deleted.

This error may also occur if a .STR file was modified, then the .STR file was imported.

Formula syntax errors that have not been corrected may also cause this error to occur.

184

Reference to a nonexistent index root. An index that was used in a link, report, lookup, or other feature, has been deleted or has been corrupted. If the index has been deleted, redefine the link, report, or lookup. If the indexes have been corrupted, regenerate them. You may want to regenerate the indexes even if they do not appear to be corrupted (see *Index Recovery* in Reference).

55x

Erroneous index block structure. Any error that begins with the numerals 55 means that the index is out of order. The indexes need to be regenerated (see *Index Recovery* in Reference). If the error continues after regenerating, call Customer Support.

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 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 *Data Export 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 *Data Import 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 *Keep a Total* under *Field Options 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 file.

If error messages appear which reference the .STR file, you may want to use the structure export/import program. See *Appendix B: Description Language (DL) and DPIMP* 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, 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

Appendix D: Networking DataPerfect

DataPerfect requires DOS 3.0 or higher to run on a network. No special network version of DataPerfect is needed. 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.EXE and DP.SYS) should have attributes set to shareable (more than one user can use the file at the same time). They also should have attributes set to read-only (users can access the file, but cannot alter it). If you need information on how to set attributes, consult your network supervisor or your network manual.

In addition, no database should be stored in the same directory as the DataPerfect program files.

Network rights can be used to limit access to a database. For example, if a user doesn't have rights to a certain network directory, the user can't enter a panel contained in that directory. If a user has read-only rights to a that directory, the user can enter the panel, but can't edit data or generate a report from that panel.

For information on how to specify network rights with your network operating system, consult your system administrator or your network manual.

If you want to further increase database security, you can add a password to the database or you can create a user menu. To find out how to limit database access with a password, see *Password* in *DataPerfect Reference*. To find out how to limit database access with a user menu, see *Menu Security* in *DataPerfect Reference*.

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.

Several users can look through, edit, create records, and run reports simultaneously in DataPerfect. 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 or in the directory indicated with the */d-directory* startup option. This means that a user can be given read-only privileges in the directory where the .STR file is located (see *Password* in *Reference*).

During network operation, 9,999 users can access a database at the same time. Check your network operating system documentation for limitations that may affect this capability.

Databases defined in DataPerfect 2.1 should be exported and imported prior to running the database in DataPerfect 2.3.

No DataPerfect versions before 2.3 should be used to access a database while DataPerfect 2.3 is accessing that same database. We suggest that you remove all

earlier versions from the network environment when upgrading from any previous version of DataPerfect to DataPerfect 2.3.

Important: *Do not use multiple releases (dates) of DataPerfect on the network.*

To update all your program files to DataPerfect 2.3, follow the instructions in *Installation* in *Reference*. Replacing your older versions of DataPerfect program files with DataPerfect 2.3 will not change the data in your databases.

With DataPerfect 2.3, you can directly access any database created with DataPerfect 2.2. The database will become a 2.3 database when you exit. To access databases created with earlier versions of DataPerfect, you should export them with the 2.x DPEXP, and import them with the 2.3 DPIMP.

DataPerfect 2.3 is not backwards compatible unless you export and import the database .STR file. If you want to run a DataPerfect 2.3 database in DataPerfect 2.2, you should export the database with the 2.3 DPEXP, and then import it with the 2.2 DPIMP. Any DataPerfect 2.3 enhancements in the database, such as menus, will be deleted by the DataPerfect 2.2 import.

For information on how to use DPEXP and DPIMP, see *Appendix B: Description Language (DPEXP and DPIMP)* in *DataPerfect Reference*.

Appendix E: 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
Indexes per panel	200
Fields per record	80
Files (Panels) per database	80
Report variables per report	255
Reports per database	169
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 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 (for example, 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.

Appendix F: 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 included.

Program Files

The following three program files needed to run DataPerfect are found on the DataPerfect Program diskette.

Filename	Description
DP.EXE	Executable 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 in Installation*). These temporary files can be deleted from the DOS prompt without affecting the database.

Any temporary files which are generated are located on a user's default drive in the directory indicated with the /d-directory startup option. This means that a temporary file can be given read-only privileges in the directory where the .STR file is located (see *Password in Reference*).

DP{Innnn.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 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 (panel). For example, a database entitled *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

Structure Export/Import Files

The following files are used when exporting/importing the structure file of a database. These files are useful for maintaining DataPerfect databases.

DPEXP.COM

Structure export program for DataPerfect files. For more information, see *Appendix B: Description Language (DPEXP and DPIMP)*.

DPIMP.COM

Structure import program for DataPerfect files. For more information, see *Appendix D: Description Language (DPEXP and DPIMP)*.

Appendix G: Runtime Program

The DataPerfect Runtime program provides a medium through which database developers can sell their DataPerfect applications to users. The Runtime program lets users add, modify, or delete records in a database (if the user has been assigned these privileges), and lets them create and run reports. The Runtime program does not allow users to define or alter the structure of a database.

Runtime Package Contents

The DataPerfect Runtime package is sold as a five-pack. Each individual use package contains the Runtime diskettes and manual, along with templates and license agreement.

The *DataPerfect Runtime Manual* provides general information about DataPerfect functions and keystrokes.

DataPerfect Runtime program five-packs can be purchased through normal WordPerfect distribution channels.

Responsibilities of Database Developers

Database developers are responsible for supporting the DataPerfect applications that they develop and sell. WordPerfect Corporation's Customer Support does not support these third-party applications, and questions about them should be directed to the database developer. Questions about the Runtime program itself can be directed to either the database developer or to Customer Support.

Database developers are also responsible for installing the DataPerfect Runtime program and their applications (if necessary). The *DataPerfect Runtime Manual* does not include installation instructions.

Because the *DataPerfect Runtime Manual* includes only the most basic information, WordPerfect Corporation strongly recommends that developers provide additional documentation for Runtime users that is specific to their database application.

Appendix H: Troubleshooting

This appendix gives suggestions that will help answer questions you might encounter while using DataPerfect. Compiled by Customer Support representatives, the checklists in this section contain the same type of questions you will be asked if you call Customer Support.

A general checklist for solving problems is given below. After you have answered the questions and completed the procedures recommended there, look for a checklist about the specific feature associated with the problem. Read through the checklist and the tips about the feature. If the problem still occurs, turn to *Getting Help in Getting Started* for information about contacting Customer Support.

General Checklist

- If you have used the feature without having a problem before, are you using it the same way you previously did?
- Have you read the information on the feature in *DataPerfect Reference* and the *DataPerfect Workbook*?
- Did you exit DataPerfect, re-start DataPerfect, and try to use the feature again?
- If you are running a memory-resident (TSR) program with DataPerfect, have you removed the TSR program and tried using the feature again?
- If a TSR program seems to be causing a problem, have you contacted the manufacturer of the TSR program to obtain information about running the program with DataPerfect?
- If you are receiving an error message, have you looked for the error message in *Appendix C: Error Messages*?
- Have you run DPDiagnostics and corrected any errors detected according to the directions in *Appendix J: Utilities—DP Diagnostics*?

General Tips

Use the reference, appendix, and index sections of this manual. The information you need may be in one of those sections. Answer the questions in the applicable specific feature checklist below if the feature you are interested in is listed.

Data/Panel Link Checklist

- Have you regenerated the indexes for this panel?
- Has the link been defined?
- Is the key field list a subset of the index? (Remember, no field can be included in the key field list that is not included in the index.)
- Do the common fields between the two panels have the same field format?
- Does the data in the common fields of the link match exactly?
- Are the fields in the key field list free of formulas?

Link Tips

If the index has become inefficient, you need to regenerate the indexes. To do index regeneration, you need to be in the panel that contains the index for the table and press Shift-F9, option 1, then option 1 again.

Define Panel Checklist

- Do you have at least one index defined for the panel? Check by pressing Define Panel (Ctrl-F8). If the Define Index menu appears, an index has been defined. If the Define Index Key Field List screen appears, an index has yet been defined.
- Do you have at least one field where the cursor can stop?

Define Panel Tips

Before you can make changes to the database structure, you must make sure the database contains no data.

If you see the error message “A field with that format will not fit in the panel display area,” check to see if there are extra blank spaces on the line where your cursor is. (To check, press the End key.) If there are extra spaces, delete them.

If the database is password-protected, you must know the definer password before you can use the Definer Banner feature.

Field Checklist

- Are you using the correct field format for the purpose of the field?
- Is the field free of any display mode indicator that hides the field or otherwise affects it in ways not intended?

Field Tips

Look at the field format by pressing Define Field (Shift-F8) while the cursor is on the field, or by pressing Reveal (Alt-F3), to check whether the format is valid.

If you are uncertain, read *Field Formats* in Reference to check whether the field formats are valid and whether they serve the intended purpose of their design.

Use the reference, appendix, and index sections of this manual. The information you need may be in one of those sections.

Formula Checklist

- Have you made sure that all the function names are spelled correctly?
- Have you made sure that all the functions have the proper number of arguments?
- Have you made sure that the formula returns a type of value that the field format can accept?
- If the formula is placed on a G or H field, have you made sure the field has enough places to accommodate the numbers generated by the formula?

- Do you have an ENDIF statement for every IF statement?
- Do you have an ENDOF statement for every case in a case statement?
- Did you select field codes by pressing Select (F4) rather than typing them in?
- Are there any Bold or Underline codes in the formula? If there are, delete them.

Formula Tips

Try deleting and redefining the formula, then see if the problem occurs again.

To help pinpoint the source of a problem, go to the Specify Formula screen by pressing Define Field (Shift-F8), then choosing Initial Formula (2). Press the Space Bar and the Backspace key to add and delete a space, then save the formula. Because you made a change when you added and deleted the space, DataPerfect will check the formula for errors, and give you an error message if an error is found.

Index Checklist

- Is each record unique within every index? (For example, have you included a Customer # or other distinguishing field in the index in case two records have matching first, middle, and last name fields?)
- Do you have at least one index for each panel?
- Does your index exclude text fields?

Index Tips

Check your index screen (Ctrl-F8, option 2) to see if your indexes are unique and that each record is unique within each index.

Use the reference, appendix, and index sections of this manual. The information you need may be in one of those sections.

Keep a Total Checklist

- Have you made sure the field where the total is being kept has a G or H field format?
- Is the field where the total is being kept free of formulas and initial values?
- Is the field where you want to keep the total *not* in the key field for a data or panel link?
- Have you made sure the field where you are keeping a total does not have a ::C display mode indicator?
- Is the data or panel link defined correctly (in other words, is the key field list a subset of the target index)?

Keep a Total Tips

Try deleting and remaking the keep a total, then see if the problem occurs again.

The destination field cannot use the Shift-F8 (Define Field) option 4 Initialize an “Automatically Computed...” message appears at the bottom of your screen while you are defining the destination field, select Option 4 until the message disappears and the message area is left blank.

