

A Students's Guide to *FileMaker Pro 2*

for the
Macintosh and the PC

by

Adrian Beck

Mark Maynard

Richard Rodger

Software
Made
Simple

The logo consists of the text "Software Made Simple" stacked vertically within a white rectangular box. The box has a thick black border on the right and bottom sides, and a thin black border on the top and left sides.

IMPRINT PAGE

The Authors

Adrian Beck is a Lecturer in Security and Information Technology at the Scarman Centre, University of Leicester, UK

Mark Maynard is a Senior Computer Officer, Social Science Faculty, University of Leicester, UK

Richard Rodger is a Senior Lecturer in the Economic and Social History Department, University of Leicester, UK

To find out more about Software Made Simple have a look at our internet site:
<http://www.s-m-s.co.uk>

If you would like to contact the authors by email:
guides@s-m-s.co.uk

You can also contact Software Made Simple by Telephone:
01227 371054

This guide is based on using FileMaker Pro 2 on a Macintosh using System 7 or IBM PC Compatible and Windows 3.1 in standard mode using a mouse. For printing, use of a network is also assumed.

Version: UKOL1

ISBN 1 874093 07 5

©Software Made Simple

Windows and Word are registered trademarks of Microsoft Corporation, US Patent No. 4,974,159. The Apple Logo, Apple Computer, Macintosh and Apple File Exchange are trademarks of Apple Computer, Inc. FileMaker Pro is a trademark of Claris. Screen shots reprinted by permission from Microsoft Corporation and Claris.

	FOREWORD	1
	INTRODUCTION	1
1	STARTING FILEMAKER PRO	2
1.1	Creating a New Database	2
1.2	Opening an Existing Database	2
1.3	Defining Fields	3
1.4	Field Types	4
2	ENTERING DATA	5
2.1	Entering Data into an Existing Database	6
2.2	Moving Around a Record	6
2.3	Moving Between Records	6
2.4	Displaying Several Records Simultaneously	6
2.5	Deleting a Record	6
2.6	Editing or Deleting an Entry in a Field	6
2.7	Deleting a Field	7
2.8	Changing the Field Name	7
2.9	Changing the Field Type	7
3	MANIPULATING THE DATABASE	7
3.1	Sorting	7
3.2	Finding Data	8
3.3	Calculating	10
4	PRINTING	12
5	CUSTOMISING THE LAYOUT OF YOUR DATABASE	14
5.1	Using Pre-Defined Layouts	14
5.2	Altering Layouts	15
5.3	Using Layout Tools	15
5.4	Font, Size, Style, Alignment and Spacing of Text in Objects	15
5.5	Adding Borders Around Fields	16
5.6	Moving and Resizing Objects	16
5.7	Aligning Objects to the Grid	17
5.8	Positioning Objects Precisely	17
5.9	Aligning Objects	17
5.10	Deleting Objects	18
5.11	Copying Objects Between Layouts	18
5.12	Grouping Objects	18

5.13	Changing the Stacking Order of Objects	18
5.14	Adding Pre-defined Fields to a Layout	18
5.15	Text, Number, Date and Time Field Options	19
5.16	Formatting Values in Defined Fields	22
5.17	Changing the Tab Order	24
5.18	Including Summaries in Your Database	25
5.19	Using More Than One Layout	26
6	BUTTONS	27
	Appendix A IMPORT/EXPORT	28
	Appendix B CALCULATION FUNCTIONS	30

FOREWORD

This guide is written for the user of the database application FileMaker Pro 2 on either the IBM PC compatible using Windows 3.1 and a mouse or a Macintosh computer using System 7. There are some minor differences between using FileMaker Pro on the two computers; these are explained at appropriate points throughout this guide.

For the IBM PC compatible the guide assumes a basic understanding of how to use the IBM PC and Windows 3.1. If you are not confident that you have this basic understanding then read the companion guide: **A Student's Guide to Word for Windows** which contains the necessary information.

For the Macintosh the guide assumes a basic understanding of how to use the Macintosh and System 7. If you are not confident that you have this basic understanding then read the companion guide: **A Student's Guide to Word 5 for Macintosh** which contains the necessary information.

INTRODUCTION

A database is a store of information, systematically organised, which can be manipulated and retrieved by issuing instructions to a computer. For example, a database would allow you to sort a class list into alphabetical order and search for the name of a particular student. The database can sort or find information much faster than you could by hand so looking through huge lists of information now becomes a practical proposition. Data can also be manipulated in a database, eg. you could find out the average age of a student or how many males there are in a class.

A database is series of records. Each record contains a number of distinct fields which are defined so as to permit specific types of information to be entered in each field, eg. text, numbers, dates etc. An example of such a database would be a list of autos that a showroom has for sale. An example of a record would be information about a particular auto, say a Vauxhall Nova. Examples of fields are the year of registration, the condition of the auto, and the date it entered the showroom.

As with databases generally, before you start to use FileMaker Pro you should consider carefully what information you wish to record, the form in which you wish to record it, and what data you may want to retrieve from the database.

There are three stages in the creation and use of a database:

- The creation of the database, with the various fields defined so as to reflect the nature of the information to be recorded (this is done in FileMaker Pro's **Layout** mode).
- The entering of data. Information is typed in the fields (this is done in FileMaker Pro's **Browse** mode).
- The sorting, searching and other manipulative operations which can be performed on the database (this is done in FileMaker Pro's **Browse** mode).

STARTING FILEMAKER PRO

1.0



Find the FileMaker Pro 2 icon and double-click it.

A dialog box is displayed from which you must create a new database or open an existing database.

1.1

Creating a New Database**Using a Macintosh**

Click on the **New** button in the dialog box presented.

A further dialog box will be displayed from which you can choose where the database is to be created. Click on the **Desktop** button to select a different disk drive or folder. Type in a name for the database and click on the **New** button to create the database. A dialog box is displayed, and from this you can define the fields in which data is entered for each record, see Section 1.3.

Using an IBM PC Compatible

Enter a name for the database into the **File Name** box, select the disk and directory in which you wish to save the file and click on the **New** button. A dialog box is displayed, and from this you can define the fields in which data is entered for each record, see Section 1.3.

IMPORTANT: Unlike most Macintosh and Windows applications FileMaker Pro requires that a file is opened before it can be used. As you work, this file is continually updated, saving your work automatically. There may be times when you wish to experiment with your database, by changing the layout, for example. As the file is saved automatically, it would be impossible for you to return to the original layout in the event of your wishing to abandon the experiment. To prevent this happening use the **Save a Copy** command from the **File** menu. This will save a copy of your database and allow you to return to it if necessary.

1.2

Opening an Existing Database**Using a Macintosh**

Click on the **Desktop** button and select the disk drive where you know the file is saved. Click on the **Open** button to reveal the contents of the disk. If the file is stored within a folder click on the folder to open it, and then select the appropriate file and click on the **Open** button.

Using an IBM PC Compatible

Select the disk drive where you know the file is saved. If the file is stored within a directory click on the directory to open it, and then select the appropriate file and click on the **OK** button.

Note: Files created by FileMaker Pro for Windows have the extension **.fm**.

1.3

Defining Fields

A database uses a number of *categories* or fields in which data is stored. Library catalogs – cards with author's name, title of publication, publisher, date of publication – are a case in point of a physical database now increasingly replaced by an electronic one. Each element – name, title, publisher etc. – is a *field*, and these must be defined before data can be entered.

Example Database

Throughout this guide the examples are based on a auto showroom database. The purpose of the database is to assist the owner of a large auto showroom in keeping track of the autos that she has for sale along with their particular details. By using a database she can quickly find out whether a auto in stock meets a purchaser's requirements.

For each auto the showroom owner wishes the following details to be recorded in the database.

Manufacturer of auto, eg. Ford, Chrysler, Buick, Renault
 Model of auto, eg. Oldsmobile, Mustang, Centura, Skylark
 Type of auto, ie. Hatchback, Sedan, Convertible, other
 Year of Manufacture, eg. 1986
 License Plate Number, eg. DGC912
 Date entered showroom, eg. 3/12/93
 Condition, ie. A1, Good, Fair, Poor
 Faults list, eg. Rust, broken radio
 Extended Warranty required, ie. Yes/No
 Price paid, eg. \$500
 Price sold, eg. \$1,100
 Profit on sale, eg. \$600
 Profit on sale after commission, eg. \$500

When a database is first created the define fields dialog box is displayed. Choose the **Define Fields** command from the **Select** menu. The dialog box below is displayed.

From this dialog box you define fields, and these will be present for each record.

The screenshot shows the 'Define Fields for "Automobile Database"' dialog box. It has a title bar and a '0 fields' indicator. The main area is a table with columns 'Name', 'Type', and 'Options', and a 'View by' dropdown set to 'creation order'. Below the table is a 'Name' input field. The 'Type' section contains radio buttons for Text (selected), Number, Date, Time, Picture or Sound, Calculation, and Summary, each with a corresponding keyboard shortcut. At the bottom are buttons for 'Create', 'Options...', 'Change', 'Duplicate', 'Delete', and 'Done'.

To define a field, type the name you have chosen for the field into the **Name** box, click on the button alongside the type of field appropriate for the type of data that you wish the field to display, and click on the **Create** button. Repeat the procedure for as many fields you wish to define. Section 2.1 describes the different field types. Once all the fields are defined click on the **Done** button.

Note: It is not necessary to define all fields at this stage since they can be added to a database at anytime. Similarly, the field types and options described below can be re-defined at any stage.

1.4

Field Types

To cope with various forms of data, fields are defined with different characteristics. There are seven types of field – Text, Number, Date, Time, Picture or Sound, Calculation and Summary.

Each field type has particular advantages and disadvantages and special options are associated with it.

