

**GRiDFile
Database**

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GRiDFile—Database

This chapter contains an introduction to GRiDFile and a description of each of its commands. If a command is used exclusively with GRiDFile, the command is described in detail; if it can be used with one or more of the other GRiD Applications, you are referred to the “Common Commands” chapter for details.

About GRiDFile GRiDFile is a database management system that lets you store information and retrieve it upon request. Any kind of information—names, addresses, phone numbers, employee numbers, part numbers, sales leads, product numbers, prices, department codes, personal reminders, and so forth—can be stored with GRiDFile, arranged in alphabetical or numerical order, and then displayed or printed.

Topics in this introduction include

- ☐ Creating and querying a database—overview
- ☐ Summary of commands
- ☐ The GRiDFile display
- ☐ Moving about the display
- ☐ Space considerations
- ☐ Error recovery

Creating a Database—Overview

You might follow the steps below the first time you create a database and use GRiDFile to manipulate your data. For step-by-step instructions that introduce you to database functions such as displaying one record or sorting records into alphabetical order, see “Session 6: GRiDFile Databases,” in the *Getting Started* tutorial.

▶ To Use GRiDFile

1. Create a file with Kind set to Database. See the File form section in Chapter 1, “System Basics” for information on creating files. Specify a storage device that has enough space to hold your database. For example, if you anticipate a large database, you would want to specify hard disk, if available, as the device.
- 

Once you confirm the File form, the screen shows the GRiDFile display (explained later in this introduction).

2. Using the Options (CODE-O) and Properties (CODE-P) commands, determine the database format and characteristics. This step is optional; both the Options and Properties forms contain preset characteristics for a new database file. See the Options (Database)—CODE-O and Properties (Database)—CODE-P sections in this chapter.
3. Type your data into the database. GRiDFile automatically saves your entries on the device you designated in the File form. Note that GRiDFile is the only GRiD application that saves your data as you enter it.
4. To display or print your data in alphabetical order, fill in the Report form (CODE-?).
5. To display data when you are in GRiDFile, press CODE-F, the Find (Query Database) command. You can display either the entire database or only those records that meet conditions you specify.
6. You can print out all or selected portions of your database with the Print item of the Transfer command (CODE-T).
7. When you complete work on your database, several commands are available to exit GRiDFile; the command you use depends on what you want to do next. These commands are summarized below; see the “Common Commands” chapter for details on their use.
 - ☐ You can transfer data to and exchange your database file for another database file, or a graph, text, or a worksheet file by using the Append to a File or Write to a File items of the Transfer command (CODE-T).
 - ☐ You exchange your database file (without transferring data) for any other file by using the Exchange for Another File item of the Transfer command (CODE-T).
 - ☐ You can exit your database file and return to the File form by using the Quit (CODE-Q) or Cancel (CODE-ESC) command.

Querying an Existing Database—Overview

To query or modify an existing database, fill out the File form (as described in the “System Basics” chapter) and confirm. The database display then appears on your screen. To make new entries, type in your data.

To display the entire database, press CODE-F and confirm. To display only those records that meet certain conditions, fill in the Find form before confirming; see Find (Query Database)—CODE-F later in this chapter.

The Commands

The commands shown in Figure 4-1 are available to you when you see the GRiDFile display (step 1 under To Use GRiDFile). Press CODE-? to display the commands and a summary of their functions.

Figure 4-1. *The Commands Menu*

A	B	C	D	E	F
Report			Set sorting columns		
Compress			Remove deleted records		
Begin	CODE-B		Restart the selection		
Column	CODE-C		Change selection to columns		
Duplicate	CODE-D		Duplicate selected cells		
Erase	CODE-E		Erase selected cells		
Find	CODE-F		Find records in database		
Insert	CODE-I		Insert rows or columns		
Move	CODE-M		Move selected text or cells		
Options	CODE-O		Set database characteristics		
Properties	CODE-P		Set column characteristics		
Quit	CODE-Q		Exit		
Row	CODE-R		Change selection to rows		
Substitute	CODE-S		Substitute specified text		
Transfer	CODE-T		Write, exchange, print files		
Usage	CODE-U		Show memory and device usage		
Wildcard	CODE-W		Enter wildcard character		
Pointer	CODE-#		Point to a column		
Cancel	CODE-ESC		Exit		

Commands: Select item and confirm
Version 3.1.0 of GRiDFile

Following this introduction, each command is described in alphabetical or numerical order.

GRiDFileRepair

GRiDFileRepair is a utility program supplied with GRiDFile. The program helps you recover data inadvertently lost in your database either because of a system error or an error on your part.