Make sure that a negative number is not on the target field for the keep a total. (This can happen if records have been exported and imported improperly.) To check for negative numbers, edit the field format to include a minus sign (such as G-\$Z,ZZ9.99), so that any negative numbers will display with a minus sign. If you find negative numbers, you then need to export the records from the source panel. Then, delete all the records from the source panel (See *Delete Multiple Records* under *Record, Delete* in *Reference*), making sure you choose the option to delete records with no totaling. After that, go to the target panel and edit the records so that the target field for the keep a total has a zero in it. Finally, import the records back into the source panel and have them re-total during import.

Use the reference, appendix, and index sections of this manual. The information you need may be in one of those sections.

Lookup List Checklist

- When defining the lookup list, did you select all the fields you want displayed?
- Do you have an index selected to sort your lookup list?

Lookup List Tips

Define a lookup list. Sometimes users assume that they don't need to define a lookup list because DataPerfect provides a default lookup list based on the primary key or first index. However, the default lookup list may not provide all the information they want.

After you have defined the lookup list and press Exit (F7), make sure you selected an index to sort the lookup. Pressing Cancel (F1) before you select the index cancels the lookup list.

Use the reference, appendix, and index sections of this manual. The information you need may be in one of those sections.

Printer Checklist

- If you are using DPPrint, have you selected a printer?
- Is the paper properly inserted?
- Has the printer been turned off and, after at least a 15-second pause, turned back on?
- When the printer is turned on, does it indicate that it is ready to receive data (for example, the On-Line or Ready light is on)?
- Is the correct printer selected?
- Has the correct printer port been selected?
- Is the cable connected tightly to the printer and the computer? (Before making adjustments to the cable, turn off all equipment.)

- If your printer manual recommended special switch or menu panel settings specific to your printer, have you made the correct settings?
- Does the printer print at DOS level?
- If you intend to print international characters while DPPrint is running, have you edited a copy of the appropriate printer driver (.PRD file) to include them?
- If you don't want to edit the .PRD file to print international characters you have mapped to the printer, have you made sure DPPrint is not running?

Printer Tips

To determine which port to select in DataPerfect, inspect the end of the printer cable that plugs into your computer. If it has pins (male), choose a parallel port (probably LPT1). If it has sockets (female), choose a serial port (probably COM1).

Check the printer manual or consult your printer manufacturer.

Use the reference, appendix, and index sections of this manual. The information you need may be in one of those sections.

Report Checklist

- Have you used the correct print mode indicators for your purposes?
- Have you selected the correct printer port?
- If you are defining a mailing label report, have you set the correct margins for the type of labels you're using?

Report Tips

If the report is not printing and everything has been set up correctly, try regenerating the indexes.

If only one record is printing and no search conditions have been defined, check to see if the fields were selected in a header or footer instead of the report body.

If no records are printing, check search conditions to see if any records meet the search criteria.

If no records are printing, check to make sure that the report form has been set up.

If some records are not printing, check the index selected for the report to see if it has an exception list on it.

Make sure the report is started from the proper depth. Sometimes, if a report is started from a subpanel, only the records related to the main panel will print.

If a blank line appears between the report body and the subreport, you can change the report format to eliminate it. Place your cursor after the last field in the report body, on the line immediately above the subreport. Press Delete until you see the message "Confirm Deletion," then choose No.

Use the reference, appendix, and index sections of this manual. The information you need may be in one of those sections.

Appendix I: Utilities—DPBackup

DPBackup is a DataPerfect utility that lets you back up a DataPerfect database to diskettes, a hard drive, or a network drive. DPBackup locks other users out of the database being backed up, so all files backed up are synchronous. DPBackup can let you split a database backup file across diskettes. DPBackup will use the DOS Label command to name the diskettes and then will ask for the diskettes in sequence when you restore the database.

You can use DPBackup in either of two ways. You can use it interactively, selecting options from menus as you go (such as source, destination, and so on). Or you can decide selections beforehand and add them as startup options. The startup options method was designed to run on its own, not requiring any interaction with you once you give the command (unless you are backing up to diskettes), and is especially suited for periodic database backups.

You can start either method for using DPBackup from the DOS prompt or from the Shell. To set up DPBackup to start from Shell, use the information in this section and in *Setup in Shell Features*. To start DPBackup from Shell, see *Using DPBackup in the Shell Installation and Operation*.

Interactive Method

The DPBackup interactive method lets you select options from menus as you go.

When you use the interactive backup method, keep in mind that the following function keys are available.

Key	Function
F1 or Esc	Back out of any prompt or screen
F3	Help

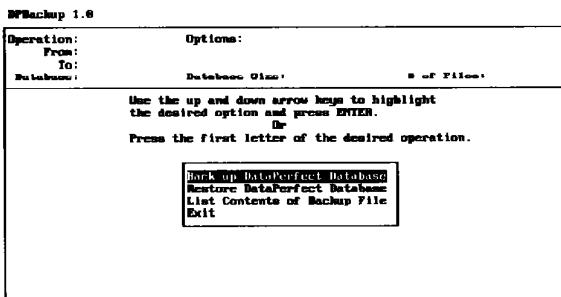
To use the DPBackup interactive menus,

- 1 Change to the directory where you keep the DPBackup program file (for example, c:\backup).
- 2 Type **dpbackup** and /v if you want DOS verify turned on (for example, **dpbackup /v**).

The switch /v is the only startup option available for the interactive method.

- 3 Press **Enter**.

The main DPBackup screen is displayed.



Using the interactive method of backing up a database, you must make selections in menus as you go. To use the command line with startup options method, see *Startup Options Method* later in this section.

You cannot use DPBackup to back up a database from diskettes. If you have a database on diskettes, copy it to your hard drive or to a network drive before using DPBackup.

To back up a database from the main DPBackup menu,

- 4 Select Back Up DataPerfect Database.
- 5 Enter the path to the database to be backed up (for example, c:\dp23\learn\client1.str).

or

Enter the path to the directory that contains the database you want (for example, c:\dp23\learn). A list of databases in the designated directory appears. Use the arrow keys to highlight the database you want to back up and press **Enter**.

- 6 Enter the destination path for the backup file (for example, c:\backup).

A prompt gives you the option of backing up the index. It is not necessary to include the index when backing up or restoring a database because DataPerfect can re-create the index. However, if the index is large, you can save time by backing up and restoring the index instead of re-creating it.

- 7 Enter **y** if you want to back up the index.

or

Enter **n** if you don't want to back up the index.

If the database has a transaction log, a prompt gives you the option of saving or clearing the transaction log. If the database you are backing up has no transaction log, skip to the sentence before step 9.

8 Enter **y** if you want to clear the transaction log.

or

Enter **n** if you don't want to clear the transaction log.

A prompt asks if you want to proceed with the backup.

9 Enter **y** to continue the backup.

or

Enter **n** to discontinue the backup.

If you are backing up to a diskette that has files on it, a prompt gives you the option of deleting the existing files on the diskette before starting the backup. If you are not backing up to a diskette or if the diskette you are backing up to is empty, skip the paragraph after step 10.

10 Enter **y** if you want to delete the existing files on the diskette.

or

Enter **n** if you don't want to delete the existing files on the diskette. If you enter **n**, a message asks you to insert a new diskette.

If you are backing up to diskettes, DPBackup uses the DOS Label command to name each diskette by the name of the database being backed up. The files on the diskettes are named DPBACKUP.001, DPBACKUP.002, and so on.

If you are backing up to anything but a diskette (for example, a hard drive or network drive) and a backup file with the same name of the database already exists, a prompt gives you the option of replacing the backup file that already exists, or if the backup file already exists, or if you are backing up to diskettes, skip to the sentence before step 12.

11 Enter **y** if you want to replace the existing backup file.

or

Enter **n** if you don't want to replace the existing backup file. Enter a new name for the new backup file.

A message is displayed when the backup is complete. (If you have used an extension other than .BUP, those files will not be on the file list that DPBackup displays.)

12 Press any key to return to the main screen.

Interactive Database Restore

When you back up a database with DPBackup, it is stored in a single file, usually in another location. This file must be restored before you can use it as a database.

You cannot restore a database to diskettes.

To restore a backed-up database from the main DPBackup menu,

- 1 Select Restore DataPerfect Database.
- 2 Enter the path and filename of the backup file to be restored (for example, c:\backup\client1.bup).

or

Enter the path to the directory that contains the backup file you want (for example, c:\backup). A list of files in the current directory appears. Use the arrow keys to highlight the file you want to restore and press **Enter**.

- 3 Enter the destination path for the backup file (for example, c:\dp23\learn).

Do not include the filename or extension. All filenames are derived from the backup file.

If the designated destination does not exist, a prompt gives you the option to create the directory.

- 4 Press **y** to create the directory.

or

Press **n** if you do not want to create the directory.

or

If the designated directory exists, the directory creation prompt does not appear. Skip to step 5.

If the index was backed up, a prompt gives you the option of restoring the index. If the index was not backed up, no prompt appears.

It is not necessary to include the index when backing up or restoring a database because DataPerfect can re-create the index. However, if the index is large, you can save time by backing up and restoring the index instead of re-creating it.

- 5 Press **y** to restore the index.

or

If you do not want to restore the index, press **n**.

or

If the index was not backed up, no index restoration prompt appears. Skip to step 6.

A prompt asks if you want to proceed with the restore process.

- 6 Enter **y** to continue the restore.

or

Enter **n** to discontinue the restore.

If you are restoring to a directory that already contains a database with the same name, a prompt gives you the option of replacing the existing files.

- 7 Enter **y** to replace the existing files.

or

Enter **n** if you don't want to replace the existing files. Enter a new path for restored database files.

or

If no database with the same name exists in the same directory, this prompt does not appear. Skip to step 8.

When the restore process is completed, a completion message is displayed.

- 8 Press any key to return to the main menu.

Listing the Contents of the Backup File

List lets you see the database files stored in the backup file.

To list the contents of the backup file from the main DPBackup menu,

- 1 If you are listing contents of a backup file split across more than one diskette, make sure the first diskette is in the diskette drive.
- 2 Select **List Contents of Backup File**.
- 3 Enter the path and filename (including extension) of the backup file to be listed (for example, c:\backup\client1.bup).

or

Enter the path to the directory that contains the backup file you want (for example, c:\backup). A list of files in the current directory appears. Use arrow keys to highlight the file you want to list and press **Enter**.

The database files contained in the backup file are displayed.

- 4 Press **Enter** or **Exit** (F7) to return to the main screen.

Exiting DPBackup Interactive Menus

With the interactive menus, you must exit DPBackup manually.

To exit the DPBackup interactive menus,

- 1 If you are not at the main screen, finish the operation (you will be returned to the main screen) or press **Cancel** (F1) to move backward through the screens until you reach the main screen.
- 2 Type **e** or press **Exit** (F7) to exit.

Startup Options Method

The startup options method was designed to run on its own, requiring little or no interaction from you once you give the command.

Before using the startup options method for backing up your database, you should decide the source, destination, and startup options you will use. See *Startup Options* below for a list of available DPBackup startup options.