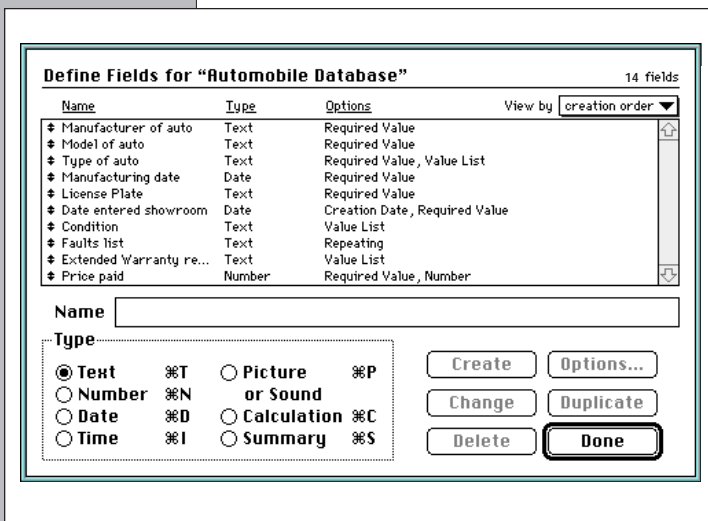
- Text – Used for anything that you can type – letters, numbers or other keyboard symbols. However, without further definition numbers typed into a text field cannot be used in calculations.
- Number – Again this field can be used for anything which can be typed. However, only numbers themselves can be used in calculations. Number fields can be formatted to include currency symbols (eg. \$), a percentage symbol, commas to denote thousands, a specific number of decimal places etc.
- Date – The format of the date can be specified in the usual ways.
- Time – The format of the time can be specified in the usual ways.
- Picture or Sound – Used for ready prepared pictures or sounds. Pictures and sounds can be pasted or imported in various formats.
- Calculation – Used for calculating with other fields or values and functions you type. See Section 3.3.
- Summary – A special type of field used to summarise information from a series of records. See Section 5.18.

Using our example, the **Manufacturer of auto** would be defined as a text field, the **Price paid** would be a number field, and the **Date entered showroom** would be a date field.

Field options provide increased sophistication to the field definition. These can be defined immediately after the field type is defined by clicking on the **Options** button. Alternatively, they can be specified later by choosing the **Define fields** command from the **Select** menu and, in the dialog box presented, clicking on the field you wish to change, and then on the **Options** button. Either method will display a dialog box showing options relating to the field type chosen.

For Text, Number, Time and Date options see Section 5.15. Calculation options are dealt with in Section 3.3 and summary options are covered in Section 5.18.

Once all the fields are defined click on the **Done** button.



2.0

ENTERING DATA

Once fields have been defined the database is just an empty shell awaiting the entering of data.

Before you begin to enter data into your database you should test it out to make sure that there are no errors and that all the final adjustments have been made. Ask somebody with experience of designing and using databases to enter some representative test data.

Once the database has been created and tested you can begin to enter your data.

To enter data choose the **Browse** mode from the **Select** menu. Browsing is one of the four modes in FileMaker Pro – the others are Find, Layout and Preview – and it is in this mode which the data for the database is entered, modified and deleted.

You should now be able to see a list of all the names of the fields which you defined previously.

Note: If no fields are displayed when browsing choose the **New Record** command from the **Edit** menu. If not all fields are displayed use the scroll bars to move around the display and expose other fields. If the field you wish is still not displayed it may be that you deleted it from the layout. See Section 5.14.

What is displayed is a single blank record. Data relating to each field name is entered into the field itself. This is a transparent box to the right of the field label. The field remains transparent until you point and click on it. Click on one field, and all the fields for the record become visible. The field is always to the right of the field label provided no modification to the layout of the database has been made.

The field selected ready for data entry is surrounded by a solid bordered box and has an insertion point inside. Other fields are surrounded by dotted bordered boxes.

Data for each record is entered into the fields. To move between fields either click on the field where you wish to enter data, or press the **Tab** (→) key to move to the next field.

Note: Unless you specify otherwise it is not necessary to enter data into every field of a record. To prevent a particular field from being left blank see Section 5.15.

To move on to a new record once you have completed data entry for a record, choose the **New Record** command from the **Edit** menu.

Tip: If you have a lot of records to enter there is a short cut you can use instead of using the menu every time you wish to enter a new record. If you are using a Macintosh hold down the **⌘** key while pressing the **N** key; if you are using an IBM PC compatible hold down the **Ctrl** key while pressing the **N** key.

2.1

Entering Data into an Existing Database

Whereas in a new database fields are located to the right of the field labels, this need not be true of an existing database since fields can be repositioned and the field labels even deleted.

If the layout of the database has been designed well you should not have any difficulty in locating where to enter data. For more information about Layouts see Section 5.0.

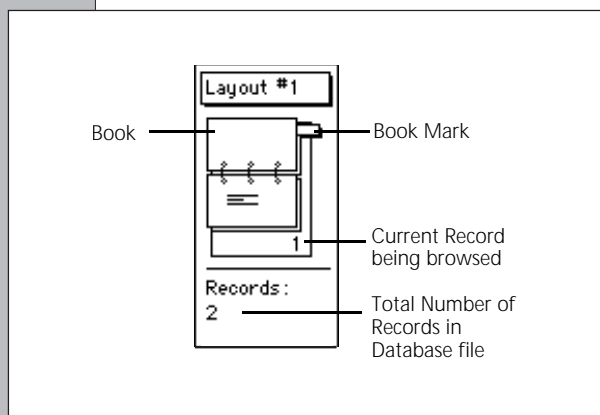
A well designed database will incorporate buttons which remove the necessity to use the menus for commonly used commands such as **New Record**. For more information about Buttons see Section 6.0.

2.2

Moving Around a Record

If there are more fields per record than can be displayed on the screen the scroll bars along the side and/or bottom of the screen become active. To view fields not currently displayed on the screen use these scroll bars as you would any other Macintosh or Windows application.

2.3

Moving Between Records

Displayed on the left of the screen is the **Status Area**. The number at the base of the open book displayed in the upper part of the **Status Area** shows you the number of the record that you are currently browsing. Underneath the book a count of the total number of records is displayed.

To move between records click on the lower page of the book to move to the next record, and on the upper page to move back a record. To move more quickly through records click and drag the book mark up or down.

Note: If you have used the **Find** command the number of records displayed as counted will probably be less than the number of records in the database. To ensure that the two are the same choose the **Find All** command from the **Select** menu.

2.4

Displaying Several Records Simultaneously

To display records one underneath another choose the **View as list** command from the **Select** menu. Choose the command again to view as normal.

2.5

Deleting a Record

Display the record that you wish to delete and choose the **Delete Record** command from the **Edit** menu. See note below.

2.6

Editing or Deleting an Entry in a Field

Data entered into a field can be edited in the same way as you would with a word processor. Use the mouse to move the insertion point within the field, and then type or delete to amend information entered in the field.

To delete an entry in a field altogether double-click on the field and press the **Delete** or **Backspace** (←) key.

2.7

Deleting a Field

Choose the **Define Fields** command from the **Select** menu, select the field you wish to delete, and click on the **Delete** button. Click on the **Done** button when finished.

Note: Be careful when deleting records or fields since any data present will also be deleted **Permanently**, and there is no way to recover the data.

2.8

Changing the Field Name

Choose the **Define Fields** command from the **Select** menu, select the field you wish to rename, type over the field name, and click on the **Change** button. Click on **OK** when you have finished.

2.9

Changing the Field Type

Choose the **Define Fields** command from the **Select** menu, select the field you wish to change, and click on the new field type. In certain cases a dialog box will be displayed warning that the change of type might cause certain characteristics of the data entered into the field to be lost. Click on the **Done** button when you have finished.

3.0

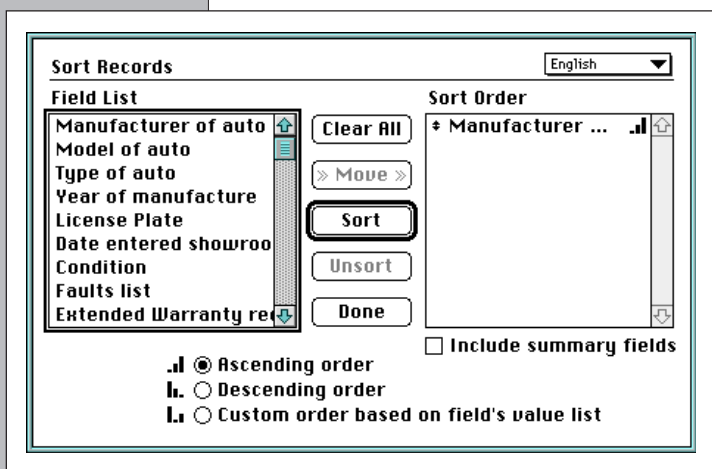
MANIPULATING THE DATABASE

The intrinsic power of databases is based on the searching, sorting and cross-matching of records, and on performing calculations based on information stored on a number of individual records.

3.1

Sorting

Each record is stored in the database in the order that it is entered. However, this may not be the order in which you wish to browse the fields. By sorting the database you can temporarily rearrange the records according to certain criteria.



To sort the database choose the **Sort** command from the **Select** menu and the dialog box opposite will be displayed.

From the **Field List** on the left of the dialog box select each field on which you wish your sort to be based and click on the **Move** button. This will display the selected fields in the **Sort Order** to the right of the dialog box. Fields will be displayed in the preferred sort order. Conversely, clicking on the field name in the sort order and on the **Clear** button will remove the field from the sort order. The **Clear All** button will remove all fields from the sort order.

The order of the sort can be changed by clicking and dragging field names up or down the sort list.

Using the buttons at the bottom of the dialog box you can specify whether the sort for each field is to be ascending or descending.

3.2

Once you are satisfied with the sort order as shown in the right hand side of the dialog box, click on **Sort**. The database can be unsorted by again choosing the **Sort** command from the **Select** menu and by clicking on the **Unsort** button.

Note: Sorting only rearranges the data temporarily. If you add new records, or perform another search, then the sort you performed previously is lost.

Finding Data

Use the **Find** mode to search through the database to locate a particular record, or records conforming to criteria which you wish to specify.

Choose the **Find** mode from the **Select** menu. A **Find Request Form** will be displayed and all fields will be displayed as blank. Type the search criteria into the relevant field, and click on the **Find** button in the **Status Area**.

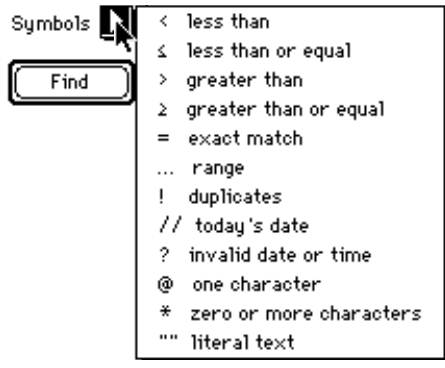
The records which conform to the criteria you have specified in the find request form are termed the **Found Set**. The Found Set can be browsed using the book in the **Status Area**, which will also display the total number of records which conform to the search criteria you specified.