You should consider using the GRiDFileRepair program under the following conditions:

- ☐ When you mistakenly erase or modify data in your database. GRiDFileRepair permits you to recover all records erased or modified since you last compressed your database.
- ☐ When you run the MediaRepair program because of a problem associated with the storage media on which your database resides. If MediaRepair finds an error associated with your database, you will have to run GRiDFileRepair to have access to your database file again.
- ☐ When, upon trying to access a database file, you receive an ISAM error message (for example, a message indicating an index file is invalid).

See Appendix H for details on GRiDFileRepair and instructions on its use.

The GRiDFile Display

Before you create your database, you should be familiar with the way GRiD-File displays a database on the screen. Figure 4-2 shows a GRiDFile display after the user queried a database; each labeled item is described below.

Figure 4-2. *The GRiDFile Display*

A	B	C	D	E
Employee	Department	Division	Dept. Head	Salary
Bay, M	Comp	Mkt	Lucas	29000
Beck, B	Comp	Manuf	Gunn	39000
Belton, J	Sys	Eng	Sutter	28000
Blynn, J	Admin	Fin	Ross	28000
Bold, L	Admin	Pers	Ross	30000
Charles, H	Comp	Eng	Ivy	31000
Craig, J	Sys	Mkt	Sutter	40000
Dham, C	Comp	Eng	Mazor	29000
Edwards, M	Admin	Pers	Ross	33000
Epps, R	Comp	Manuf	Gunn	33000
Goodman, M	Comp	Mkt	Lucas	30000
Goossen, P	Comp	Manuf	Gunn	27000
Grady, K	Sys	Mkt	Craig	35000
Gunn, C	Comp	Manuf	Mazor	40000
Ivy, R	Comp	Eng	Mazor	42000
Jenkins, T	Sys	Manuf	Sutter	38000
Jones, P	Admin	Pers	Ross	22000
Katz, J	Sys	Eng	Sutter	28000

Cell Outline

Column Name

Column Reference Letter

- Cell** A single unit of the database table.
- Cell outline** A highlighted outline around the cell where the cursor appears. The outline indicates the cell that will be acted on by the next command.
- Column** A vertical series of adjacent cells.
- Column name** A heading for one column of the database table. You assign names to your columns by using the Properties command (CODE-P). You can use either the column name or the column reference letter (described below) to identify columns for the Find (Query Database) command when you query the database, and for the Report command when you sort the database.
- Column reference letter** An uppercase letter that identifies a column of the database table. GRiDFile assigns the letter; you can use either the column reference letter or the column name (described above) to identify columns for the Find (Query Database) or Report commands.
- Row** A horizontal series of adjacent cells.

Moving About the Display

Keys are available for moving the highlighted outline quickly to the cell where you want to enter or change data. For example, by pressing one or two keys, you can skip from your current position to the next row or cell, to the right- or left-most column, or to the top or bottom row of the display or file. For information on the keys, go to Appendix G and read the Selection section that describes the keys on your computer.

Space Considerations

The device full condition is caused by running out of space on the device that stores your database; the out of memory condition is caused by running out of space in main memory (RAM). Use the following guidelines to avoid these conditions.

- Minimize the number of columns in your database file by erasing the columns you don't need with the Erase (CODE-E) and Column Selection (CODE-C) commands. Each column requires approximately 500 characters (bytes) of storage space in addition to the space required by the data in that column.
- Avoid indexing large columns—columns with 50 characters or more, for example. GRiDFile creates a separate file for each column index, and the index file occupies as much storage space as the column. Indexing large columns therefore takes up a great deal of space on your device without reducing retrieval time significantly. (See this chapter's Column Index subsection under Properties (Database)—CODE-P for information on indexing.)

Begin Selection—CODE-B The Begin Selection (CODE-B) lets you mark the start of data you want to select after the message line prompts you to **select** or **make a selection**. See Begin Selection—CODE-B in the “Common Commands” chapter for details.

Cancel—CODE-ESC The Cancel command (CODE-ESC) causes you to exit GRiDFile. Any changes you have made in the database file are already saved by the time you press CODE-ESC.

Column Selection—CODE-C The Column Selection command (CODE-C) lets you select an entire column of cells after the message line prompts you

to select or make a selection. See Column Selection—CODE-C in the “Common Commands” chapter for details.

If you use CODE-C after issuing a Move (CODE-M), Duplicate (CODE-D), Erase (CODE-E), or Insert (CODE-I) command, you’ll see the message *Confirm to duplicate/erase/insert/move and clear query results*. Next, consider the implications described below.