To start DPBackup using the startup options method,

- 1 Change to the directory where you keep the DPBackup program file (for example, c:\dp23).
- 2 Type **dpbackup** followed by the path and name of the database to be backed up (source), the path and name of the backup file to be created (destination), followed by any necessary startup options, in this format:

dpbackup source destination options

For example, to back up the CLIENT1 database, overwrite any existing files, clear the DataPerfect transaction log, and exclude the index from the backup, you would enter something similar to the following:

dpbackup c:\dp23\learn\client1 c:\backup\client1.bup /o/c/e

- 3 Press Enter.

Example Batch File

If you choose the startup options method of using DPBackup, you will probably want to write a batch file to make backups more convenient. The batch file you write can be a simple one that changes to the correct directory and gives the backup command, or it can be a more complex file that also checks for possible errors and attempts to resolve any difficulties DPBackup may encounter.

The following is an example of a .BAT file that backs up the database CLIENT1 and tests for a successful return of zero (0). The batch file has a test for codes less than zero and another for codes greater than zero. The file to be backed up is CLIENT1.STR and the backup file will be called CLIENT1.BUP. The output from DPBackup is redirected to a file, OUTPUT.TXT, on the network. Any errors are detected and directed to a label called ERRORS which prints an error message and then erases the invalid CLIENT.BUP file. Only the messages in the .BAT file will be displayed on the screen.

ECHO OFF

DPBACKUP C:\DP23\LEARN\CLIENT1.STR C:\BACKUP\CLIENT1.BUP
/O >C:\BACKUP\OUTPUT.TXT

REM Test for not successful

IF NOT ERRORLEVEL 0 GOTO ERRORS

REM Test for not successful

IF ERRORLEVEL 1 GOTO ERRORS

REM Test for successful completion

IF ERRORLEVEL 0 GOTO SUCCESS

REM 0 CONDITION (SUCCESS) IS THE ONLY OPTION LEFT
ECHO Backup completed successfully.
GOTO END

:ERRORS

ECHO Error occurred. Erased the invalid backup file.
ERASE C:\BACKUP\CLIENT1.BUP

:END

When the backup terminates, either of the following messages will be displayed:

Backup completed successfully.

or

Error occurred. Erased the invalid backup file.

For more information on error messages, see *DPBackup Messages* below.

Startup Options

If, before starting DPBackup, you want to review the startup options available to you, you can access a help screen by following the steps below.

At the DOS prompt,

- 1 Change to the directory where you keep the DPBackup program file (for example, c:\dp23).
- 2 Type **dpbackup /h** and press **Enter**.

```
DPBackup 2.3      WordPerfect Corporation All Rights Reserved.  08/25/92
DPBackup can be run from DOS interactively or as a Command Line entry.
DPBackup Interactive
To start DPBackup, enter at the DOS prompt:
DPBACKUP

DPBackup Command Line
To run DPBackup as a command line use the following format:
DPBACKUP Source Destination Options

where the options can be:
/B = (* Backup a Database )      /R = (* Restore a Database )
/Z = (* Save Log )               /C = (* Clear Log )
/J = (* Create Index )          /E = (* Extract Index )
/O = (* Overwrite Files )       /X = (* Do not Overwrite Files )
/U = (* Turn DOS Verify On )

Example: (BACKUP) DPBACKUP C:\DPFILES\CLIENT1.STR C:\BACKUP\CLIENT1.BUP /B /O
Example: (RESTORE) DPBACKUP C:\BACKUP\CLIENT1.BUP C:\DPFILES\ /R /O
```

The help screen is displayed.

The startup options you can use with DPBackup are described below. If you run DPBackup without any startup options, the database you specify will be backed up, including the index, saving the DataPerfect transaction log (if any), and will not overwrite any existing backup files.

/c

Use the /c option to clear the DataPerfect transaction log when the database is backed up. For information on setting up the transaction log, see *Transaction Log* in Reference.

/e

Use the /e option to exclude the index when backing up or restoring a database.

It is not necessary to include the index when backing up or restoring a database because DataPerfect can re-create the index. However, if the index is large, you can save time by backing up and restoring the index instead of re-creating it.

/h

Use the /h option for command line help.

/o

Use the /o option to overwrite files when backing up or restoring a database.

/v

Use the /v option to turn DOS VERIFY on. Use VERIFY to verify that files in a backup or restore are written to disk correctly. This is the only option that can be used with the DPBackup interactive method. The default is VERIFY off.

/r

Use /r to select the Restore DataPerfect Database option.

Exiting DPBackup

The command line startup options method terminates on its own. If DPBackup backed up the database successfully, it displays the source, destination, and options used, as well as the date and time the backup was completed. If DPBackup was unable to back up the database and was forced to terminate prematurely, it displays an error message and the reason for the early termination.

DPBackup Messages

DPBackup messages are listed below.

Backup Messages

- Database in use
- DPBackup Will Not Back up Databases from Floppy Diskettes
- Error Deleting Files on Diskette
- Invalid Drive Specification
- Invalid Database File
- No such file or directory
- No DataPerfect Databases Exist
- Not a DataPerfect Database
- Path Not Found
- Unable to Read Disk Information
- Unable to Create Backup File
- Unable to Clear the Transaction Log File

Restore Messages

- 'DPBACKUP.001' File Does Not Exist
- Backup File is Not Complete
- DPBackup Will Not Restore Databases to Floppy Diskettes
- Incorrect Format in the DataPerfect Backup File
- Invalid Drive Specification
- No Backup Files Exist
- No such file or directory
- Not Enough Disk Space Available to Restore Database
- Path Not Found
- Restoration is Not Complete
- Restore File is Not a DataPerfect Backup
- Unable to Create
- Unable to Remove Existing Database Files
- Unable to Open Backup File
- Unable to Open Source File
- Unable to Remove Existing Database Files

Error Messages

- 'DPBACKUP.001' File Does Not Exist
- Backup File is Not Complete
- Incorrect Format in the DataPerfect Backup File
- Invalid Drive Specification
- No Backup Files Exist
- No such file or directory
- Path Not Found
- Restore File is Not a DataPerfect Backup
- Unable to Open Backup File

Startup Option Error Values

- 0 Success
- 1 Invalid Source
- 2 Invalid Destination
- 3 Database In Use
- 4 Unable to Create Backup File
- 10 Unable to Clear Transaction Log
- 12 Unable to Restore Database
- 13 Not Enough Disk Space
- 14 Backup was Canceled
- 15 Restore was Canceled
- 20 Disk Access Error
- 21 Critical Error

Appendix J: Utilities—DPDiagnostics

DPDiagnostics is a utility program that analyzes the structure of a database to detect problems or errors. You can send database information to a file that can be read in a text editor. You can use this information to change, correct, or optimize your database.

If, before starting DPDiagnostics, you want to review the startup options available to you, you can access a help screen by following the steps below.

At the DOS prompt,

- 1 Change to the directory where you keep the DataPerfect program files (for example, c:\dp23).
- 2 Type **dpdiag** and press **Enter**.

The help screen is displayed.

The startup options you can use with DPDiagnostics are listed below.

/f-outputname	Specify output filename (no spaces). The default is <i>databasename.fix</i> , placed in the current database directory.
/i-#	Specify the maximum field count for index optimization. The default is 5.
/l	List only the panel number and panel name.
/n	Do not create an output file.
/o	Suppress optimization messages.
/q-#	DPPrint printer port (1=LPT1, 2=LPT2, 3=COM1, 4=COM2). (DPPrint must be resident for this option to work.)
/w	Suppress warning messages.

Starting DPDiagnostics

Before using DPDiagnostics, you should decide the startup option, if any, you will use. See the table above for available startup options.

To analyze a database with DPDiagnostics,

- 1 Change to the directory where you keep the DataPerfect program files (for example, c:\dp23).

- 2** Type **dmdiag** followed by the database path (if you are not in the same directory as the database) and name, followed by any necessary startup option in this format:

DPDIAG path\[database name] [option]

or, if you are in the same directory as the database:

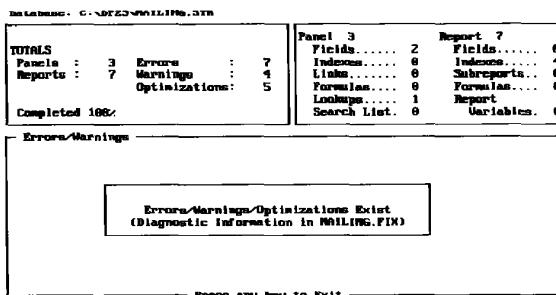
DPDIAG [database name] [option]

Your command might look like the example below if you want to analyze a database called *Mailing* and use the /t option to send output to a file called *MAILDIAG.FIX* in a directory called *TEST*.

dmdiag mailing /f:c:\test\maildiag

- 3** Press **Enter**.

DPDiagnostics displays a screen similar to the following.



- 4** Press any key to exit.

You can retrieve the output text file (for example, *MAILDIAG.FIX*) into WordPerfect, LetterPerfect, Editor, or any DOS text editor. Use the message explanations in *DPDiagnostics Messages* later in this section to understand messages and to find suggestions on how to resolve problems and errors, as well as suggestions on how to optimize your database.

The message report you retrieve into a text editor will often refer to the location of the error (for example, P2F13, which is field 13 in panel 2). To locate the problem field, go to the correct panel (in this example, you would access panel 2), and press Alt+F3 twice. Locate the field with the number that DPDdiag reported (in this case, field 13). Press Exit (F7) to return to browsing the panel, press Define Panel (Alt-F8) to edit the panel, and make the necessary changes to the field.

DPDiagnostics Messages

DPDiagnostics error, warning, and optimization messages inform you of problems in the database that can keep the database from running efficiently. In this section, they are grouped under the headings *Panel Error Messages*, *Panel Warning Messages*, *Panel Optimization Messages*, and *Report Error and Warning Messages*.

DPDiagnostics messages appear only when you run the DPDiagnostics utility. For explanations of DataPerfect program error messages which may appear at any time while you are using DataPerfect, see *Appendix C: Error Messages*.

Panel Error Messages

DPDiagnostics error messages inform you of database problems that may affect the efficiency and integrity of the database.

Error Messages are displayed as follows:

Error: (Field #) <MESSAGE>

Error: (Field #) Computed (:C) Field # should NOT be used as part of a link's definition

Computed fields, also known as virtual fields, should not be used as part of a link's definition. Using computed fields as part of a key field list for a link will cause the link to work incorrectly. Redefine this link by removing the computed field from the key field list.

**Error: (Field #) Formula Field Code References a non-existent panel -- Field Code:
P#F#P#...**

It is possible that the panel the formula used to reach the field has been deleted. Delete the field selection and reselect the same field.

**Error: (Field #) Formula Field Code References a non-existent field -- Field Code:
P#F#P#F#...**

The field referenced in the formula has been deleted. Delete the specified field reference in the formula and reselect the field.

**Error: (Field #) Formula Field Code no longer contains data/panel link -- Field Code:
P#F#P#F# ...**

Either the panel link or data link longer exists or the field and its attached data link no longer exist. Redefine the link.