Notes: Finding is not case sensitive. Use upper or lower case as you prefer.

To return to browsing all records choose the **Find All** command from the **Select** menu.

Thus to search for all Ford cars in the autos showroom database, the word *Ford* would be entered in the **Manufacturer of auto** field. Clicking on the **Find** button would find all Ford autos for sale in the showroom.

Alternatively, you might wish to base your search on the Year of Manufacture and search for all autos in the showroom which are manufactured after 1986. To do this, use the **Find** symbols from the pop-up menu in the **Status Area**.

Symbols 	<	less than	<	Less than
	≤	less than or equal	≤	Less than or equal to
	>	greater than	>	Greater than
	≥	greater than or equal	≥	Greater than or equal to
	=	exact match	=	Exact match
	...	range	...	Range, eg. 10...12
	!	duplicates	!	Duplicate values
	//	today's date	//	Today's date
	?	invalid date or time	?	Invalid date or time
	@	one character	@	Any one character
	*	zero or more characters	*	Zero or more characters
	""	literal text	""	Literal text, eg. "Yes"

To search for autos manufactured after 1986, enter >1986 into the **Year of Manufacture** field.

To find all records with field values which fall within a specific range use the range symbol. To use our database example to find all autos for sale in the showroom which were manufactured between 1986 and 1990. You would type 1986...1990 into the **Year of Manufacture** field.

To find all values in a field which have duplicates use the **!** symbol.

Note: If you prefer the Found Set can be copied and Pasted to another application eg. a wordprocessor. To do this hold down the **Option** key (**Shift** (⌘) key with FileMaker Pro for Windows) while choosing **Copy** from the **Edit** menu. Paste as normal in the chosen application, if pasted to a wordprocessor the Found Set will be pasted delimited by tabs.

See Appendix A for more about exporting to other applications.

Using AND Criteria

Manufacturer of auto	Ford
Model of auto	
Type of auto	Hatchback
Year of manufacture	
License Plate	

All the above examples use only a single search criteria. However, often it is necessary to use more than one, eg. if you wish to find all records of hatchbacks manufactured by Ford. To do this you need to search the **Type of auto** field for **hatchback** AND the **Manufacturer of auto** for **Ford**. This kind of search is called an **AND** search because the data is found only if it conforms to one criteria AND another.

Using OR Criteria

Manufacturer of auto	Ford
Model of auto	
Type of auto	
Year of manufacture	
License Plate	

Manufacturer of auto	
Model of auto	
Type of auto	Hatchback
Year of manufacture	
License Plate	

OR criteria are useful if you wish to find records based on one criteria OR another, eg. if you wish to find records of hatchbacks OR autos manufactured by Ford.

To find all the records that match one set of criteria OR another you need to fill out separate requests. First, enter one set of search criteria into the appropriate fields, next choose the **New Request** command from the **Edit** menu. Enter the next set of criteria into the fields of the new request form. To search for data which conforms to both sets of criteria click on the **Find** button.

To find all autos that are either hatchbacks OR were manufactured by Ford you would use the two find request forms opposite.

Note: using OR criteria is not limited only to different fields; you can enter more than one search criteria into the same field using more than one find request form.

Finding Text

Condition	
Faults list	=rust
Extended Warranty required	
Price paid	

To find records containing a particular word, phrase, or other text criteria, type the = symbol, enter the text into the appropriate field, and then click on the **Find** button in the **Status Area**. This will find all exact incidences of the text in the field. Thus if the auto

showroom owner wished to search the database for all autos with rust she could enter =rust in the **Faults list** field, and click on the **Find** button.

This would find all records with the exact text *rust* in the faults list field; however *slight rust*, *rusting gas tank* and *badly rusted bodywork* would not be found.

To find records containing text criteria at the start of a field, enter the text into the field without the preceding = symbol and click on the **Find** button in the **Status Area**. To use our examples list, entering *rust* in the **Faults list** field, and clicking on the **Find** button would find all records with the text *rust* at the start of the field. So *rusting gas tank* would be found but *slight rust* and *badly rusted bodywork* would not.

To find text with spaces and punctuation, enter text in the field surrounded with double quotation marks "*slight rust*".

Using Wild Cards

To find records containing text criteria no matter where in the field it might be, the **Wild Card** characters * and @ are used. The * symbol can be used to represent any number of characters in the text in a field, whereas the @ symbol is used to represent a single character.

To use our example and search the database for all autos with rust within any of the text of the field, the auto showroom owner could enter *rust* in the **faults list** field. As the * symbol represents any number of characters this would find all records with the text *rust* in the faults list field including *slight rust*, *rusting gas tank* and *badly rusted bodywork*.

To use @, the single character wildcard, substitute @ instead of any character in the text search criteria. For example, rust@ would find *rusty* as well as *rust*.

3.3

Calculating

Calculation fields are used to compute a value from information you have entered into other fields. This may be combined with constants, and functions. For example, using the auto showroom database, the owner wishes to calculate and display automatically the profit that she has made by buying an auto for \$500 and selling it for \$1,100.

Condition	
Faults list	rust@
Extended Warranty required	
Price paid	

To do this a calculation field must be set-up. Using the **Define Fields** command from the **Select** menu, enter an appropriate name for the field in the box provided and click on the calculation field type button, and then on the **Create** button. The following dialog box is presented into which the formula used to perform the calculation is entered.

Divide (/), Multiply (*), Add (+), Subtract (-)

Options for Field "Profit on sale"

Fields	Operators	Functions
Manufacturer of auto	=	Abs (number)
Model of auto	≠	Atan (number)
Type of auto	>	Average (repeating field)
Year of manufacture	<	Cos (number)
License Plate	≥	Count (repeating field)
Date entered showroom	≤	Date (day ; month ; year)
Condition	and	DateToText (date)
Faults list	or	Day (date)

Profit on sale =

Price sold - Price paid

Calculation result is **Number**

Repeating field with a maximum of **2** values

Cancel OK

To the left of the dialog box is a scrollable list of fields already defined which can be used in the calculation. Just double-click on the field name to insert it into the calculation. You are not limited by how many field names you can use in a calculation, or by how many times you use a particular field name.

The top center of the dialog box displays a selection of buttons showing mathematical operations that you might wish to use in your formula. Also provided is a key pad which you can use to enter numbers with the mouse. Click once on any of these buttons to enter your choice into the formula. Logical operators are available by double-clicking on the operator list displayed.

Use the mouse to move the insertion point about the formula, editing or deleting as required. Click on the **OK** button to return to the define fields dialog box.

Note: If you prefer, field names, mathematical operations, constants, numbers and functions can be typed directly from the keyboard.

To use our auto showroom example to calculate the profit made on each auto, enter the field name as **Profit on sale** and click on **Create**.

The following formula is used:

Price Sold - Price Paid

By defining the **Profit on sale** field as a calculation field, the calculation field dialog box is displayed. To enter the formula double-click on the **Price Sold** field in the fields list, type a - (minus) sign or use the dialog keypad, and then double-click on the **Price Paid** field.

You can also use constants in a formula. For example, a constant is used to calculate the result of the **Profit less commission** field. This formula is shown below:

(Price Sold - Price Paid) - 100

Here 100 is the \$100 sales staff commission constant.

Functions can be selected from the scrollable functions list in the dialog box and these can be used in your formula. Parameters of the function are added between the parenthesis after the function name.

Appendix B contains a summary of the main functions with a short description of each. Though most functions are self explanatory, the **If** function requires further explanation, since it is so useful.

The IF Function

The **If** function allows the result of a calculation field to be conditional upon certain events.

The function has three parameters: a test; a result if true; a result if false.

If (Test, ResultTrue, ResultFalse)

Using our example auto showroom database, the **Profit on sale** field could include the **If** function. Assuming the Profit on sale depends on whether the extended warranty was purchased or not. The cost of the extended warranty is \$150.

To add this to the existing formula shown above:

If (Extended Warranty required="Yes", Price Paid - Price Sold+150, Price Paid - Price Sold)

4.0

If functions can be nested so that the result of the field can be conditional on more than one event.

Nested If functions take the form shown below:

If (TestOne, ResultOneTrue, If (TestTwo, ResultTwoTrue, ResultFalse))

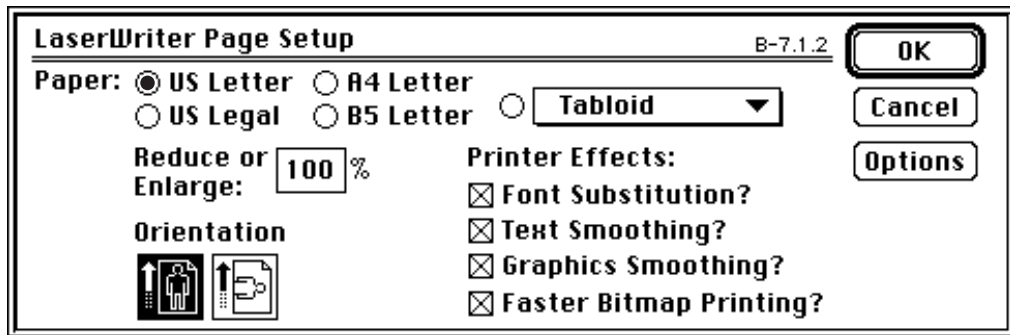
Note: The position of the parentheses.

PRINTING


You may have noticed an option under the **File** Menu called **Print**. **DON'T** use this just yet. First you must decide which printer you are going to use and what you wish to print. This process is specific to whether you are using FileMaker Pro for Windows or FileMaker Pro for Macintosh.