- The records currently displayed (the results of the last Find command or the data you’ve entered) are cleared from the screen. They are, however, retained in the database.
- In executing your command, GRiDFile compresses your database and creates a new file on the storage device occupied by the database. GRiDFile copies your database into this new file, so you need enough space in the device to store this second database file. See Compress—CODE-?, below, for information on how to ascertain space availability.

Compress—CODE-? The Compress command (press CODE-?, select Compress, and confirm) causes GRiDFile to release space not needed by your database. When you erase a row of data, GRiDFile notes that it is erased but doesn’t physically remove the row. The Compress command actually deletes the row from that file and makes its space available elsewhere in the device.

Using the Compress command at regular intervals as you create and add to a database maximizes the number of entries you can store.

To compress a file, GRiDFile creates a new file of equal size and copies into it data not noted as erased from the database being compressed. Therefore, before issuing the Compress command, ensure that your storage device still has enough space to accommodate this new database file.

- To ascertain the amount of space available, press CODE-U. The number of characters of free space available on the devices attached to your computer is displayed.
- To ascertain the number of characters of space occupied by your database file, press CODE-T and select the Show Characteristics of File item. Fill in the File form, specifying your database file, and confirm. The Length item in the subsequent display shows the size of your database file.

Make a back-up copy of your database file before compressing it. See Duplicate Files—CODE-D in the “GRiDManager” chapter for instructions.

Duplicate—CODE-D The Duplicate command (CODE-D) lets you copy data within your file to any target area within the same file. See Duplicate Cells or Text—CODE-D in the “Common Commands” chapter for details.

Erase—CODE-E The Erase Cells or Text command (CODE-E) lets you erase data within your current file. See the Erase Cells or Text—CODE-E section in the “Common Commands” chapter and the Column Selection—CODE-C section in this chapter for details.

For information on erasing data in the Find form, see Find (Query Database), below.

Find (Query Database)—CODE-F The Find command (CODE-F) causes GRiDFile to display the entries in your database file. You can display either all the entries or only those entries that meet conditions you specify. Depending on what you specify in the Report form, GRiDFile either displays the entries in the order you entered them, or it sorts them by column and displays them in ascending or descending order. See Report—CODE-? later in this chapter.

Figure 4-3. *The Find Form*

A	B	C	D	E
Employee	Department	Division	Dept. Head	Salary
Query 1		Query 2		
Find: Type conditions				

To display database entries, press CODE-F; the Find form appears above the message Find: Type Conditions (Figure 4-3). You can then type the condi-

tions (if any) by which GRiDFile is to select entries for display. Once you see the form, proceed as follows:

- ☐ To display the entire database file, erase any previously written conditions in the Find form, then confirm.
- ☐ To display selected entries, type in one or more conditional statements and confirm. The content of and rules for writing a conditional statement are given in the Conditional Statements section, below.

After you confirm, GRiDFile retrieves and displays the database entries.

Example

This subsection gives an example of extracting selected groups of data from a database file and displaying them. A portion of the sample database file used for the example is shown below.

A	B	C	D	E
Employee	Department	Division	Dept. Head	Salary
Ross, D	Admin	Pers	***	45000
Pace, L	Comp	Manuf	Gunn	30000
Gunn, C	Comp	Manuf	Mazor	40000
Sutter, A	Sys	Eng	***	50000
Mazor, S	Comp	Eng	***	50000
Lark, Q	Sys	Eng	Sutter	28000
Craig, J	Sys	Mkt	Sutter	40000
Jones, P	Admin	Pers	Ross	22000
Bold, L	Admin	Pers	Ross	30000
Kolle, N	Sys	Eng	Sutter	35000
Goossen, P	Comp	Manuf	Gunn	27000
Raia, M	Admin	Mkt	Lam	25000
Kendall, L	Comp	Mkt	Lucas	39000
Lam, T	Admin	Mkt	Ross	35000
Rini, T	Sys	Mkt	Craig	34000
Ivy, R	Comp	Eng	Mazor	42000
Jenkins, T	Sys	Manuf	Sutter	38000
Blynn, J	Admin	Fin	Ross	28000

After pressing CODE-F and filling in the Find form, the form appears as shown below.

A	B	C	D	E
Employee	Department	Division	Dept. Head	Salary
Query 1		Query 2		
c = "mkt"		c = "eng"		
e < 30000		e < 30000		
Find Type conditions				

Query 1 and Query 2 each contain conditional statements. Conditional statements and the rules for writing them are given in the next section.

The statements in the example request records on anyone in the marketing or engineering divisions (Column C) with a salary (Column E) of less than 30000 dollars. After confirming the Find form, the following screen appears showing the requested records.