Error: (Field #) Formula contains a Bold/Underline Code at position #

Bold or underline codes should not exist in a formula. The error message indicates the position of the bold or underline code in number of characters into the formula. Find and delete the bold/underline code or redefine the formula.

Error: (Field #) Link is not correctly defined according to formula -- Field Code: P#F#

The link that the selected field is using in the formula goes to a different panel. Delete the field in the formula and reselect.

Error: (Field #) Lookup List Index # does NOT exist

You can define a lookup list for any field in a panel. When a lookup list is defined, the database definer must specify the index and the field(s) to be used. This error message will appear if the index specified for the field specified doesn't exist. Redefine the lookup list for this field.

Error: (Field #) Lookup List Field(s) shown below do NOT exist -- Field(s): #, #, #, # ...

This error occurs when a field that is specified as part of a lookup list does not exist. If the lookup list contains more than one field that doesn't exist in the panel, these fields will also be displayed as part of the error message.

The field(s) listed in the DPDiagnistics error message probably don't exist because changes were made to the panel. Redefine the lookup list.

Error: (Field #) Lookup List should not contain a panel link (Field #)

The first field number refers to the field that has the faulty lookup list. The second field number indicates which field in the lookup list is actually a panel link. Define the lookup list and redefine it.

Error: (Field #) Link's Destination Panel # does NOT exist

This error message occurs when the destination panel for a data/panel link no longer exists. Redefine this link or delete the link if it is no longer necessary.

Error: (Field #) Link's Target Field # in panel # does NOT exist

This error results if the link's destination is missing the target field. Upon definition of a link, the user/definer must specify the field the cursor will land on in the destination panel (the "target" field). From the Define Panel/Data Link screen, choose Edit Target Field/Target Index/Field List (1) to re-establish the link.

Error: (Field #) Link's Index # in Destination Panel # does NOT exist

This error will occur when the specified index in the destination panel cannot be found. It may also occur if the destination panel does not exist.

Specifying a destination panel index to be used for the link is a necessary step in link definition. This index must contain the same field formats for the link field being passed through.

Error: (Field #) Link's field list and index list are NOT the same size -- Redefine the link

You have selected more fields in the Key Field list than are in the index. Delete the Key Field List and reselect.

Error: (Field #) Link's Auto Display Field # in panel # does NOT exist

Panel links may have windows defined which will automatically display the specified fields from the linked panel within the current panel. Remove this field from the list.

Error: Panel # is possibly corrupt!

If you receive this error message, there are several things you can do to attempt to save your data. You can try replacing the .STR file with the .STR of a recent backup of the database. Or, if you can access the corrupt panel, export the data in it before re-creating the panel, then import the data once you have re-created the panel. If neither of these options work, you will probably have to delete and re-create the panel.

Error: (Field #) Search List Field(s) shown below do NOT exist -- Field(s): #, #,

The field(s) listed in the DPDiagnistics error message probably doesn't exist because changes were made to the panel. Redefine the list.

Error: (Field #) Search List Field # is NOT the correct format -- Remove this field from the search list

All fields in the search field list must have the same format.

Error: (Field #) Mismatching field formats between a list field and its counterpart index field

-- Field List Field (P#F#) : A/G/N/D/T

-- Index Field (P#F#) : A/G/N/D/T

When a link is defined, the definer specifies a destination panel, target field, target index, and the key fields which will provide the link. The key fields that are specified must be a subset of those fields in the destination panel's index. Also, each field must be the same format as its counterpart. For example,

KEY FIELDS: FIRST_NAME (A5), LAST_NAME (A10), BIRTHDATE (D99/99/99)

INDEX:	A5	A10	D99/99/99
--------	----	-----	-----------

Notice how the key fields are the same format as their counterpart in the index.

Suppose that the first field in the index, however, were A10 instead of A5. This link would have to be redefined.

Error: Field(s) shown below for Index # do NOT exist -- Field(s): #, #, #, # ...

This error occurs when a field that is specified as part of the key field list in an index does not exist. If the index contains more than one field that does not exist in the panel, these additional fields will also be displayed as part of the error message.

Any field(s) listed do not exist because these fields were deleted from the panel. To correct this problem, redefine the index.

Error: Field(s) shown below for Index # Exception List do NOT exist -- Field(s): #, #, #

This error occurs when a field that is specified as part of an exception list does not exist. If the exception list in the index contains more than one field that does not exist in the panel, these fields will also be displayed as part of the error message.

Any field(s) listed do not exist because of changes made to the panel. To correct this problem, redefine the exception list for this index to include the correct fields.

Error: Field # is possibly corrupt

This message occurs when DPDiagnostics attempts to examine a field in the current panel and cannot.

This error is usually the result of some type of corruption. Redefine all aspects of the field, such as look-up lists, search lists, and formulas. You may have to delete and redefine the field to correct the problem.

Error: (Field #) Illegal Formula

The specified formula contains an error. Find the error and correct it or redefine the formula.

Error: Destination Panel # for Menu Option # does NOT exist

The specified menu option is assigned to a panel that no longer exists. Delete this menu item.

Error: Destination Index # for Menu Option # does NOT exist

The index you have chosen for this menu option no longer exists. Edit this menu option and choose another index.

Error: (Field #) Keep a Total - Target Field # in panel # does not exist

The specified field no longer exists. Redefine the keep a total.

Error: (Field #) Keep a Total - Source Link # does not exist

The specified data link or panel link no longer exists. Redefine the keep a total.

Error: (Field #) Keep a Total - Target Panel # does not exist

The specified panel no longer exists. Redefine the keep a total.

Error: (Field #) Keep a Total - Virtual field # in panel # is invalid

The total is being kept in a field with a ::C display mode indicator. Remove the display mode indicator from the destination field format.

**Panel Warning
Messages**

DPDiagnostics warning messages inform you of database problems that may affect the integrity of the database.

Warning messages are displayed as follows:

Warning: (Field #) <MESSAGE>

Warning: Field # in Index # is a text field -- Text fields should not be used in the index

Text fields in an index can slow database operation.

Warning: (Field #) Link is UNDEFINED

This warning notifies you that the link hasn't been defined. If the link is not needed, delete it. Otherwise, define the link.

Warning: (Field #) Link's Index # in Destination Panel # contains an Exception List

You can do this, but be aware that only records that meet the exception will be in the index.

Warning: (Field #) Mismatching field formats between a list field and its counterpart index field

-- Field List Field (P#F#) : (Field format)

-- Index Field (P#F#) : (Field format)

For example, the field list field might have a format of HZZZ9 while the index field might have a format of GZZZ9. Field formats should be identical.

Warning: (Field #) No fields have been specified for the Auto Display Window

The auto display window option has been chosen with a panel link, but there are no fields in the window. This window is useless. Either de-activate the window or put fields in it.

Warning: (Field #) Text Field (#) should NOT be used as part of a link's definition

Text fields in a link can cause linking problems.

**Panel Optimization
Messages**

DPDiagnostics optimization messages inform you of database inefficiencies that can slow database operation.

Optimization messages are displayed as follows:

Optimize: (Field #) <MESSAGE>

Optimize: Index # contains 5 or more fields

Having more than four fields in an index may slow database operation. Redefine the index with fewer fields.

Optimize: (Field #) Link is using more than 3 fields for linking

Use the fewest possible fields in a link to avoid slowing database operation.

Optimize: Panel # Index # is not used in a lookup, link, or report

This index serves no purpose and may slow database operation. Remove the index from the specified panel.

Report Error and Warning Messages

DPDiagnostics error messages inform you of report problems that probably won't affect the integrity of the database, but can affect the efficiency of reports.

Error Messages are displayed as follows:

[report section]: Error (Field #) <MESSAGE>

A depth indicator is also shown when an error occurs in a nested report (subreport).

The following errors can occur in any section of the report. The first portion of the message shows the report section affected (for example, Final Footer), and will change depending upon the report section.

[report section]: Error in Store Value in Report Variable # Code

-- Formula Field Code no longer contains data/panel link

-- Field Code: P#F#P#F#...

The link the panel goes through to access the field is no longer there. Delete the field in the formula and reselect.

[report section]: Error in Store Value in Report Variable # Code -- Illegal Formula

Formula in report variable has an error in it. Correct the error or redefine the formula.

[report section]: Error in Store Value in Report Variable # Code

-- Link is not correctly defined according to formula -- Field Code: P#F#...

You've selected a field in your formula that uses a link to go to another panel, and the link has changed. Reselect the field in the formula.

[report section]: Error in Store Value in Report Variable # Code

-- Panel/Field Code References a non-existent field

-- Field Code: P#F#P#F#...

You have selected a field through a link. The target field no longer exists. Delete the specified field reference in the formula and reselect the field.

[report section]: Error in Store Value in Report Variable # Code

-- Panel/Field Code References a non-existent panel

-- Field Code: P#F#P#...

It is possible that the panel the formula used to reach the field has been deleted. Delete the field selection and reselect the same field.

[report section]: Error -- Report Variable # to be printed does not exist

The variable has been deleted. Redefine the variable.

[report section]: Error with the field to be printed -- Reselect the desired field -- Field: #
The field to be printed has an error. Reselect the field.

[report section]: Error within Skip if RV is False Code -- Report Variable # does not exist
A skip if false condition has been selected, but the specified variable no longer exists. Re-create the correct RV or delete Skip if RV is False code.

[report section]: Error within Skip To Record At RV Code -- Report Variable # does not exist

A skip to record condition has been selected, but the specified variable no longer exists. Re-create the correct RV or delete Skip to Record at RV code.

[report section]: Error within Stop [Sub]Report if RV is False Code -- Report Variable # does not exist

A stop if false condition has been selected, but the specified variable no longer exists. Re-create the correct RV or delete Stop [sub]Report if RV is False code.

[report section]: Error within Store Report Variable in Field Code -- Report Variable # does not exist

The specified variable no longer exists. Re-create the correct RV or delete the Store Report Variable in Field code.

[report section]: Error within Store Report Variable in Field Code -- Field # does not exist in panel #

You've selected a field in your formula that uses a link to go to another panel, but the field has been deleted. Reselect the field in the formula.

[report section]: Error within Subreport Link/Panel: # ##-- Subreport Link # in panel # does not exist

The link used by the sub-report has been deleted. Delete the sub-report and re-create.

[report section]: Error within Subreport Link/Panel: # ##-- Link's Destination Panel has changed to #

The link used by the sub-report now goes to a different panel. Delete the sub-report and re-create.

[report section]: Error within Subreport Link/Panel: # ##-- Subreport's Destination Panel # does not exist

The link used by the sub-report now points to a deleted panel. Delete the sub-report and re-create.

[report section]: Error within Subreport Link/Panel # ##-- Subreport's Return Panel # does not exist

Re-create the specified section of the report.

[report section]: Error within Subreport Return Code

-- REDEFINE SUBREPORT

The sub-report can't return to the main report. Redefine the sub-report.

[report section]: Error in Store Value in Report Variable # Code -- Bold/Underline Code

formula at position #

Formulas should not contain bold or underline codes. Delete the bold or underline code or redefine the formula.