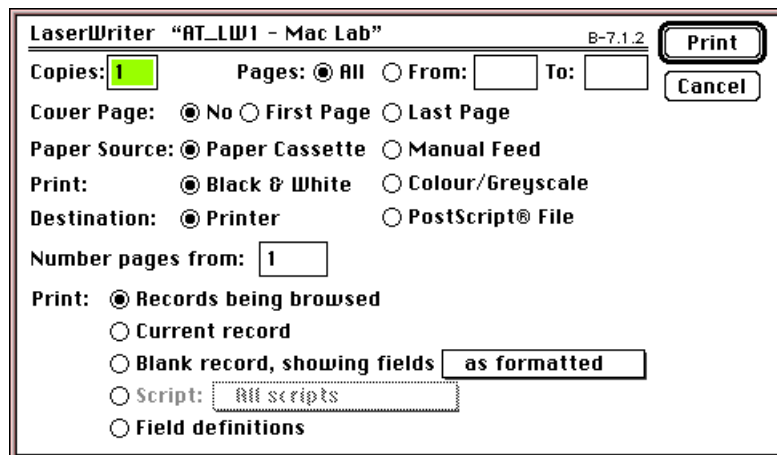
Printing From FileMaker Pro for Macintosh

- Choose the **Chooser** command from the **Apple (⌘)** menu and select from the list of printers and printer types.
- Choose **Page Setup** from the **File** menu. A dialog box similar to the one below will be presented.



Check that the page orientation is correct. The default page orientation is portrait (upright). If you wish to print landscape (sideways), click on the appropriate button. Click on **OK**.

- Choose the **Preview** mode from the **Select** menu and you will be shown a 'bird's eye view' of how the database will appear when printed. This is useful since you can check that all your layout and print settings are correct. To take a closer look click on the  button and use the scroll bars to move about. If what appears on screen is not exactly as you wish to print choose the **Layout** mode from the **Select** menu to edit the layout.
- Finally, If you are satisfied with the preview choose **Print** from the **File** menu. A dialog box similar to the one below will be displayed.

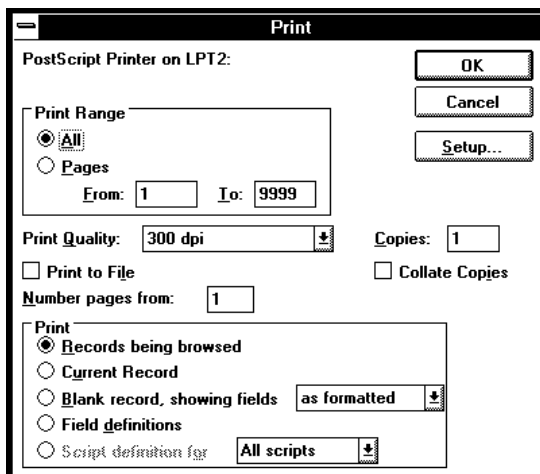
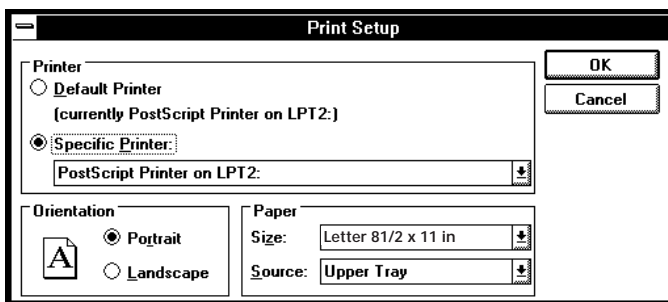


At the bottom of the dialog box you can choose what to print. Click on the **Print** button to print your selection.


Note: To print more than one record per page choose the **View as list** command from the **Select** menu.

Printing From FileMaker Pro for Windows

- Choose **Print Setup** from the **File** menu and the dialog box will be displayed.



Select the printer you wish to use and check that the page orientation is correct. The default page orientation is portrait (upright). If you wish to print landscape (sideways), click on the appropriate button. Click on **OK**.

- Choose the **Preview** mode from the **Select** menu and you will be shown a 'bird's eye view' of how the database will appear when printed. This is useful since you can check that all your layout and print settings are correct. To take a closer look click on the  button and use the scroll bars to move about. If what appears on screen is not exactly as you wish to print choose the **Layout** mode from the **Select** menu to edit the layout.

- Finally, If you are satisfied with the preview choose **Print** from the **File** menu. The following dialog box will be displayed.

At the bottom of the dialog box you can choose what to print. Click on the **OK** button to print your selection.

Note: To print more than one record per page choose the **View as list** command from the **Select** menu.

5.0

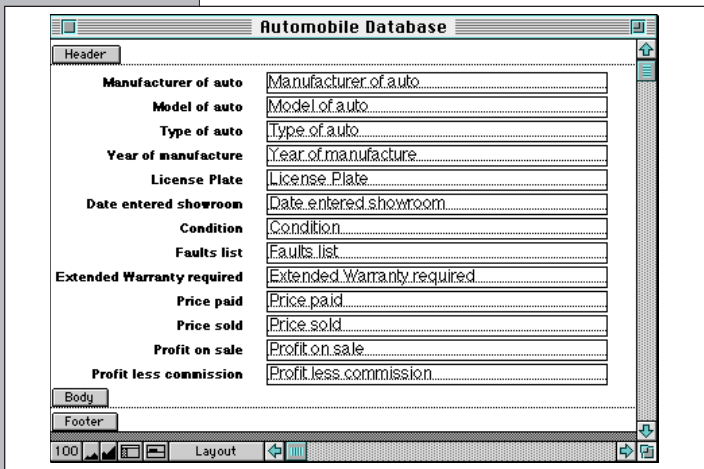
CUSTOMISING THE LAYOUT OF YOUR DATABASE

The layout of the database is important because it makes data entry easier and less prone to errors. The layout also enables you to focus on those fields of particular interest, since you do not need to display all fields for which data has been entered.

By default all fields are displayed one underneath each other to the right of their field labels. This type of layout is called the **Standard** layout. There are seven pre-defined layouts in all – see Section 5.1.

Note: The data that you type into the database is independent of the layout that you use, so choosing not to display a field in a particular layout does not mean that any data typed into the field is lost, it is merely not displayed.

To examine the current layout choose **Layout** mode from the **Select** menu. Each layout is divided into **Parts**. There are three parts to the standard layout; the body, the header and the footer. When in layout mode the parts are displayed on the left of the screen.



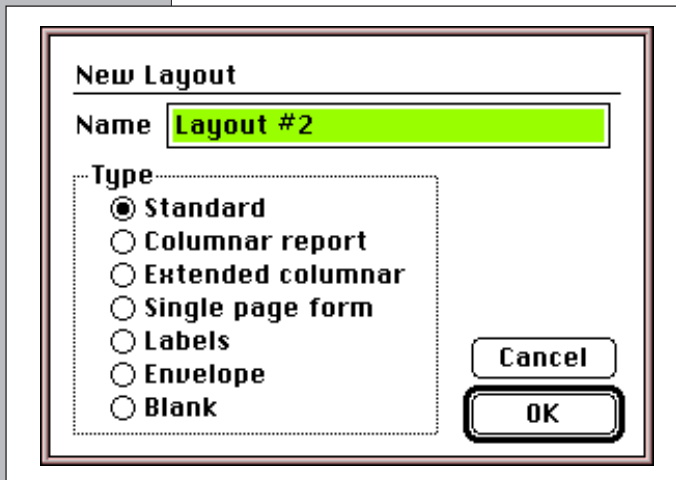
Whatever is added to the **Header** part is displayed at the top of each record and whatever is added to the **Footer** part is displayed at the bottom of each record. By default, fields and field labels are displayed in the **Body** part.

In the standard layout of the auto showroom database shown opposite, nothing is displayed in the header or footer part of the layout. All defined fields are displayed in the body part.

5.1

Using Pre-Defined Layouts

To use one of the pre-defined layouts choose the **Layout** mode from the **Select** menu and choose **New Layout** from the **Edit** menu. The dialog box below is displayed.



Standard: The default Layout. Field labels with fields alongside. One record per screen is displayed. A blank header and footer is included.

Columnar report: Fields in columns from left to right. Header is included which shows field names as column headings. A blank footer is included.

Extended columnar: Fields in columns without wrapping of fields to the next line. A blank footer is included.

Single-Page form: One record per screen. No headers or footers are included.

Label: Fields as printed on standard mailing labels.

Envelope: Fields as printed on a standard envelope.



Blank: Blank layout to which you add fields as required.

Note: You are not restricted to using a single layout for your database; indeed having more than one layout can be very useful, see Section 5.19.

5.2

Altering Layouts

The layout may have been originally defined as one of the pre-defined layouts but there is nothing to prevent you from customising it in any way you wish. Among the many options fields can be moved and removed from the layout; field labels can be renamed or removed; the font, size and style of all entries can be customised; special formats for the field type can be customised.

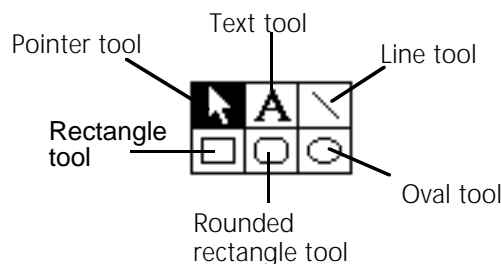
Note: Occasionally the horizontal part names and the **Status Area** get in the way of the positioning of fields in the layout mode. It can help to position the part names vertically, to do this click on the  **Part label button** at the bottom of the window. Click again to return the part names to their original position. To remove the **Status Area** click on the  **Status Area display button**. To re-instate it, click again.

Items like fields, field labels, graphics etc. are collectively referred to in this guide as objects.

5.3

Using Layout Tools

Several tools from the Tools Palette in **Status Area** are available to assist you in the creation of layouts.



With the exception of the pointer and text tools, the other tools available from the tools palette are geometric objects. To use these, click on the preferred tool, move the pointer to the position on the layout where you want to start drawing, and click and drag until the shape is the desired size. When you release the mouse button the shape will be drawn.

Tip: Holding down the **Shift** (⇧) key while drawing an object makes the object symmetrical eg. using the oval tool while holding down the **Shift** (⇧) key draws a circle.

The **Text** tool enables you to incorporate text into your layout. Once selected you can click anywhere in the window and type. See Section 5.4.

The **Pointer** tool is used to move and resize objects, see Section 5.6.

5.4

Font, Size, Style, Alignment and Spacing of Text in Objects

All of these text features can be set before text is entered, or afterwards. In the latter case, the text to be changed must first be selected.