A	B	C	D	E
Employee	Department	Division	Dept. Head	Salary
Rais,M	Admin	Mkt	Lam	25000
Weiss,K	Admin	Mkt	Lam	26000
Ritter,J	Sys	Mkt	Craig	25000
Bay,M	Comp	Mkt	Lucas	29000
Lark,Q	Sys	Eng	Sutter	28000
Belton,J	Sys	Eng	Sutter	26000
Dhan,C	Comp	Eng	Mazor	29000
Plummer,B	Comp	Eng	Mazor	27000
Katz,J	Sys	Eng	Sutter	28000

Inserting Column Names and Letters Automatically

If you press CODE-= while the Find form is displayed, GRiDFile inserts the column letter or name corresponding to the outline's current position into the query column. You can then use the column letter or name as part of the query condition you write.

A	B	C	D	E	F
Name	Department	Division	Mgr		
Gunn,C	Comp	Manuf	Mazor	***	TCU
Mazor,S	Comp	Eng	***	***	TCU
Lark,Q	Sys	Eng	Sutter	***	UTE
Jones,P	Admin	Pers	Ross	***	UTE
Bold,L	Admin	Pers	Ross	***	Tex
Kolle,N	Sys	Eng	Sutter	***	Ric
Goossen,P	Comp	Manuf	Gunn	***	n/a
Rais,M	Admin	Mkt	Lam	***	n/a
Kendall,L	Comp	Mkt	Lucas	***	Ric

The screen portion below shows the screen after pressing CODE-F and CODE-= in sequence. The current column name is displayed in the Query 1 column, and the column heading is highlighted.

A	B	C	D	E	F
Name	Department	Division	Mgr		
Query 1			Query 2		
Division					

You can move the highlighted area from column to column by pressing the → or ← key. The screen portion below shows the screen after pressing the ← key once.

A	B	C	D	E	F
Name	Department	Division	Mgr		
Query 1		Query 2			
Department					

Conditional Statements

To select entries from your database, type conditional statements in the Find form. Each statement you type contains the following elements:

- ☐ A column reference letter or column name
- ☐ Relational and logical operators
- ☐ A condition

These elements are defined and discussed in the sections below.

The following are valid conditional statements:

A = "TOM JONES"

Employee = "TOM JONES"

B < 30000

Salary < 30000

C < > B / 11

In the above statements, A, B, and C are column reference letters; *Employee* and *Salary* are column names; =, <, and < > are relational operators; and *TOM JONES*, *30000*, and *B/11* are conditions.

AND Statements Multiple conditional statements that you type in the same vertical column of the Find form are treated as AND statements—all must be true of any database entry to be selected and displayed.

You can type up to 15 AND statements in each vertical column.

OR Statements Multiple conditional statements that you type in separate columns (Query 1, Query 2, etc.) on the Find form are treated as OR statements—only one of which must be true of any database entry to be displayed. To move the cursor horizontally to the next Query column, press SHIFT and the → or ← key.

You can have up to 15 OR statements in a Find form.

Column Reference Letter and Column Name The column reference letter or column name identifies the column to be searched. It tells the system, in effect, “Check each row in this column for the following conditions.”

GRiDFile automatically assigns a column reference letter to each column of a database file. You assign a column name by using the Properties command (CODE-P).

You can use either column reference letters or column names in any part of a conditional statement. For example, you can enter the condition

$A < > \text{GROSS} - \text{TAXES}$

to ask to see rows where the value in Column *A* is not equal to the value in the column named *GROSS* less the value in *TAXES*.

Relational and Logical Operators Relational operators compare two numeric values or two alphanumerics. The result is either true or false; when the result is true, the condition is met. The following are relational operators:

=	Equals
< >	Does not equal
<	Is less than
>	Is greater than
< =	Is less than or equal to
> =	Is greater than or equal to

GRiDFile recognizes the following logical operators:

NOT

AND

OR

XOR

When arithmetic operators and relational operators appear in the same condition, GRiDFile evaluates the arithmetic first. For example, the condition

$A < B * C$

causes GRiDFile to multiply the value in Column *B* by the value in Column *C* and then check to see if the value in Column *A* is less than the product. If it is, that row is included in the query results.

Conditions A condition consists of one or more of the following:

- The column reference letter that appears at the top of each column or the column name, which you specify with the Properties command (CODE-P).

If a column name is used, and it contains any characters *other* than *A* through *Z* (either upper- or lower-case), the name must be surrounded by single quotes. Each single quote within the column name must be represented by two quotes. The following are valid column names in a condition statement: Employee, 'Dept. Head', 'Joe's Salary'.