[report section]: Error Report Index # does not exist in panel #

The indicated index no longer exists. Select another index.

[report section]: Error Report is based upon a non-existent panel #

When a report is created, the report is based upon the panel that the user was in before creating the report. This error will occur when the panel that the report was based upon no longer exists. Delete the report.

Appendix K: Utilities—DPOrder

DPOrder 3.0 is a utility program that can examine a selected DataPerfect database and show useful database information.

DPOrder lets you change the order of reports in a report list. Reordering can be useful if you have many reports listed and want to put frequently-used reports at the top of the list.

In previous versions of DataPerfect, the functions now included in DPOrder were split between DPInfo and DPOrder. DPOrder now provides the database information once given by DPInfo in addition to providing report reordering capabilities.

Starting DPOrder

To use DPOrder,

- 1 Start at the DOS prompt.
- 2 If you don't have the path to DPOrder in your AUTOEXEC.BAT path command, change to the drive and directory where DPOrder is located. For example, if your DataPerfect program files are located in a directory called DP23 on drive C, you would do the following:

Type **c:**, then press **Enter**.

Type **cd\dp23**, then press **Enter**.

- 3 Next, decide what startup option(s), if any, you want to use. Available options are listed in the table below.

/f	Fix damaged panels
/h	Access a help screen that lists available startup options.
/nb	Automatic overwrite of backup file
/q-x	DPPRINT printer port, 1=LPT1, 2=LPT2, 3=COM1, 4=COM2
/r	Go directly to reports reorder screen

- 4 Type **dpo**, the path and name of the database, and any options you want to use in the following format:

dpo [database path and name] [option(s)]

For example: **dpo c:\dp23\client2 /nb**

If you want to select from a list of databases, type only dpo. A list of databases in the current directory is displayed. Change directories or select a database as you would when you are accessing a database in DataPerfect.

The main DPOrder screen is displayed unless you used the /r startup option to immediately access the reorder reports screen.

The information displayed on your screen may differ from that shown.

DPOrder 3.0							
Database: C:\DPO\CLIENT2.STR	Panel: 5	Reports: ?	Menu: No				06-15-92
Password Levels: None							
BP Path: V:\N\BP.COM							
Disk Space used by BP database:	26,624						
Use ? and ! to move through the panel list.							
PANEL INFORMATION Exit-F7 Print-Shift+F7 Reorder Menu-F8 Help-F3							
Filename	Content	#Index	Rec Size	#Records	Filsize	Date	Time
CLIENT2 .STR Structure					13312	09-09-92	10:23a
CLIENT2 .IND Index					7680	11/27/91	12:00a
CLIENT2 .TOK Text					2048	11/27/91	12:00a
CLIENT2 .BYT Panel 1	7					File Not Found	
CLIENT2 .IND Panel 2	2		26	13	512	11/27/91	12:00a
CLIENT2 .PRN Panel 3	2		41	31	1536	11/27/91	12:00a
CLIENT2 .ITW Panel 4	1		23	28	1624	11/27/91	12:00a
CLIENT2 .PAV Panel 5	2		18	13	512	11/27/91	12:00a

For information on how to interpret this screen, see *Understanding the DPOrder 3.0 Panel Information Screen* in the next section.

If a Supervisor password exists, you must enter the password when prompted or you will not be allowed to access to database information.

Understanding the DPOrder 3.0 Panel Information Screen

DPOrder's Panel Information screen provides general information about the selected database. The top portion of the screen provides summary information while the lower portion of the screen displays information about each file associated with the database.

DPOrder 3.0							
Database: C:\DPO\CLIENT2.STR	Panel: 5	Reports: ?	Menu: No				06-15-92
Password Levels: None							
BP Path: V:\N\BP.COM							
Disk Space used by BP database:	26,624						
Use ? and ! to move through the panel list.							
PANEL INFORMATION Exit-F7 Print-Shift+F7 Reorder Menu-F8 Help-F3							
Filename	Content	#Index	Rec Size	#Records	Filsize	Date	Time
CLIENT2 .STR Structure					13312	09-09-92	10:23a
CLIENT2 .IND Index					7680	11/27/91	12:00a
CLIENT2 .TOK Text					2048	11/27/91	12:00a
CLIENT2 .BYT Panel 1	7					File Not Found	
CLIENT2 .IND Panel 2	2		26	13		11/27/91	12:00a
CLIENT2 .PRN Panel 3	2		41	31	1536	11/27/91	12:00a
CLIENT2 .ITW Panel 4	1		23	28	1624	11/27/91	12:00a
CLIENT2 .PAV Panel 5	2		18	13	512	11/27/91	12:00a

The top portion of the screen shows the full path of the selected database, its defined password levels (Definer, Supervisor, Read-Write, or Read-Only), and the total number of panels and reports in the database. It also shows whether the database has a menu. The path of the DataPerfect program found (DPOrder looks through the local path and the network search drives for the first occurrence) and the version date are shown. The total disk space used by the database and the total free disk space are displayed.

The lower part of the screen displays information about files associated with the selected DataPerfect database. Filename, contents, file size, file date and time are displayed for each file. Data files also show panel information including the panel number, the number of indexes, record size, and the number of records found in the file.

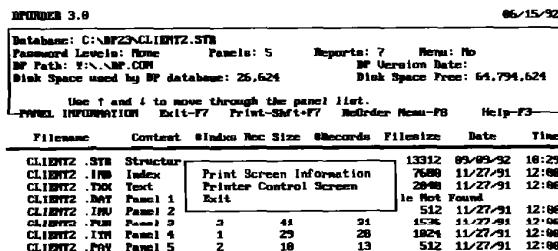
If an asterisk (*) appears next to a panel listing, use the /f option on the command line to repair the damaged file. See *Starting DPOrder* above.

Printing

You must have DPPrint resident before using this option. For information on how to load DPPrint, see *Appendix L: Utilities—DPPrint*.

To access the DPOrder Print menu,

- 1 Start from the DPOrder 3.0 Panel Information screen.
- 2 Press **Print** (Shift-F7).



- 3 Select an option by placing the cursor over the desired option and pressing **Enter**.

When you select the Print Screen Information option from the menu, a complete list of what is displayed on the screen and additional information you may have to scroll down to see will be sent to the DPPrint queue for printing. LPT1 will be used unless another port has been selected on the command line. See *Starting DPOrder* above for the command line option to change the printer port.

You can display the DPPrint Printer Control Screen by selecting the Printer Control Screen option from the Print menu. You can examine the print queue, halt printing, restart the current print job, pause printing after the current print job, select a printer definition, delete a print job(s), or change the path to .PRD files. For details on using the DPPrint Printer Control Screen, see Appendix L: Utilities—DPPrint.

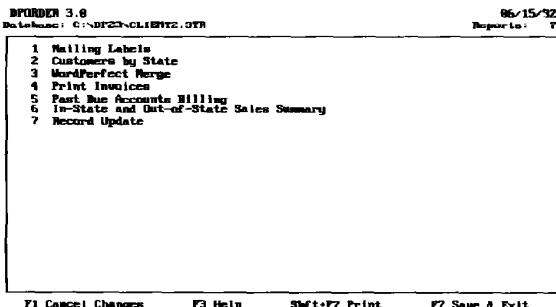
Reordering Database Reports

If you reorder reports, remember to make the necessary changes to any macros that are dependent upon the report order.

To reorder reports,

- 1 Start from the DPOrder 3.0 Panel Information screen.
- 2 Press **Reorder Menu** (F8) to display the Reorder Menu.
- 3 Place the cursor over Reorder Database Reports and press **Enter**.
- 4 Use the arrow keys to move the cursor to the report to be reordered.

The screen shown is the report reorder screen for the CLIENT2 database. The information on your screen may be different.



The reports are listed in numerical order.

- 5 Change the order by typing the new order number and then pressing **Enter**.

For example, suppose you wanted to change the order of the reports listed in the screen example above so that the third report (WordPerfect Merge) would become the first report, Mailing Labels would become the second report, and Customers by State would become the third report. You would place the cursor on WordPerfect Merge, type 1, and then press **Enter**.

- 6 Press **Exit** (F7).

If you have made no changes, you are returned to the DPOrder 3.0 Information screen. If you have made changes, you are prompted to save changes.

7 Type **y** if you want to save the changes you made.

or

Type **n** if you want to cancel the changes you made.

If you type **y** to save the changes, DPOrder will make a backup copy of the specified structure file with a .BKK extension. It will prompt to overwrite any previous .BKK file, unless the /nb option is used or if there is no previous .BKK file.

8 Type **y** to overwrite the previous .BKK file.

or

Type **n** if you do not want to overwrite the previous .BKK file.

9 Type **y** to exit the Reorder window.

or

Type **n** to continue reordering.

If you did not overwrite the previous .BKK file, you are prompted again.

10 Type **y** to confirm no overwrite.

or

Type **n** if you want to overwrite the previous .BKK file.

11 Type **y** to exit the reorder screen.

or

Type **n** to remain in the reorder screen.

If the /nb switch has been set, the BKK file will be automatically overwritten and no prompt will appear.

Exiting DPOrder

To exit from DPOrder, you can press either Exit (F7) or Escape (Esc).

Exit exits the current screen. If you begin exiting from somewhere other than the main screen, you may need to press Exit more than once.

Escape prompts to let you exit DPOrder completely. It will cancel any unsaved operation and return to the previous program (DOS or Shell).

Appendix L: Utilities—DPPrint

The DataPerfect Printer Program (DPPrint) allows you to print reports while performing other tasks in DataPerfect. DPPrint lets you select a printer definition that is specifically tailored to your printer. This printer definition includes the proper control strings for bolding, underlining, and producing POSTNET bar codes.

DPPrint is included on the Shell/Utilities diskette. DPPrint is a TSR (Terminate and Stay Resident) program separate from DataPerfect. This program uses the same printer drivers as WordPerfect Office.

You will want to use DPPrint for most of your DataPerfect printing.

To print POSTNET bar codes you must use DPPrint. You cannot print POSTNET bar codes by exporting your data into WordPerfect.

If you want to use one or more international characters while DPPrint is active, you must first edit a copy of the appropriate printer driver (.PRD file) to include the international character(s) you want to use. For information on how to do this, see *WordPerfect Office Printer Program (WPOPTR)* later in this appendix.

If you prefer not to edit the .PRD file, do not run DPPrint when you are using international characters you have mapped to the printer.

DPPrint only works with DataPerfect 2.1 or later versions. DPPrint takes approximately 15k of memory and requires DOS 3.0 or later versions. DPPrint is NOT networkable. In other words, two or more people should not run DPPrint from the same network directory. It is suggested that DPPrint only be run from a local directory.

However, if you have purchased DataPerfect for use on a network, you can load DPPrint on those machines for which you have purchased DataPerfect. For example, if you have purchased ten licenses for DataPerfect for ten networked machines, you can load DPPrint on each of those ten machines.