Use the **Font**, **Size**, **Style**, **Spacing** and **Alignment** sub-menus from the **Format** menu to amend the text. More than one style can be chosen, and most of the features can be customised to your own preferences.

If there are several text attributes that you wish to change at one time it can be easier to use the **Text Format** command from the **Format** menu and use the dialog box presented to change all the attributes at once.

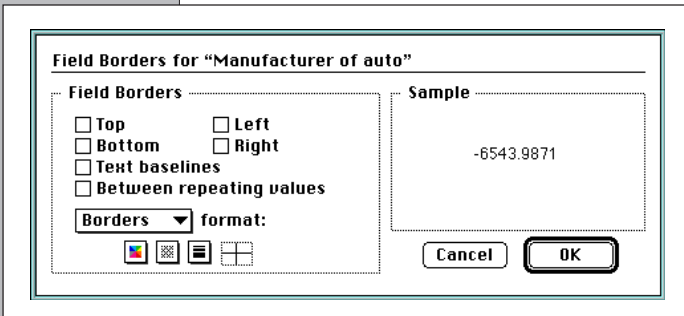
Note: If you change the text attributes of a field, any entry in the field will change.

5.5

Adding Borders Around Fields

Borders can be used to enhance your presentation of fields.

Choose the **Layout** mode from the **Select** menu, select the field to which you wish to add a border, and choose the **Field Borders** command from the **Format** menu. The dialog box below will be displayed.



The left hand section of the dialog box provides all the border options from which you can select. The pop-up menu allows you to specify a format for the border type from the choice of Borders, Baselines or Fill. Choose the combination you require and the result is displayed on the sample to the right of the dialog box. Click on **OK** when you have finished.

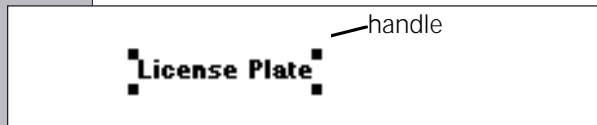
The border of more than one field can be added at one time by using the shift-clicking procedure described in the next section.

5.6

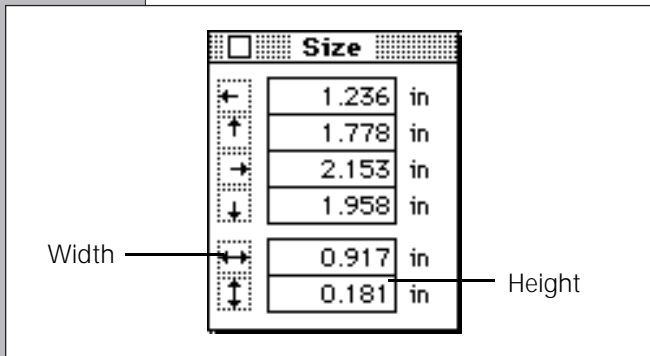
Moving and Resizing Objects

To move objects, click and drag them to the required place on the screen. Fields and field labels are moved independently of one another. However, to move them together, click on one object and then while holding down the **Shift** (⌘) key click on the other (this is called **Shift-Clicking**).

Resizing a field can be useful if the intended data entered is likely to be longer than the current field will allow, or conversely, if the data entered is much shorter than the space allocated for it in the standard layout.



Resizing of any object follows the same procedure. Click on the object once, and then click and drag one of the handles displayed at each of the corners.



More than one object can be resized simultaneously by using the shift-clicking procedure described earlier in this section, and this is particularly useful if you wish several objects to be resized in the same proportions.

If the exact size of an object is critical select the object and choose the **Size** command from the **Layout** menu. You can then enter the required sizes for the object in the dialog box presented.

Note: the default unit of the size box is the inch. To alter this choose the **Ruler Settings** command from the **Layout** menu and choose the unit from either centimetres or pixels in the pop-up menu.

5.7

Aligning Objects to the Grid

By default an invisible grid is imposed on the layout and objects are aligned to this grid. Using the grid makes the positioning of objects more precise. However, occasionally you may wish to turn off the grid. To turn the grid off or on, choose the **Align to Grid** command from the **Layout** menu. With the grid turned on a tick appears alongside the command on the menu.

5.8

Positioning Objects Precisely

In addition to the shift-clicking method described in Section 5.6, FileMaker Pro provides several tools which will assist you to position objects precisely.

Rulers: Using the **Rulers** command from the **Layout** menu displays rulers along the top and left side of the screen.

Ruler lines: Using the **Ruler lines** command from the **Layout** menu displays ruler lines on the screen.

T-square: Using the **T-square** command from the **Layout** menu displays T-square lines from the top to the bottom and across the screen. The position of the T-square can be adjusted by moving the mouse pointer to the T-square line and clicking and dragging to its new position. Objects can then be dragged to align with the T-square lines.

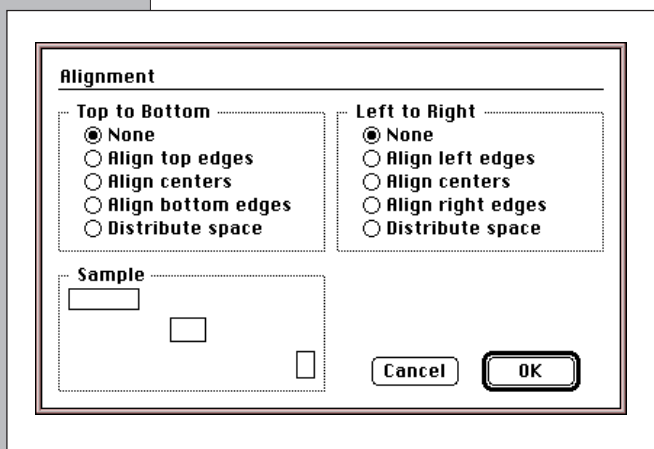
Size box: Using the **Size** command from the **Layout** menu displays the size box as described in Section 5.6. The positioning of selected objects can be altered by entering new coordinates into the size box.

All of these options can be used in combination. To remove one of the options choose the same command again from the **Layout** menu.

5.9

Aligning Objects

There will be occasions when you will wish to align objects with each other.



To do this, select the objects to be aligned, and use the shift-click method as described in Section 5.6. Choosing the **Alignment** command from the **Layout** menu displays the dialog box opposite.

By choosing a combination of top to bottom and left to right alignment options, the positioning of the selected objects can be adjusted. A sample in the dialog box displays the effect of the chosen alignment. Click on **OK** to align the selected objects.

Other objects can be aligned similarly just by using the **Align** command from the **Layout** menu.

5.10

Deleting Objects

All Objects can be deleted by clicking on the objects and pressing the **Delete** or **Backspace** (←) key.

Deleting a field merely removes the field from the layout it does not delete the field definition. To delete a field permanently see Section 2.7.

5.11

Copying Objects Between Layouts

All objects, including fields, can be cut or copied from one layout to another.

To copy an object leaving the original intact. Choose the **Layout** mode from the **Select** menu, select the object, and choose the **Copy** command from the **Edit** menu. Switch to the new layout and choose the **Paste** command from the **Edit** menu. The object will be pasted to the new layout; its position can be adjusted by clicking and dragging.

To cut the object removing the original, use the same method above but substituting the **Cut** command for **Copy**.

5.12

Grouping Objects

Occasionally it can be useful to group objects together so that they can be treated as a single object. For example, grouping a field and a field label means that they can be moved together more easily than by using the shift-click method.

To group objects, select all the objects that you wish to group by using the shift-click method and choose the **Group** command from the **Arrange** menu. To ungroup objects, select the grouped object and choose the **Ungroup** command from the **Arrange** menu.

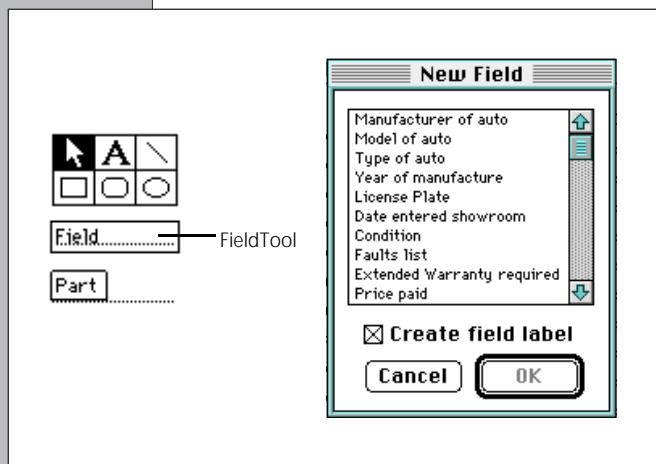
5.13

Changing the Stacking Order of Objects

As objects are added to a layout they overlap those already displayed. You can change this stacking order by selecting the object using the commands in the **Arrange** menu.

To move an object to the top of the stack choose the **Bring to Front** command. To move an object one step towards the top of the stack choose the **Bring Forward** command. To move an object one step towards the bottom of the stack choose the **Send Backward** command. To move an object to the bottom of the stack choose the **Send to Back** command.

5.14

Adding Pre-defined Fields to a Layout

To add a pre-defined field select the **Layout** mode and use the **Field tool** from the **Status Area**.

Click and drag the Field tool to where you wish the field to appear on the layout. This displays a dialog box listing all defined fields. Choose the field you wish to add to the layout; click in the **Create field label** box if you wish to add a field label along with the field. Click on **OK** to add the field.