- A numeric constant, which is composed only of numbers. The Legal Values property of the column that has the constant must be set to Numbers. See the section Properties (Database)—CODE-P later in this chapter.
- An alphanumeric character or string of characters comprising alphabetic characters, numbers, or symbols, which are all enclosed in double quotation marks. The following are valid character strings:

"JOHN"

"BAKER2"

"10#"

You can insert one or more Wildcard characters in the character string. You type the Wildcard character by pressing CODE-W.

For example, if you type B = "A . . ." (. . . represents the Wildcard character), all records starting with an *A* in column B are selected and displayed. See the section Wildcard Character—CODE-W in the "GRiDManager" chapter for more information on how to use the Wildcard character. The following rules apply when using the Wildcard character in the Find command:

- The Wildcard character must always be preceded by the equals (=) character.

- The Legal Values property in the column being searched must be set to Characters.
- Arithmetic operators, which cause GRiDFile to perform mathematical operations when evaluating a condition. In order of precedence, the operators are

^	Exponentiate
-	Negate
*	Multiply
/	Divide
\, MOD	Integer division
+	Add
-	Subtract
(,)	Group expressions for evaluation
- Built-in functions, which are described in detail in the next section.

Built-In Functions

GRiDFile supplies a number of functions that you can use in conditional statements. A function performs some mathematical operation and displays the result, or it retrieves some value, such as the date. For example, the condition

$A = \text{SQR}(D)$

requires that the value in Column A equal the square root of the value in Column D before the row is included in the query results. SQR is the function square root, and D is the expression the root of which is returned. The functions available to you in GRiDFile are shown in Table 4-1.

Table 4-1. *Built-In Functions*

Function	Result
ABS(expression)	The absolute value of the expression.
ACOS(expression)	The arc cosine of the expression in radians.
ASIN(expression)	The arc sine of the expression in radians.
ATN(expression)	The arc tangent of the expression in radians.
COS(expression)	The cosine of the expression in radians.
DATE\$	The current date expressed in the format mm/dd/yy (for month, date, and year).
EXP(expression)	e (approximately 2.72) to the power of expression.
LOG(expression)	The natural logarithm of the expression.
LOG10(expression)	The base-10 logarithm of the expression.
PI	The value of π (3.14159265358979).
ROUND(expression)	Removes the decimal portion of an expression and returns a rounded integer.
SGN(expression)	Returns the algebraic sign of an expression. Positive expressions return 1; negative expressions return - 1; and zero returns 0.
SIN(expression)	The sine of the expression in radians.
SQR(expression)	The square root of the expression.
TAN(expression)	The tangent of the expression in radians.
TIME\$	The current time of day expressed in the format hh:mm:ss (for hour, minute, and second).
TRUNC(expression)	Removes the decimal portion of an expression, if present, and returns an integer.

Erasing in the Find Form

You can use the Erase command (CODE-E) to erase information in the Find form. See the “Common Commands” chapter for detailed information.

If you erase an entire Query column using CODE-C, and more than two Query columns exist, the entire column is deleted. Otherwise, only the data in the column is deleted.

Current Typeface

By changing the Current Typeface item, you can increase the amount of data displayed on your screen. See the Options—CODE-O section in the “Common Commands” chapter for details.

Standard Alignment

The Standard Alignment item lets you either center your data in a cell, or align it with the left or right margin. See Standard Alignment under the Options—CODE-O section in the “Common Commands” chapter for details.

Standard Column Width

The Standard Column Width item lets you either increase or decrease the width of a column. See Standard Column Width under the Options—CODE-O section in the “Common Commands” chapter for details.

Standard Format

The Standard Format item lets you determine where decimal points are to appear in your numeric data. See Standard Format under the Options—CODE-O section in the “Common Commands” chapter for details.

Properties (Database)—CODE-P The Properties command (CODE-P) invokes the Properties form (Figure 4-5). The form lets you alter the format settings for individual columns from those specified for the entire database in the Options form; see the Options (Database)—CODE-O section earlier in this chapter.

Figure 4-5. *The Properties Form with Initial Settings*

A	B	C	D	E	

Column name	
Column width	Standard
Legal values	Characters
Column index?	No
Alignment	Standard
Format	Standard
Column definition	No
Default value	No

Properties Fill in form and confirm

The items in the Properties form are described in alphabetical order in the sections following.

Alignment

The Alignment item lets you either center your data in a cell, or align it with the left or right margin. The new setting overrides the setting in the Standard Alignment item of the Options form. See Alignment under the Properties—CODE-P section in the “Common Commands” chapter for details.

Column Definition

The Column Definition item lets you write a formula, which GRiDFile uses to compute a value for each cell of a column. GRiDFile computes the value when you enter data in a cell in the same row as the cell that is to contain the computed value.