First-time Installation

DPPRINT.COM, WPOPTR.EXE, and the printer drivers (see *Appendix F: Program Files*) should be installed when you install DataPerfect.

The easiest way to install these files is with the Install program included. To use this program, insert the program diskette that contains INSTALL.EXE into drive A, go to a DOS prompt, type **install** and press **Enter**.

If you want to install the printer files without using the Install program, begin at a DOS prompt. Then,

- 1** Create a directory on your local drive for the DPPrint files.
- 2** Copy the files on the DPPrint disk to the directory you created. If you are using WordPerfect Office, you do not need to copy the .PRD files.
- 3** Switch to the directory containing the DPPrint files.

- 4** Enter **dpprint /c**. The /c option brings up the DPPrInt Printer Control Menu, which allows you to set up your printer(s).

For information on how to create a directory and copy files at a DOS prompt, see your DOS manual.

If the path for .PRD drivers listed at the bottom of the screen is not correct, press **c** and enter the correct path (for example, c:\office).

- 5** Press **s** to access the Printer Selection menu.

- 6** Use the Up or Down Arrow key to move to the correct port.

- 7** Enter the number that corresponds to the printer attached to the selected port.

If your printer is not listed, select OTHERDM if you have a dot matrix printer, or select OTHERLQ if you have a letter quality printer.

- 8** If necessary, repeat steps 6 and 7 for the remaining printer ports.

When you exit the Printer Selection menu, the names of the printer drivers you just selected are displayed in the lower left corner of the screen.

- 9** After selecting the printer(s), press **Exit** (F7) or **e** to exit the Printer Control Menu.

- 10** After returning to the DOS prompt, enter **dpprint /r** to remove DPPrInt from memory and complete the installation process.

Loading DPPrInt

Once the printer program files are installed on your computer, you can load the printer program into memory. If you have not put the DPPrInt command in your AUTOEXEC.BAT file (see the following section), you must do the following each time you want to use DPPrInt.

Important: *If you are printing to a serial port (such as COM1 - COM2), you must initialize the port before loading DPPrInt. DPPrInt does not initialize serial ports. If you do not initialize the port before loading DPPrInt, DPPrInt will control it, and any later attempts to initialize the port will fail. This initialization can be done with another program or with the DOS MODE command. For information about using the DOS MODE command, see your DOS manual.*

DPPrInt should be loaded before any other programs. You cannot use the TSR Manager shipped with WordPerfect Office to load or unload DPPrInt. To load DPPrInt into memory,

- 1** If you have already loaded any other programs (such as Shell), press **Exit** (F7) until you see the DOS prompt. Do not use the Go To DOS feature from any WordPerfect Corporation product.

- 2** Enter **dpprint** at the DOS prompt. You are returned to the DOS prompt.

The program now is resident in memory until you turn off the computer or run **dpprint /r**. If you want to remove it from memory without restarting your computer, enter **dpprint /r** at the DOS prompt.

Note: You cannot load multiple copies of DPPrInt into memory.

Append DPPrint to the AUTOEXEC.BAT File

To save loading 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 selected this option while running the Install program, you do not need to follow these steps.

Editing the AUTOEXEC.BAT File Under DOS

If you are not using WordPerfect Shell, follow the steps below to add the DPPrint command to your AUTOEXEC.BAT file. If you are using WordPerfect Shell, follow the instructions after step 16.

- 1** Begin with the DOS prompt on the screen.
- 2** If you are working from a hard disk drive, type **c:** at the DOS prompt and press **Enter**.
- 3** Type **cd** and press **Enter** to switch to the root directory where your AUTOEXEC.BAT file should be located.

If you are working with only floppy disk drives, switch to the drive where your AUTOEXEC.BAT file is located (for example, enter **cd\floppies**).

- 4** Type **type autoexec.bat** and press **Enter** to see if you have a PATH= command.

If your AUTOEXEC.BAT file already contains a PATH= command, proceed with steps 5 through 8.

- 5** Type **copy autoexec.bat+con autoexec.bat** and press **Enter** to append to the existing AUTOEXEC.BAT file.
- 6** Type **c:\data\dpprint** to add the DPPrint command to the AUTOEXEC.BAT file. In this example the "data" directory contains the DataPerfect programs files. This directory name may be different for your system.
- 7** Press **F6** to include the code that ends the AUTOEXEC.BAT file (^Z), then press **Enter**. You will see a message telling you that one file has been created.
- 8** Turn off the computer, then turn it on again for the edited AUTOEXEC.BAT file to take effect. When you turn your computer back on, you will see this message briefly at the bottom of the screen:

Use:
DPPrint /C for Control Panel
or DPPrint /R to remove DPPPRINT

This is not an error message. It simply displays the DPPrint options to use if you don't use your AUTOEXEC.BAT file.

If your AUTOEXEC.BAT does not contain a PATH= command, you must edit the file (press **F6**) and follow the steps below.

It is suggested that you use a text editor to modify the AUTOEXEC.BAT file. If you don't have a text editor, you can use WordPerfect and save the changes to the file.

make as DOS text with Ctrl-F5. See *DOS and WordPerfect in Reference* in the WordPerfect Reference manual for more information.)

9 Access your text editor.

Be sure the screen is blank.

10 Retrieve the AUTOEXEC.BAT file by performing the necessary steps for your text editor.

11 Position the cursor at the beginning of a line in the file.

12 Type **c:** and press **Enter**. Type **cd\directory** and press **Enter** (*directory* represents the name of the directory in which the DataPerfect Printer Program is located).

13 Type **dpprint** and press **Enter**.

14 Save the document.

15 When prompted, type **y** and press **Enter** to confirm the replacement of the old AUTOEXEC.BAT file.

16 Turn off the computer, then turn it on again for the edited AUTOEXEC.BAT file to take effect. When you turn your computer back on, you will see this message briefly at the bottom of the screen:

Use:

DPPrint /C for Control Panel
or DPPrint /R to remove DPPPRINT

This is not an error message. It simply displays the DPPrint options to use if you don't use your AUTOEXEC.BAT file.

Editing the AUTOEXEC.BAT File Under Shell

If you are using the WordPerfect Shell, follow the steps below to add the DPPrint command to your AUTOEXEC.BAT file.

It is suggested that you use a text editor (for example, EDLIN or WordPerfect Office Editor) to modify the AUTOEXEC.BAT file. (If you don't have a text editor, you can use WordPerfect or LetterPerfect and save the changes you make as DOS text. See your WordPerfect reference or LetterPerfect manual for more information.)

1 Access your text editor.

Be sure the screen is blank.

2 Retrieve the AUTOEXEC.BAT file.

3 Position the cursor at the beginning of a line in the file. Be sure the line is *just before* the Shell command at the end of the file.

4 Type **c:** and press **Enter**. Type **cd\path** and press **Enter** (*path* here represents the path in which your DataPerfect Printer Program is located).

- 5** Type **dpprint** and press **Enter**.
- 6** Save the file under the same name so that it replaces the old AUTOEXEC.BAT, then exit the text editor.
- 7** Turn off the computer, then turn it on again for the edited AUTOEXEC.BAT file to take effect. When you turn your computer back on, you will see this message briefly at the bottom of the screen:

Use:

DPPrint /C for Control Panel
or DPPrint /R to remove DPPPRINT

This is not an error message. It simply displays the DPPrint options to use if you don't use your AUTOEXEC.BAT file.

Using DPPrint

Once DPPrint is loaded, you will notice a difference in the DataPerfect program only when you press Report/Export (Shift-F7).

To print a report with DPPrint,

- 1** Be sure the cursor is in the panel you want to print.
- 2** Press **Report/Export** (Shift-F7) to access the report list.
- 3** Move the cursor to the report you want and press **Enter**.

or

Press **Insert** to create a new report.

A series of options is displayed for the report you selected.

You will notice two new settings to the right of the Printer On/Off option. See *Report, Custom in Reference* for more information about Printer On/Off. (See *Reports in Reference* for more information on creating reports.)

```
REPORT: Mailing Labels
Destination: Screen Only
  1 - Printer On/Off Using DP Print Driver
  2 - Disk File On/Off Press P to go to Printer Control Screen
  3 - Index Number      1
  4 - Search Conditions No Search
  5 - Sort Direction   Forward
  6 - Disk File Mod UP/DOS No Disk File
  7 - Print Margins    Top     Bottom   Left    Text Lines
                           0       0        0       8
  8 - Edit Report Form
  9 - Edit Report Name

Selection: (Press Shift-F7 to begin the report) 8
```

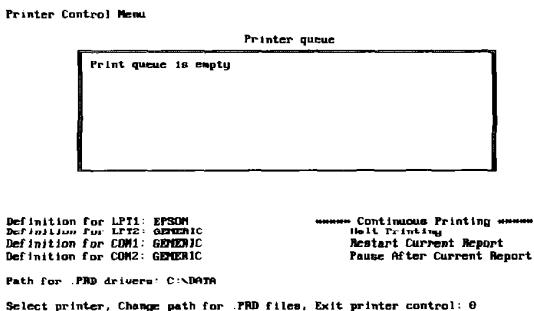
The first message displayed is “Using DP Print Driver.” This setting cannot be changed. It is displayed to inform you that DataPerfect is aware that DPPrint is running and will use the printer drivers if directed to do so.

The option beneath “Using DP Print Driver” is “Press P to go to Printer Control Screen.”

Printer Control Menu

The Printer Control menu lets you view, delete, and manage the print jobs in the printer queue. A printer queue lists the print jobs you have sent to be printed. The queue is saved if you halt printing, then remove DPPrint or turn off the machine. (See *Removing DPPrint* below.) When you resume printing, printing will restart with the job that was halted or with the first job that was left in the queue.

- 1 Press p to access the Printer Control menu.



To delete a print job, move the cursor to the print job you want to delete, then press **Delete**. If you want to move to the first report in the printer queue, press **Home**.

Along with deleting jobs from the printer queue, you can also use the options listed in the lower right corner of the screen.

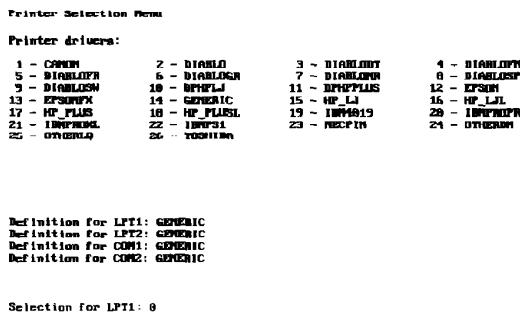
The first option, Halt Printing, stops the printing immediately. This option is helpful if you need to turn off your computer in the middle of a long print job. Once you select Halt Printing, a “Printing Stopped” message appears and the Halt Printing option is replaced with the Go Continuous Printing option. To restart printing, press G for Go Continuous Printing.

The Restart Current Report option allows you to stop printing the current report and immediately begins printing the same report again from the beginning. This option is helpful if you have a problem with the printer.

The Pause After Current Report option prints the current report and pauses when the report is finished printing. This option is helpful if you need to change the paper between reports.