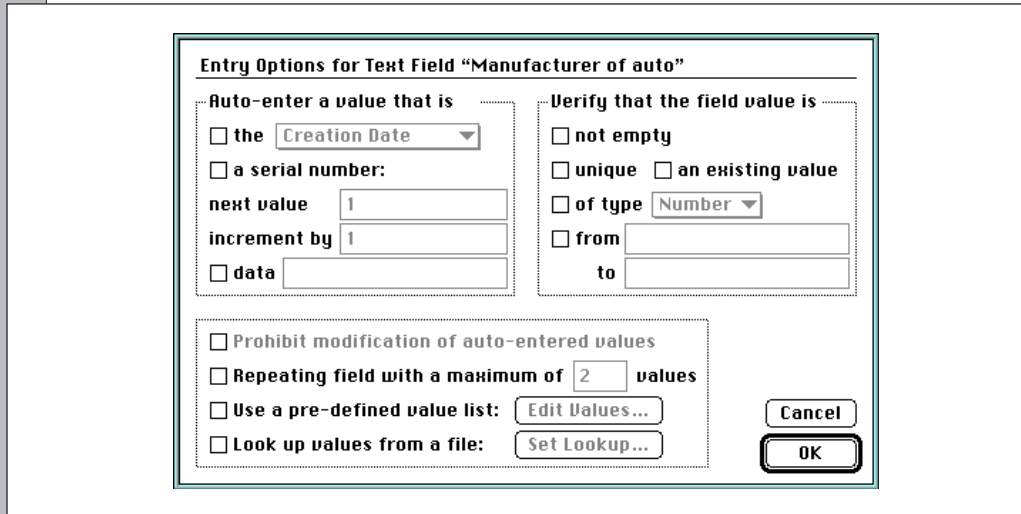
The field is added to the layout and can be re-positioned in the same way as any other field.

5.15

Text, Number, Date and Time Field Options

Text, number, date and time field options are very similar. The same options dialog box is presented for all four field types. However, not all options are available with each field type and some options are used more often with particular field types.

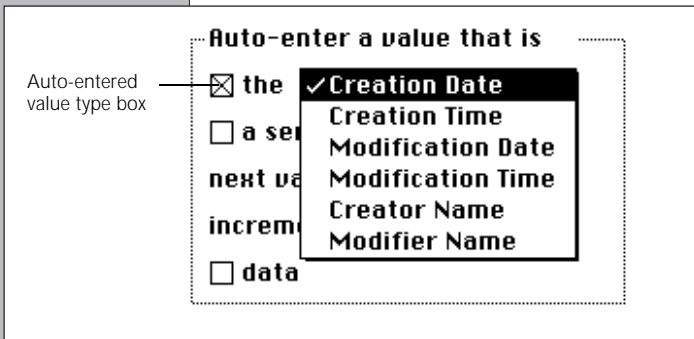
The options dialog box shown below is for a text field from the auto showroom example.



Auto-entered Values

Auto-entered values, when checked in the dialog box, allows data to be automatically entered into a field instead of having to be typed for each record.

The type of auto-entered value can be specified as the creation date, modification date, modification time, creator name, modifier name.



Using our auto showroom example database, the **Date entered showroom** field can be set up as a date field with an auto-entered value if it is assumed that the auto details are entered as soon as the auto enters the showroom. To do this click on the auto-entered value type box and use the pop-up menu to specify creation date as the auto-entered value. In this way when the record for the auto is created the date of entry into the database will be recorded in this field.

To automate the entry of serial numbers click on the **a serial number** box. You can then enter the next value of the serial number that you wish to use and the incremental step between this and the next serial number. For example entering 1000 as the next value and incrementing by 2 will result in the serial numbers 1000, 1002, 1004, 1006 etc.

Note: If letters are used in the serial number they are ignored for incremental purposes.

If you wish a particular item of data to be auto-entered into the field click on the **data** box and enter it in the box provided.

Verifying Field Values

Using the options on the right of the dialog box you can verify whether any values entered in a field conform to certain criteria.

Not empty verifies data is entered in a field.

Tip: it is best to use the **not empty** option only once you are sure that you have tested your database sufficiently. This is because every time you create a new record for your database it will demand that you make an entry in the fields where you have selected this option. This can become rather tiresome.

Unique verifies entries are different for each record.

An existing value verifies that data entry is of the required type – number, date, time.

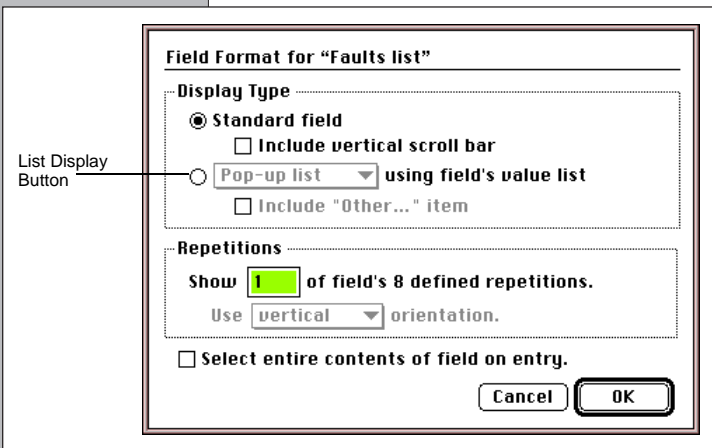
From and **To** verifies that entries fall within a specified range.

Clicking in the **Prohibit modification of auto-entered values** box will prevent any alteration of an auto-entered value.

Repeating Fields

Repeating fields allow a field to have more than one value. Using the auto showroom example, the **Faults list** field is defined as a repeating field. Thus, notes about each fault which the auto has can be entered separately into a single field.

To define a repeating field click on the box alongside **Repeating field with a maximum of 2 values**. You must also specify the maximum number of values in the box provided.



By default, only the first of the repeating fields is displayed on the layout. To display all or some of the repeating fields, choose **Layout** mode from the **Select** menu, select the field you have defined as repeating and choose the **Field Format** command from the **Format** menu. The dialog box opposite will be displayed.

From the lower section of the dialog box you can enter the number of repetitions you wish the repeating field to display. In the dialog box above only 1 of the 8 defined repetitions will be displayed.

The orientation of the displayed repetitions can be set to either vertical or horizontal.

When using **Browse** mode pressing the **Tab** (→) key will move the insertion point to the next displayed repetition.

Note: If the field format is changed so that repetitions do not display on the layout, the data is still stored in the field.

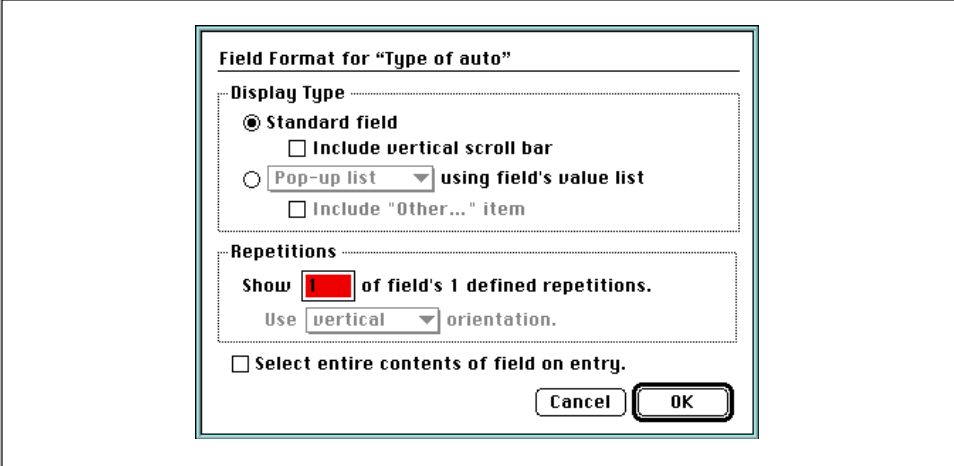
Pre-defined Lists

Using a pre-defined list presents the user of the database with a limited selection of data to from which to choose to enter for a field. The advantages of this are that it can result in data entry being faster and more error free.

Click on the **Use a pre-defined value list** box and a further dialog box will be presented. Typing a list of all the possible values into this dialog box and pressing the **Return** or ↵ key (do not press the **Enter** key) between each value will provide the user with a limited choice of entries for the field. Once the value list is entered click on the **OK** button (do not press the **Return** or ↵ key) which will return you to the field options dialog box.

Note: If you wish the user of the database to be able to leave a field with a pre-defined list blank, when specifying the list make the first entry in the list a blank line by pressing the **Return** or ↵ key once before typing in the list.

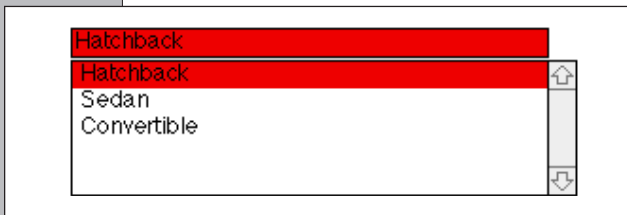
The value list can be displayed as a menu or as a selection of buttons. To do this, choose **Layout** mode from the **Select** menu, select the field you defined to display the value list, choose the **Field Format** command from the **Format** menu, and the following dialog box will be displayed.



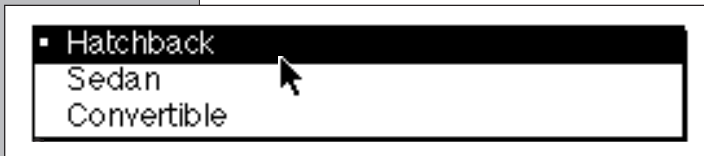
Click on the list display button and choose the list type required from the pop-up menu.

Types of list display are:

Pop-up List



Pop-up Menu



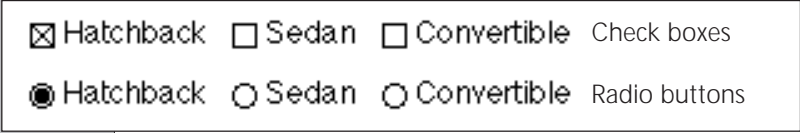
Clicking on a field formatted as a pop-up list will display the value list as shown opposite. The list continues to be displayed until a choice is made from the menu.

Clicking on a field formatted as a pop-up menu will display the value list like the example opposite. Using FileMaker Pro for Macintosh the list is displayed only while the mouse button continues to be pressed. Make a

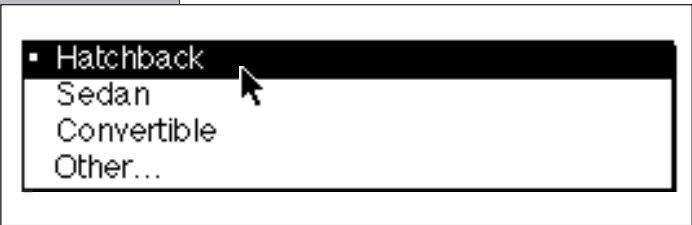
selection from the list by clicking and dragging to your choice. Using FileMaker Pro for Windows the list continues to be displayed until a choice is made from the menu.