Column reference letters or column names in the formula refer to the values in those cells in the same row as the cell that is to contain the computed value.

Initial setting is No. If you select the Formula choice, enter the desired formula in the box on the Properties form. The rules for writing the formula are the same as those for entering conditions, as described under “Conditions” in the Find (Query Database)—CODE-F section; however, unlike conditions, you cannot use the wildcard character in any part of the formula.

Note that formulas can refer to other columns in the same row. The following are valid formulas:

Salary*12

(d + c)/z

The following rules apply to columns with Column Definition set to Formula.

- ☐ You cannot directly enter, modify, or erase data in a column with the property set to Formula. You can change the value of the column only by changing the formula, or the data in another column which the formula refers to.
- ☐ If a relational operator is used in a formula, and Legal Value is set to *Character*, the result is the character sequence *True* or *False*.
- ☐ Each time you modify a row, GRiDFile calculates a new value for the column.
- ☐ Each time you enter a new formula for a column, GRiDFile calculates a new value for each cell in that column throughout the entire database.
- ☐ If you're performing arithmetic operations, the column for which the definition is being written, and any column referred to in the definition, must have the Legal Values item in the Properties form set to Numbers.

Column Index?

The Column Index item determines whether GRiDFile creates an index to a column you specify. You should index those columns that contain data you use often as a condition in the Find (Query Database) command. Examples might be an employee number or a part number. Indexing such columns reduces the amount of time GRiDFile takes to process conditional requests.

Initial setting is No. Choices are described below.

No	No index is created.
Non-unique entries	GRiDFile creates an index. You can enter data into the indexed column without restrictions.
Unique entries	GRiDFile creates an index. If you type a duplicate entry into the indexed column, you receive an error message and the entry is ignored.

Here's what happens when GRiDFile creates an index.

- ☐ GRiDFile sorts the entries in the column in ascending order.
- ☐ GRiDFile then creates an index. Each entry in the index is an address to the row containing the sorted column entries.
- ☐ GRiDFile automatically updates the index as necessary. For example, when you add a row of data to your file, GRiDFile incorporates those entries in the sorted index according to their values.
- ☐ For each indexed column, GRiDFile creates a separate file on the storage device. This new file has the same title as the database file; its Kind is set to Database Index *n* (*n* being the column reference letter).

Column Name

Column name is the heading you assign to appear at the top of a column in the GRiDFile display. If the width of the column name you specify is greater than the width of the column, your right-most characters don't appear on the screen.

The initial setting is blank.

Column Width

The Column Width item lets you either increase or decrease the width of a column. See Column Width under the Properties—CODE-P section in the "Common Commands" chapter for details.

Default Value

The Default Value item is an entry you want to appear in all cells of a column—for example, the date or time, a department name, a catalogue description, or any other characters common to all the records in the database. Unlike the Column Definition property which, based on a formula, creates a value that can vary, the Default Value creates a value or word that is the same for each cell in the selected column.

GRiDFile automatically enters the value or word in a cell of the selected column after you first enter data in another cell in the same row. Initial setting is No. Choices are described below.

Value	GRiDFile enters the string of characters or numeric value you type in the box on the Properties form.
No	Normal setting. You must enter any value directly in the cell.
Date	GRiDFile enters the current date with the format mm/dd/yy (for month, day, and year).
Time	GRiDFile enters the time of day with the format hh:mm:ss (for hours, minutes, and seconds).

The following rules apply to the Default Value item.

- ☐ You must erase the default value from a cell by pressing BACKSPACE or CODE-BACKSPACE if you want to enter a new value in that cell.
- ☐ If you change the default value, GRiDFile enters the new value in a cell only when you erase an existing value or add a new row.

Format

The Format item lets you determine where decimal points are to appear in your numeric data. The new setting overrides the setting in the Standard Format item of the Options form. See Format in the Properties—CODE-P section in the “Common Commands” chapter for details.

Legal Values

The Legal Values item determines the kind of data you can enter in a column. If you enter a number or character that conflicts with the Legal Values item, GRiDFile displays an error message.

Characters	You can enter alphabetic characters, numbers, and symbols.
Numbers	You can enter numbers only. To sort a column in numerical order, use this setting.

Setting a value for each column helps you discover errors as you enter data. If you specified Numbers for a column of ZIP codes, for example, and mistakenly entered an alphabetic character, you would be notified at once by the resulting error message.

Report—CODE-? The Report command (press CODE-?, select the Report item, and press CODE-RETURN) lets you display records from your database in alphabetical order when you use the Find command (CODE-F). The order can be either ascending (A to Z) or descending (Z to A) sequence. If numbers are included in the data, they precede the alphabetic data in ascending sequence, or follow it in descending sequence.