The Printer Control menu also displays the current printer driver for each port in the lower left corner of the screen. From this menu, you can also select a new printer driver or exit the Printer Control menu.

- 2 Press **S** to access the Printer Selection menu.



From the Printer Selection menu, you can change the setting for the printer driver in the current directory. The printer driver currently selected for LPT1 is highlighted. You must first enter the desired printer driver for LPT1.

- 3 Enter the number that corresponds to the type of printer connected to LPT1 (default setting is GENERIC). For example, in the illustration above, since an Epsou printer is connected to LPT1, you would enter an 11.

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.

Removing DPPrinT

It is best to remove DPPrinT from memory or finish printing before turning off the computer. If you need to turn off your computer while DPPrinT is still printing, use the Halt Printing command (see *Printer Control Menu* above). This way the print job you were on will start over when you resume printing, and any remaining jobs in the queue will still be there.

If you want to remove DPPrinT from memory without restarting your computer, enter dpprint /R at the DOS prompt. DPPrinT may be removed from memory only if nothing is loaded after it. For example, if DPPrinT is loaded before Shell, DPPrinT cannot be removed from memory until Shell is exited.

Troubleshooting Information

When DPPrinT is printing, no other program can print to the same printer port until DPPrinT is finished with the report. For example, you should not try to print from WordPerfect while DPPrinT is printing.

If you are using a laser printer, it is recommended that you set the bottom margin to 0 on the Report Print Margins setting.

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. Refer to your network documentation to learn how to redirect to a network printer.
WordPerfect Office Printer Program (WPOPTR)	Your DataPerfect software includes printer definition (.PRD) files that DataPerfect uses to communicate with your printer. These printer definitions contain the codes necessary to control printer setup, bolding, and underlining. However, if you want to take advantage of your printer's special features, if you need to print foreign or special characters, or if your printer is not printing correctly, you can use the WordPerfect Office Printer (WPOPTR) program to edit a printer definition. You can also use the WPOPTR program to create a printer definition if none of the existing printer definitions work with your printer. <p>To use the WPOPTR program,</p> <ol style="list-style-type: none">1 At the DOS prompt, change to the directory containing the printer definition (.PRD) files.2 Enter wpoptr to start the WordPerfect Office Printer program.3 Enter the name of the printer file you want to edit or create. You do not need to include the .PRD extension.<p><i>You can also enter the filename when starting the program (for example, wpoptr generic).</i></p>4 Select Instructions (1) or press Help (F3) for instructions on how to use the program, then select Return to PRINTER SETUP Menu (0) or press Enter when you finish with the instructions.5 Select Printer Definition (2) if you need to edit or enter printer control codes, then press Exit (F7) when you finish.6 Select Character Table (3) if you need to edit or enter character information, then press Exit when you finish.7 Select Exit—Save Changes (0) or press Exit to save the changes and return to DOS. <p><i>or</i></p> <p>Select Exit—Cancel Changes (4), then type y if you decide not to save any of the changes you have made.</p>

Appendix M: Utilities—DPLinks

You can run DPLinks to create a diagram of how a specific database's panels are linked and a list of link descriptions. You can print the diagram and list or save them to a file that can be read in a DOS text editor.

You can use information from a DPLinks diagram and list to better understand a database that is new to you. DPLinks also shows if any links are attempting to connect to a deleted panel. This information can alert you to potential database errors that should be corrected or links that should be re-defined.

If, before starting DPLinks, you want to review the startup options available to you can access a help screen by following the steps below.

At the DOS prompt,

- 1** Change to the directory where you keep the DataPerfect program files (for example, c:\dp23).
- 2** Type **dplinks** and press **Enter**.

The help screen is displayed.

The startup options you can use with DPLinks are shown below.

/f-outputname	Specify output filename (no spaces). The default is <i>databasename.lnk</i> , placed in the current database directory.
/l-#	Specify number of lines per page (default is 59 lines per page).
/n	Do not create an output file.
/q-#	DPPrint printer port (1=LPT1, 2=LPT2, 3=COM1, 4=COM2). (DPPrint must be resident for this option to work.)
/w-#	Specify number of characters per line (default is 80 characters per line).

Starting DPLinks

Before using DPLinks, you should decide the startup option you will use. See the table above for available startup options.

To create a diagram and link description list of the database structure,

- 1** If you are going to send the diagram and list to a printer, make sure DPPrint is resident. For more information on using DPPrint, see *Appendix L: Utilities—DPPrint*.
- 2** Start at the DOS prompt.

- 3** Change to the directory where you keep the DataPerfect program files (for example, c:\dp23).
- 4** Type **dplinks** followed by the database path (if you are not in the same directory as the database) and name, followed by any necessary startup option, in this format:

DPLINKS path\[database name] [option]

or, if you are in the same directory as the database:

DPLINKS [database name] [option]

Your command might look like the example below if you wanted to diagram the structure of a database called MAILING.STR located in the directory C:\DP23.

`dplinks c:\dp23\mailing`

Note that the inclusion of the file extension .str is optional. Because you didn't specify a name for the output file, by default it would be named MAILING.LNK and be located in the directory C:\DP23.

If you wanted to use the /f option to send the diagram and list to a file called MAILING.LNK in a directory called TEST, your command might look like this:

`dplinks c:\dp23\mailing /f-c:\test\mailing.lnk`

If the database from the example above were located in your current directory, and you wanted to send the output to a printer connected to your PC's printer port LPT1 instead of to a file, your command might look like this:

`dplinks mailing /q-1 /n`

If you were to remove the /n option in the example above, the file would be sent to a file and to printer LPT1.

- 5** Press **Enter**.
- 6** If you sent the diagram and list to a file, retrieve the file into a DOS text editor to view it (for example, WordPerfect Editor). If you retrieve the file into WordPerfect, LetterPerfect, or another word processor, retrieve it in DOS text format. You may have to adjust the margins.

or

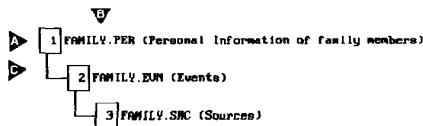
If you sent the diagram and list to the printer, view the printed output. If your database is too large to print on one page, DPLinks prints it across two or more pages. You will want to fit these pages together on a flat surface so you can see the entire diagram at once.

Understanding a DPLinks Diagram

An understanding of the elements of a DPLinks diagram helps you interpret the diagram.

The example screen below shows a DPLinks diagram that has been retrieved in a text editor.

- A** ▼ PANEL
- B** ▼ PANEL FILE NAME
- C** ▼ LINK



Panel

Panels are represented by rectangles. The number inside the panel rectangle is the panel number. The panel file name sits to the right of the panel rectangle.

Link

A line connecting two panels represents one or more links between those panels. These links may be data links or panel links or both.

Deleted Panel

Deleted panels appear as do existing panels except the words "Deleted Panel" are to the right of the panel rectangle instead of the panel file name. If you see that link go to a deleted panel, you should look to see which existing panel is connected to the deleted panel and later enter the existing panel and re-define the links.

Understanding a Link Description List

Whenever you run DPLinks, the information you send to a printer or a file includes a DPLinks diagram and a link description list. The list appears on the page immediately following the diagram. The link description list gives specific information about each link in the database.

An understanding of the elements of a DPLinks links description list helps you interpret the list.

The example screen below shows a DPLinks list that has been retrieved into a text editor.

- ▼ LINK DESCRIPTION
- ▼ LINK FIELDS COLUMN
- ▼ TARGET INDEX FIELDS COLUMN

```
B P1F11 is panel link to panel 1 target Field 1 using index 4
Link Fields: Target Index Fields:
P1F10 Marriage # G22229 --- P1F14 Child of Marriage G22229
P1F11 Family Name U30
P1F2 First Name A15
P1F3 Second Name A15
P1F13 Person ID N999-999::IN

P1F12 is panel link to panel 2 target Field 1 using index 1
Link Fields: Target Index Fields:
P1F13 Person ID N999-999::IN --- P2F1 Person ID N999-999
P2F1 ut
P2F6 Event Month M29::E
P2F7 Event Day M29::E
P2F8 Event Year N9999

P1F14 is date link to panel 1 target field 1 using index 3
Link Fields: Target Index Fields:
P1F14 Child of Marriage G22229 --- P1F10 Marriage # G22229
P1F14 Family Name U30
P1F2 First Name A15
P1F3 Second Name A15
P1F13 Person ID N999-999::IN

P2F10 is date link to panel 1 target field 1 using index 5
```

Each field description in the Link Fields Column or Target Index Fields Column includes the panel field number, field alias, and the field format. If a field listed has an alias (is a named field), DPLinks gives the first 16 characters of the alias.

Link Description

The link description includes the name of the panel link or the field the data link is on, the link's destination panel and target field, and the index the link is using.

Link Fields Column

The Link Fields column shows the fields in the link key field list. These are fields in the source panel. A dashed line connecting a field in the Link Fields column to a field in the Target Index Fields column indicates a matching field. A matching field has an identical field format and stores the same information. There must be at least one matching field for the link to work.

Target Index Fields Column

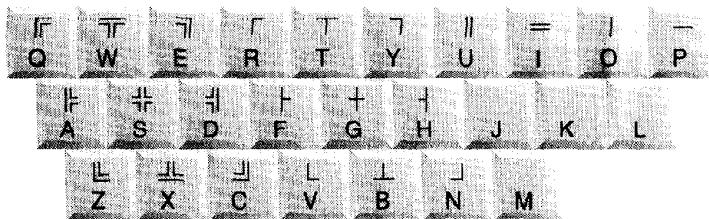
The Target Index Fields column shows matching fields in the destination panel, followed by the rest of the fields in target index.

Appendix N: ASCII and IBM Extended Characters

These ASCII and IBM extended characters are available in panels, text fields, custom help, definer banners, and the Edit Menu Text screen. Characters 179-223 are especially useful for drawing lines and boxes. Characters 219, 220, and 221 are useful for creating backshadowing.

DataPerfect has special keystroke mappings that let you access certain box-drawing characters quickly. Hold down Alt and type the corresponding letter, as illustrated on the keyboard below. The character will not appear until you release the Alt key.

If you want to use these Alt-letter characters in a new database, you should take care not to change the default keystroke mappings. If you access any existing database previous to creating a database in the same session, the newly-created database will have the mappings of the existing database.



In an existing database that has keystroke mappings other than the default, you can change the mappings (see *Character Map* in *DataPerfect Reference*), or you can use the Alt-number method of entering the ASCII and IBM extended characters.

You can also update the Alt- and Ctrl-key mapping of an existing database by editing the .STE file. To do this, you first create a new database using the DataPerfect 2.3 defaults. Then, you back up both old and new databases and edit them using DPEXP. Using a DOS text editor, replace the ALT.MAP and CTRL.MAP sections in the .STE file of the old database with the ALT-MAP and CTRL-MAP sections from the .STE of the new database, then save the modified .STE file. Finally, use DPIMP to import the old database. You will be asked to regenerate the indexes the next time you enter the database.