Check Boxes and Radio Buttons

Using a value list displayed as check boxes or radio buttons a choice can be made by checking the box or button alongside the value. Unlike radio buttons users are permitted to put a check in more than one check box.



Using the auto showroom example, the **Type of auto** field can be set up as a pre-defined list. With this field there is a limited number of common choices available – Hatchback, Sedan or Convertible so a pre-defined list is suitable. However, there are other possible types of auto, truck or bus for example.



To allow the use of a pre-defined list with this kind of occasional alternative, from the **Field Format** dialog box click on the **Include other item** box. This will add an **Other...** value to the value list when entering data into the field. If this value is chosen a dialog box is presented allowing the user to type in the alternative data.

Note: Include other item is not available from a pop-up list.

5.16

Formatting Values in Defined Fields

Certain values entered into most of the field types can be perfectly valid but not in the format you require. For example, dates in the 06/03/93 format instead of June 3rd 1993 or 1000 instead of \$1,000.

The values entered into these fields can be converted automatically into the required format.

The procedure for formatting values in defined fields is the same for each field type, only the dialog box which is presented differs.

Text formatting is dealt with in Section 5.4.

To change the value format, choose the **Layout** mode from the **Select** menu, select the fields that you wish to change, and choose the appropriate format command from the **Format** menu. A dialog box will be presented from which you can format the values click on **OK** when you have completed changing the format.

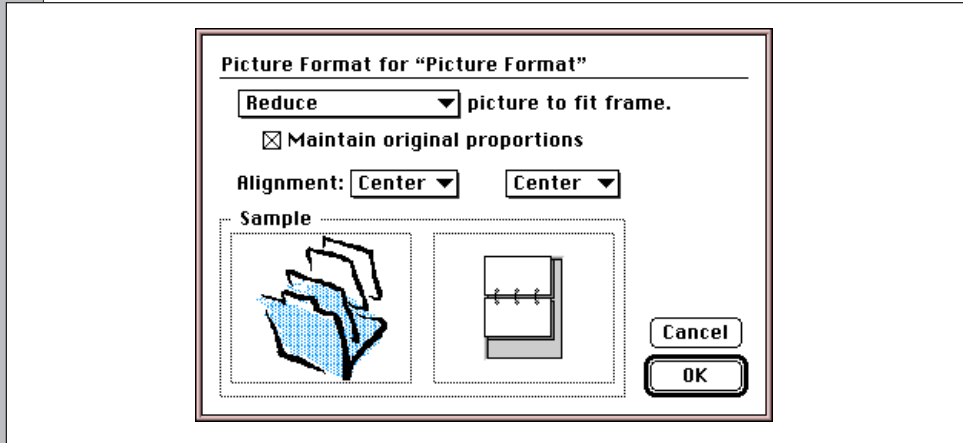
Note: If the title of the dialog box reads **Default Field Type Format**, where Field Type is the type of format chosen from the **Format** menu it means that you do not have a field selected. Altering the options of the Default Format will set the format for any fields of this type that you add later.

Formatting Fields Containing Numerical Values

Number fields, most calculation fields and summary fields contain numbers which can be displayed and printed in a variety of ways. Numbers can be formatted with a specific number of decimal places, preceded with a \$ sign, followed by a % sign, etc.

Formatting Picture Fields

Pictures in Picture fields can be displayed and printed in a variety of ways. Pictures can be formatted as reduced in size to fit a frame, aligned centrally, etc.



Pictures in the layout are surrounded by a rectangle known as a frame. Choose how you wish the picture to be formatted within the frame by making your choice from the pop-up menu alongside **picture to fit frame**.

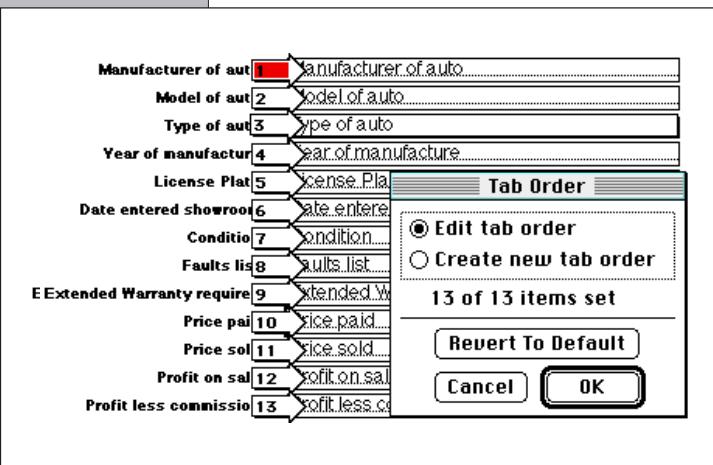
A box is provided to allow you to ensure that the proportions of the picture are maintained. Vertical and horizontal alignment of the picture can be set by using the **Alignment** pop-up menus.

Note: Not all picture formats can be displayed by the database.

5.17

Changing the Tab Order

By default, pressing the **Tab** (→) key when entering data moves the insertion point to the next field to the right or if there are no fields to the right the insertion point moves down to the next field. You may wish to change the tab order so as to make it more logical for the user of your database. You may also wish to omit fields from the tab order, for example, fields into which you rarely enter data.



To change this tab order choose the **Layout** mode from the **Select** menu, and choose the **Tab Order** command from the **Arrange** menu. The tab order dialog box will be presented and numbered arrows are displayed pointing to each field of the layout.

To edit the existing tab order click on the numbered arrows and type the new position of the fields in the tab order. The tab order of the other fields will be re-ordered automatically.

To create a new tab order click on the **Create new tab order** button. This will cause all the tab arrows to be shown blank.

5.18

To specify a revised tab order, click on the arrows in the sequence you prefer, and a number will be displayed inside each arrow to show you the revised tab order.

If you wish to leave fields out of the tab order either delete the number from the tab arrow or if creating a new tab order, leave the tab arrow blank.

When you have completed editing the tab order click on the **OK** button.

If you have left any fields out of the tab order a dialog box will be displayed. Click on **Omit** to keep the fields out of the tab order. Click on **Add** to attach the fields you left blank to the **end** of the tab order.

Including Summaries in Your Database

You can use a summary to compute a value based on a selection of records. So, for example, if our auto showroom owner wishes her database to calculate a total profit for auto sales, she would use a summary to do this.

Summaries can be defined as part of a layout, appearing and being printed for example, at the bottom of a layout. Alternatively, they can be defined as a separate layout displaying summary information about the records in the main layout. See Section 5.19 to find out more about using more than one layout.

Note: Summaries are a complex aspect of FileMaker Pro. Only the creation of Grand Summaries are described in this guide. For more about Summaries see the Claris FileMaker Pro User's Guide.

There are two main types of summary:

Leading grand summary: Displays summary information before all records. Only one leading grand summary per layout is permitted.

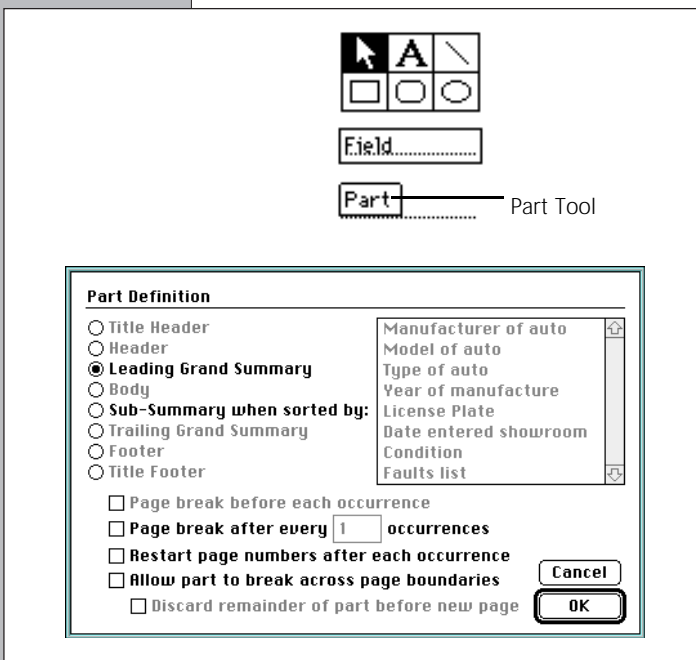
Trailing grand summary: Displays summary information after all records. Only one trailing grand summary per layout is permitted. This is the most commonly used type of summary.

The type of summary must first be defined, followed by the summary fields.

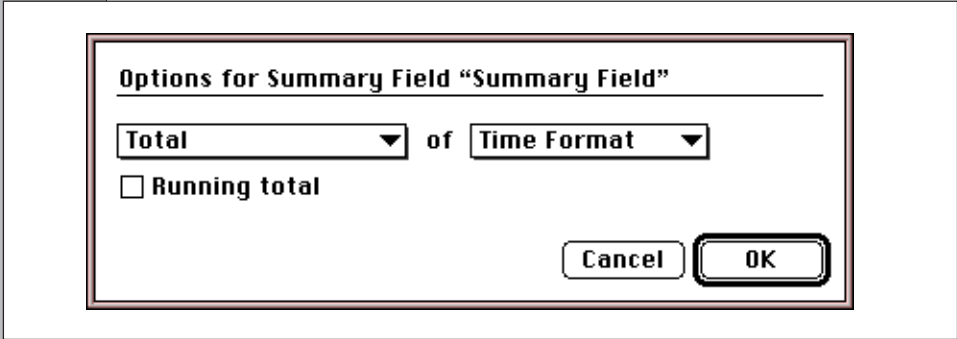
- Choose the **Layout** mode from the **Select** menu.
- Drag the **Part** tool from the **Status Area** to the position on the layout where you wish the summary to be.

The Part definition dialog box is displayed.

- If the Part is dragged to precede the body part a **Leading Grand Summary** can be chosen, if otherwise a **Trailing Grand Summary** can be chosen. Click on the **OK** button.
- The name of the part type is listed on the left of the layout. Parts are separated with horizontal dotted lines.



- Next, the summary fields can be defined. Choose the **Define fields** command from the **Select** menu.
- In the dialog box presented type an appropriate field name for the summary and click on the **Summary** field type. The dialog box below is displayed.