Figure 4-6. *The Report Form*

[illegible]

The following section describes the items in the Report form and gives two sorting examples.

Sort On

Initial setting is None. Choices are None, Column reference letter, or one or more column names specified in the Column Name item in the Properties form. (Move the highlighted box to the right by pressing TAB or SHIFT- → ; to the left, SHIFT- ← ; up or down, RETURN.)

If you specify a column reference letter or column name, that column is sorted when you issue a Find command.

When Column is set to None, the displays you see after pressing CODE-F are as described below.

- ☐ If no indexed columns (see the Properties (Database)—CODE-P section in this chapter) are specified, the results of a single query are displayed in the order you entered or modified them.
- ☐ If indexed columns are specified, the results can vary.

Sort Order

Initial setting is Ascending. Choices are Ascending, Descending. (Move the highlighted box to the right by pressing SHIFT- → ; to the left, SHIFT- ← .)

GRiDFile uses this sort order for each column you specify in the corresponding Sort On item.

For a column to be sorted in numerical order, the Legal Values item in the Properties form must be set to Numbers.

Example

Here is a portion of the database to be sorted in the following example.

A	B	C	D	E	F
Name	Department	Division	Mgr		
Parks, C	Admin	Pers	Ross	***	Tex
Grady, K	Sys	Mkt	Craig	***	Hou
Beck, B	Comp	Manuf	Gunn	***	Ric
Dhan, C	Comp	Eng	Mazor	***	Ric
Edwards, M	Admin	Pers	Ross	***	Tex
Santos, C	Admin	Fin	Ross	***	Ric
Sharp, B	Comp	Eng	Mazor	***	TCU
Ritter, J	Sys	Mkt	Craig	***	n/a
Katz, J	Sys	Eng	Sutter	***	Ric
Charles, H	Comp	Eng	Ivy	***	UTE
Sage, K	Admin	Pers	Ross	***	Hou
Rivers, M	Sys	Manuf	Sutter	***	n/a
Mena, U	Sys	Manuf	Sutter	***	Hou
Smith, A	Sys	Eng	Sutter	***	Tex
Epps, R	Comp	Manuf	Gunn	***	n/a
Bay, M	Comp	Mkt	Lucas	***	Ric
Stark, G	Sys	Mkt	Craig	***	UTA
Myers, C	Comp	Eng	Mazor	***	Hou

After you issue the Report command, fill out the Report form to request that records for Division (Column C) be sorted in alphabetical order in ascending sequence, as shown below.

A	B	C	D	E	F
Name	Department	Division	Mgr		
Gunn,C	Comp	Manuf	Mazor	***	TCU
Mazor,S	Comp	Eng	***	***	TCU
Lark,Q	Sys	Eng	Sutter	***	UTE
Jones,P	Admin	Pers	Ross	***	UTE
Bold,L	Admin	Pers	Ross	***	Tex
Kolle,N	Sys	Eng	Sutter	***	Ric
Goossen,P	Comp	Manuf	Gunn	***	n/a
Raia,M	Admin	Mkt	Lam	***	n/a
Kendall,L	Comp	Mkt	Lucas	***	Ric
Lam,T	Admin	Mkt	Ross	***	Hou
Rini,T	Sys	Mkt	Craig	***	UTA
Ivy,R	Comp	Eng	Mazor	***	UTE
Jenkins,T	Sys	Manuf	Sutter	***	Tex
Blunn,J	Admin	Fin	Ross	***	Tex

Column	None	Name	Department	Division	Mgr	E	F
Sort on		Division	None	None	None	No	
Sort order		Ascending	Ascending	Ascending	Ascending	As	

Report: Select item and confirm

After you confirm the form, and then press CODE-F and confirm, the following sorted output appears.

A	B	C	D	E	F
Name	Department	Division	Mgr		
Sutter,A	Sys	Eng	***	***	UTA
Plummer,B	Comp	Eng	Mazor	***	UTE
Myers,C	Comp	Eng	Mazor	***	Hou
Smith,A	Sys	Eng	Sutter	***	Tex
Charles,H	Comp	Eng	Ivy	***	UTE
Katz,J	Sys	Eng	Sutter	***	Ric
Sharp,B	Comp	Eng	Mazor	***	TCU
Dhan,C	Comp	Eng	Mazor	***	Ric
Nelson,Q	Comp	Eng	Mazor	***	UTA
Belton,J	Sys	Eng	Sutter	***	Ark
Lovelace,L	Sys	Eng	Sutter	***	Ark
Ivy,R	Comp	Eng	Mazor	***	UTE
Kolle,N	Sys	Eng	Sutter	***	Ric
Lark,Q	Sys	Eng	Sutter	***	UTE
Mazor,S	Comp	Eng	***	***	TCU
Russell,J	Admin	Fin	Ross	***	UTA
Lewis,A	Admin	Fin	Ross	***	Hou
Santos,C	Admin	Fin	Ross	***	Ric

45 records found

The records in Column C are now in ascending sequence, while the records in the other columns remain in a random sequence. You would specify a secondary Sort On column in the form to arrange other columns in a meaningful order. For example, the following Report form causes all records to be sorted first by Division (Column C), and then by Department (Column B), and Employee (Column A).