Important: *Editing the .STE in a text editor can damage the structure of your database. You should make a backup copy of the database before editing the .STE file, so that if your structure file is damaged, you can restore from the backup. WordPerfect Customer Support is unable to fix a structure file damaged by editing the .STE file.*

If you don't have a character mapped to a certain keystroke, you can still access available ASCII and IBM extended characters (shown in the table below) with the Alt-number method. Hold down Alt and type the screen position number on the number pad (do not use the numbers at the top of the keyboard). The character will not appear until you release the Alt key.

Screen Position	ASCII Character	Screen Position	ASCII Character
1	☺	30	▲
2	☻	31	▼
3	♥	32	(space)
4	♦	33	!
5	♣	34	"
6	♠	35	#
7	•	36	\$
8	▣	37	%
9	○	38	&
10	■	39	'
11	♂	40	(
12	♀	41)
13	♪	42	*
14	♫	43	+
15	☼	44	,
16	▶	45	-
17	◀	46	.
18	↑	47	/
19	↓	48	0
20	¶	49	1
21	§	50	2
22	▬	51	3
23	▬	52	4
24	↑	53	5
25	↓	54	6
26	→	55	7
27	←	56	8
28	▬	57	9
29	↔	58	:

Screen Position	ASCII Character	Screen Position	ASCII Character
59	;	88	X
60	<	89	Y
61	=	90	Z
62	>	91	[
63	?	92	\
64	@	93]
65	A	94	^
66	B	95	_
67	C	96	.
68	D	97	a
69	E	98	b
70	F	99	c
71	G	100	d
72	H	101	e
73	I	102	f
74	J	103	g
75	K	104	h
76	L	105	i
77	M	106	j
78	N	107	k
79	O	108	l
80	P	109	m
81	Q	110	n
82	R	111	o
83	S	112	p
84	T	113	q
85	U	114	r
86	V	115	s
87	W	116	t

Screen Position	ASCII Character	Screen Position	ASCII Character
117	u	146	Æ
118	v	147	ô
119	w	148	ö
120	x	149	ò
121	y	150	ú
122	z	151	ù
123	{	152	ÿ
124		153	Ö
125	}	154	Ü
126	~	155	¢
127	◊	156	£
128	Ҫ	157	¥
129	ü	158	Þ
130	é	159	f
131	â	160	á
132	ä	161	í
133	à	162	ó
134	å	163	ú
135	ç	164	ñ
136	ê	165	Ñ
137	ë	166	ª
138	è	167	º
139	í	168	¸
140	î	169	¬
141	ì	170	¬
142	Ä	171	½
143	Å	172	¼
144	É	173	¡
145	æ	174	«

Screen Position	ASCII Character	Screen Position	ASCII Character
175	»	204	
176		205	
177	:	206	
178	,	207	
179	:	208	
180	:	209	
181	:	210	
182	:	211	
183	:	212	
184	:	213	
185	:	214	
186	:	215	
187	:	216	
188	:	217	
189	:	218	
190		219	■
191		220	■
192		221	■
193		222	■
194		223	■
195		224	α
196		225	β
197		226	Γ
198		227	π
199		228	Σ
200		229	σ
201		230	μ
202		231	τ
203		232	Φ

Screen Position	ASCII Character
233	Θ
234	Ω
235	δ
236	∞
237	Φ
238	ε
239	∩
240	≡
241	±
242	≥
243	≤
244	ƒ
245	Ј
246	÷
247	≈
248	°
249	·
250	·
251	√
252	º
253	²
254	■
255	

Appendix O: WordPerfect International Affiliates

If you purchased this product within the U.S. or Canada and want to register your license outside the U.S. and Canada with the WordPerfect Corporation International Affiliate Office in your area, entitling you to local customer support and update notices, you will be charged a maximum of 25% of the local retail price.

International WordPerfect Offices

Asia (Covers Hong Kong, Indonesia, Malaysia, Philippines, Singapore and Taiwan)
WordPerfect Asia, Regional Office
75 Science Park Drive,
CINTECH II, #02-04,
Singapore 0511

Tel: (65) 773 2622
Fax: (65) 773 1622

For toll free customer support from the following areas:

Hong Kong: 800 3350
Indonesia: 00800 656585
Malaysia: 800 3350
Singapore: 773 1400
Taiwan: 0080 651042

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WordPerfect Österreich
Theresianumgasse 7
A-1040 Vienna
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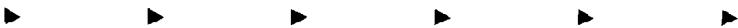
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Glossary

ASCII

American Standard Code for Information Interchange. One of the standard formats for representing characters so that files can be shared between programs. A DOS text file is usually in ASCII format.

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 (F1).

browse mode

Lets you look through the records in a panel without making any changes to the records. See also *create mode*, *define panel mode*, and *edit mode*.

case sensitive

A program or feature that distinguishes between uppercase and lowercase letters. DataPerfect is case sensitive only when reading passwords.

clipboard

An area of memory, also called a buffer, where text and commands can be stored awaiting further action. The item remains on the clipboard until you cut or copy another additional item or until you turn off the computer. If you are using WordPerfect Office Shell, the Shell Clipboard can be used to cut and paste information from one program into another.

concatenate

To join together in a series or chain. For example, if you concatenate *her* and *the* the result is *herring*.

create mode

Lets you make a new record in a panel by pressing Create (F9). See also *browse mode*, *define panel mode*, and *edit mode*.

data

Information that makes up a database.

data checking

When you enter data in a field that contains a data link, this feature checks to see if a related record already exists in the destination panel.

data file

A file that contains data from a database.

data link

A feature that 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 software program that maintains records. A flat file database (such as Notebook) lets you access only one record at a time. A relational database (such as DataPerfect) lets you link information from multiple records and may contain a set of programming commands to let the user perform complex tasks.

database definer

The person who creates the structure of the database.

database list

A list that displays the names of all the databases in the current directory. You can access the databases from the list.

database supervisor

The person responsible for maintaining the database, training DataPerfect users, and establishing user passwords in a database.

default

A setting, value, or response provided by DataPerfect unless an alternative is specified. Some defaults can be changed for all future work sessions; other defaults can be changed for one use, and will reset when you exit DataPerfect.

define panel mode

Lets you create or edit the structure of the database by pressing Define Panel (Alt-F8). You can create panels and fields, define panel and field options, and edit field formats. See also *browse mode*, *create mode*, and *edit mode*.

delimiter

A character used to separate records and fields.

destination panel

The panel you enter through a panel link or a data link.

DOS

Disk Operating System. Software that oversees disk I/O, video support, keyboard control, and internal commands. A computer needs a disk operating system to function.

edit mode

Lets you edit existing records in a panel by pressing Edit (F6). See also *browse mode*, *create mode*, and *define panel mode*.

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 all of the fields in the list are empty when you save the record, the record is excluded from the index that contains the exception list.

export

A feature that copies data to a file that can be imported back into a database or can be stored for backup purposes.

expression

An combination of an operator and the necessary number of operands. For example, $A + B$ and $-B$ are expressions.

field

A term used in a database and in a secondary merge file for a piece of information in a record. For example, a person's first, middle, and last names could be three separate fields. Fields can be formatted to accept alphanumeric characters, dates, times, and numbers.

field code

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 code which represents the twelfth field created in the third panel.

field format

A format that determines how a field is displayed and printed.

field list

An ordered list of fields used to organize data for a specific purpose. Indexes, field lists, lookup field lists, search field lists, and window field lists are all considered field lists.

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 a report variable.

import

A feature that transfers the contents of a delimited or exported file back into a database.

index

A sorted list used to locate records.

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, 1991 to a Julian date of 33,425. 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 means of sharing information among panels, and of moving between panels without having to exit the current panel.

literal item

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 list used to determine the fields which appear in a lookup list.

lookup list

A sorted list of fields that appears at the top of the screen when you press Lookup or Up Arrow.

macro

A shortcut method of carrying out a series of commands or keystrokes by recording them in a file so the entire sequence can be replayed by a few keystrokes.

DataPerfect does not contain macro features in the program itself, but it will run WordPerfect Shell macros, and Shell macros can record DataPerfect keystrokes and play them back.

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.

menu

A list of choices. Built-in menus provide features necessary for database creation, navigation, reporting, and other functions. You may also see user-defined menus which the definer provides direct access to panels, reports, or other functions through menu number choices.

non-text field

A field format (alphanumeric, date, time, floating decimal, or numeric) defined to accept only one fixed-length line. The field can be defined to contain from 1 to 10 characters (depending on field type), and when the maximum number of characters has been typed, no more characters will be displayed or accepted. See also *text field*.

operand

The object of a mathematical operation or computer instruction. For example, in the expression $A + B$, both A and B are operands of the add operation.

operator

The symbol used to represent a mathematical or logical operation. For example, the add (+), subtract (-), and less than (<) signs are operators.

panel

A template or viewing area on your screen used to display records from a file or a table at one time.

panel link

A feature that 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 the names of all the panels in a database. You can access the panels from it.

path/pathname

A full pathname includes the drive, root directory, 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

The software that enables a program to communicate with the printer so that the program's information can be printed.

port

A connection device between a computer and another component such as a printer or modem.

read-only user

A user who 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 user who 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 offsets

A feature on the Panel Options menu that restructures the position of records and optimizes space in a data file.

record

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 up 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 data from the database which may be sent to a printer, to a disk file, to the screen, or to another panel.

report form

The form used to define the fields, report options, and text which will be included in a report.

report list

A list of all reports that have been created, including built-in short reports. This list enables you to access a particular report.

report variable

Used to store a value in a report. It can perform calculations, create running totals, change field values, and select certain records to include in a report.

search template

A word or number pattern used to search for specific information in a panel.

source panel

The panel in which a panel link or data link originated.

startup options

Options you can use to activate, deactivate, or modify specific functions or features when you start an application.

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 panels. Used only in databases which contain linked panels.

syntax

The rules for organizing elements in an operation. 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.

target field

The field where the cursor appears after you have moved through a data link or panel link.

text field

An alphanumeric field format that is defined to have one or more variable-length lines. The field can be defined to display 1 to 78 characters and 1 to 15 lines. The display size does not affect the maximum capacity of the field; you can type as many as 32,000 characters in a text field, and then view what is not displayed by scrolling through it. See also *non-text field*.

toggle

A feature which can be turned on and off with the same key. For example, to turn on Typeover, press **Insert**; to turn off Typeover, press **Insert** again.

transaction log

A log that records all modifications to data in a database (records which have been created, edited, or deleted.)

truncate

To shorten a field by removing spaces or zeros.

two-level report

A report which categorizes records from one panel into groups. For example, a two-level report could sort all customers in a database by their city of residence, even if no index existed in the panel to sort them by city.

validation time

A field option used when a range check has been specified. When data is entered or when a record is saved, it checks to see if the value in the field is within the specified range.

wildcard

In a search template, wildcards are characters used to represent variables. A question mark (?) represents a single character that you want to vary in the search; an asterisk (*) represents zero or more characters in succession.

window

A viewing area in a source panel that 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 in a report form.

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