A	B	C	D	E	F
Name	Department	Division	Mgr		
Sutter, A	Sys	Eng	***	***	UTA
Plummer, B	Comp	Eng	Mazor	***	UTE
Myers, C	Comp	Eng	Mazor	***	Hou
Smith, A	Sys	Eng	Sutter	***	Tex
Charles, H	Comp	Eng	Ivy	***	UTE
Katz, J	Sys	Eng	Sutter	***	Ric
Sharp, B	Comp	Eng	Mazor	***	TCU
Dhan, C	Comp	Eng	Mazor	***	Ric
Nelson, Q	Comp	Eng	Mazor	***	UTA
Belton, J	Sys	Eng	Sutter	***	Ark
Lovelace, L	Sys	Eng	Sutter	***	Ark
Ivy, R	Comp	Eng	Mazor	***	UTE
Kolle, N	Sys	Eng	Sutter	***	Ric
Lark, Q	Sys	Eng	Sutter	***	UTE

Column	None	Name	Department	Division	Mgr	E	F
Sort on	Division	Department	Name			No	
Sort order	Ascending	Ascending	Ascending			As	
Report: Select item and confirm							

The Report form illustrated above displays the records shown below. Columns C, A, and B are all in sequence.

A	B	C	D	E	F
Name	Department	Division	Mgr		
Charles, H	Comp	Eng	Ivy	***	UTE
Dhan, C	Comp	Eng	Mazor	***	Ric
Ivy, R	Comp	Eng	Mazor	***	UTE
Mazor, S	Comp	Eng	***	***	TCU
Myers, C	Comp	Eng	Mazor	***	Hou
Nelson, Q	Comp	Eng	Mazor	***	UTA
Plummer, B	Comp	Eng	Mazor	***	UTE
Sharp, B	Comp	Eng	Mazor	***	TCU
Belton, J	Sys	Eng	Sutter	***	Ark
Katz, J	Sys	Eng	Sutter	***	Ric
Kolle, N	Sys	Eng	Sutter	***	Ric
Lark, Q	Sys	Eng	Sutter	***	UTE
Lovelace, L	Sys	Eng	Sutter	***	Ark
Smith, A	Sys	Eng	Sutter	***	Tex
Sutter, A	Sys	Eng	***	***	UTA
Blynn, J	Admin	Fin	Ross	***	Tex
Lewis, A	Admin	Fin	Ross	***	Hou
Russell, J	Admin	Fin	Ross	***	UTA

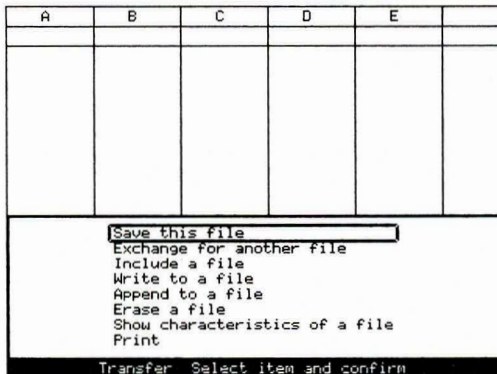
45 records found

Row Selection—CODE-R The Row Selection command (CODE-R) lets you select an entire row of cells after the message line prompts you to **select** or **make a selection**. See Row Selection—CODE-R in the “Common Commands” chapter for details.

Substitute—CODE-S The Substitute command (CODE-S) finds one or more characters in your database and replaces them with another character or sequence. This command searches only the query results—that is, the portion of the database resulting from the last Find (Query Database) command. After pressing CODE-S, you are prompted to select the portion of the query results you want to search: all or part of a cell, multiple cells or columns, or all the query results. After your selection, the command works as described in the Substitute—CODE-S section of the “Common Commands” chapter.

Transfer—CODE-T The Transfer command (CODE-T) causes the Transfer menu to appear (Figure 4-7).

Figure 4-7. *The Transfer Menu*



All of the items in Figure 4-7 except Print are described in alphabetical order under Transfer—CODE-T in the “Common Commands” chapter.