- From the pop-up menu on the left of the dialog box choose the type of function you wish to use in the summary field and from the pop-up menu on the right choose the field you wish to summarise. The most commonly used functions are:

Total – to total the contents of a field for all records.

Average – to average the contents of a field for all records.

Count – to count the number of records which contain a value for the field.

- Position the fields in the summary as required.

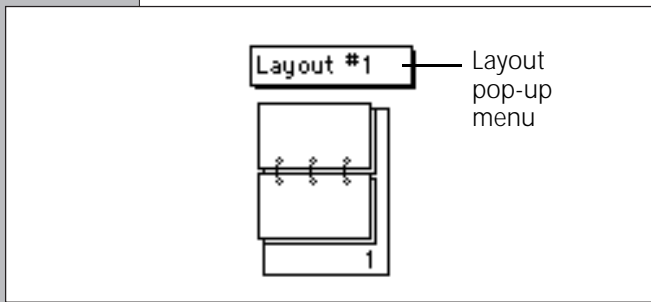
Tip: Occasionally the horizontal part names get in the way of the fields in the layout mode. It can help to position the part names vertically. To do this click on the  part label button at the bottom of the window.

5.19

Using More Than One Layout

Usually a single layout for a database is sufficient. However, more than one layout can be useful to display a different selection of fields or parts. Switching between layouts is simply a matter of choosing a different layout from a menu.

To use the auto showroom example, the owner might wish to use one layout to display the records of each auto, and a different layout to display summary information like the profit from sales of a particular type of auto.



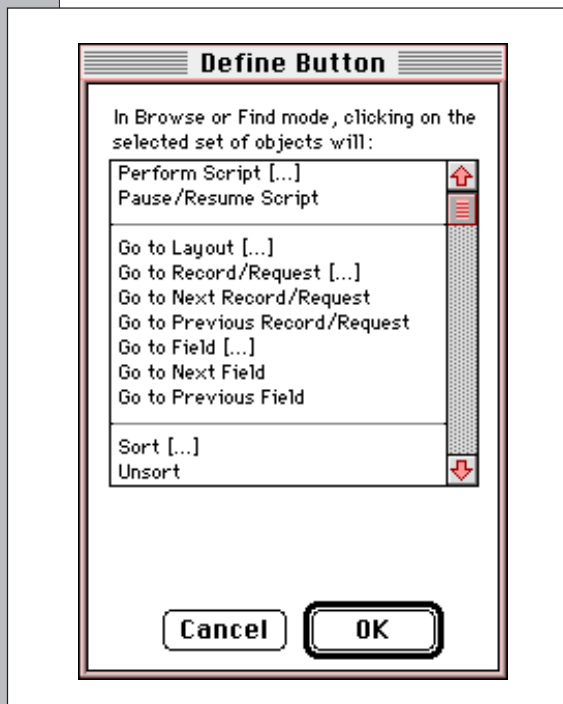
To create an additional layout, choose the **New Layout** command from the **Edit** menu. Choose one of the pre-defined layouts from the dialog box displayed, name the layout and click on **OK**. See Section 5.1 about pre-defined fields. Arrange the fields on this layout as normal. To switch between layouts choose the layout from the layout pop-up menu on the **Status Area**.

BUTTONS

Data entry into the database is sometimes undertaken by somebody other than the designer of the database, eg. the auto showroom owner will not always enter data. So to simplify the data entry process for another person FileMaker Pro includes Buttons. Commands which would generally be executed using FileMaker Pro's menus can be assigned to buttons so that novices can easily execute the data entry required in the database.

To define a button to carry out a command:

- Choose the **Layout** mode from the **Select** menu.
- Select an object you wish to use as a button. This can be any graphic object or text, but not a field.
- Choose the **Define Button** command from the **Scripts** menu. This will display the dialog box below.



Choose the command which you wish the button to carry out from the scrollable list. Some of the commands have parameters which must be specified in the bottom section of dialog box. Once the button is defined click on the **OK** button and return to **Browse** mode. Clicking on the button you have defined will carry out the command.

Tip: A selection of well drawn buttons is available by copying and pasting from the buttons file in the Templates folder supplied with FileMaker Pro.

To use the auto showroom example again, by defining a button to perform the **New Record/Request** command, the button can be clicked instead of using the menu command. Likewise defining another button to perform the **Go to Layout** command and specifying the auto showroom summary layout will enable the user to easily switch to the sales summary.

To Delete a Button

- Choose the **Layout** mode from the **Select** menu.
- Select the button you wish to delete and press the **Delete** or **Backspace** (←) key on the keyboard.

Note: Buttons can also be used to carry out more than one command. To do this you need to understand how to use FileMaker Pro's scripting facility. Consult the Claris FileMaker Pro Users Guide for more information.

Buttons can be Cut, Copied and Pasted between Layouts and databases, though the parameters attached to buttons may need to be redefined.

APPENDIX A

Import/Export

Moving data to and from other applications is extremely useful since it allows you to exchange databases with other database applications and mix FileMaker Pro's database capabilities with the specialist features of a graphics or wordprocessing application. It also avoids both the labour of re-typing and the possibility of introducing errors.

Importing Data

To import data into FileMaker Pro it must first have been saved in a format that FileMaker Pro can open.

There are eight of these formats known variously as Tab-Separated Text, Merge, Comma-Separated Text (CSV), BASIC, SYLK, WKS, DIF, Edition file, FileMaker Pro version 1. In most cases you will import data as Tab-Separated Text or CSV form unless you are importing a file from another database application.

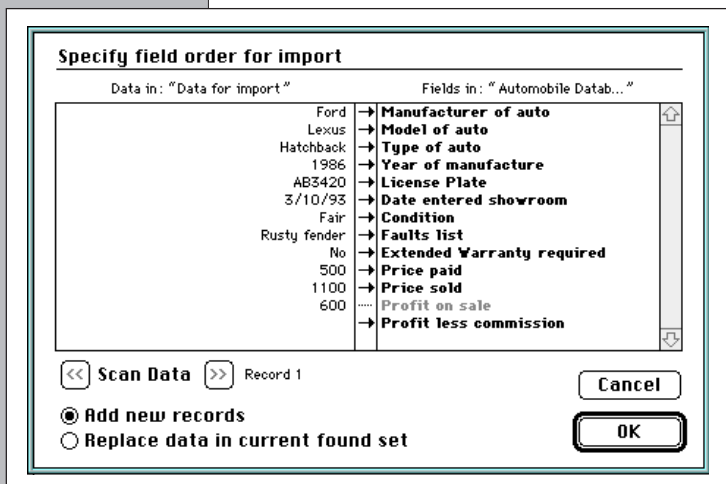
Either, Open the Database into which you wish to import the data,

Or, Create a new database ready to accept the imported data. Define the fields into which you wish to import data. Ensuring that there are at least as many fields created as are being imported.

- While in **Browse** mode, choose the **Import/Export** command from the **Edit** menu and the **Import Records** command from the pop-up sub-menu. Find the file that you wish to import using the dialog box presented.

Note: If the file cannot be seen in the list displayed it cannot be opened by FileMaker Pro. Return to original file format and **Save as** in a format which FileMaker Pro can read.

Databases imported from FileMaker Pro 1 into FileMaker Pro 2 can no longer be opened in FileMaker Pro 1.



- Once opened the dialog box opposite will be displayed.
- The left of the dialog box displays a list of the data for import; the right hand side displays a list of field names that you must match this data to. Click and drag the field names on the right until they match with the data on the left.
- Click on **OK** and the data will be imported.

Note: Repeating fields cannot be imported into a single field.

Importing FileMaker Pro Files Cross-Platform.

FileMaker Pro for Macintosh will import FileMaker Pro for Windows files directly and vice versa, with a few considerations.

- When importing FileMaker Pro files from Mac to Windows, ensure that the database you wish to transfer has a filename with no more than 8 characters and a **.fm** extension.
- Fonts may appear a little different.
- The positioning of objects may be a little different.

Importing Files From Other Applications

Most data saved in the above formats on Macintosh or IBM PC compatible can be imported into FileMaker Pro.

- The data must be saved in a format that FileMaker Pro will open. This can be any one of the formats specified in above.
- If files are to be exported cross-platform the disk format must be made compatible. This can be done by using the **Apple File Exchange** program supplied with every Macintosh.
- Once the disk format is readable import the file into FileMaker Pro as outlined above.

Exporting Data

There are two ways of exporting data to another application from FileMaker Pro:

- By Copying and Pasting data
- By using saved data

Using Copy and Paste

This method will only work when exporting to computers of a similar type ie. Macintosh to Macintosh or IBM PC to IBM PC.

Hold down the **Option** key (**Shift** (⌘) key with FileMaker Pro for Windows) while choosing **Copy** from the **Edit** menu. Close FileMaker Pro. **Open** the application into which you wish to export the data. Move the insertion point to where you wish the data to appear and choose **Paste** from the **Edit** menu, if pasted to a wordprocessor the data will be pasted delimited by tabs.

Using Saved Data

Open the database you wish to export. Choose the **Import/Export** command from the **Edit** menu, and the **Export Records** command from the sub-menu. Type a file name for the exported file, select a file type from the file type pop-up menu and click on **New** to export the file.

- Most applications on the Macintosh and IBM PC compatible can open files created in one of the file formats which FileMaker Pro exports.
- If files are to be exported cross-platform the disk format must be made compatible. This can be done by using the **Apple File Exchange** program supplied with every Macintosh.
- Once the disk format is readable simply open the file from within the application.

APPENDIX B

There are a great many calculation functions built in to FileMaker Pro. However, you will use only a handful of these on a regular basis and so the most common functions are listed below with a brief explanation and the arguments they require. For a complete list of functions refer to the **FileMaker Pro User Guide**.

Functions shown throughout this guide are illustrated with semi-colon separators.

Calculation Functions

Abs(number)	Returns the absolute (positive) value of a number.
Date(month,day:year)	Returns the long date format from numerical date.
DateToText(date)	Returns the text equivalent of a date.
Day(date)	Returns a number between 1 and 31 which represents the day of the date.
DayName(date)	Returns text which represents the weekday of the date.
DayofYear(date)	Returns a number which represents the no. of days since 1st Jan.
Exact(original text;comparison text)	Case-sensitive comparison between two pieces of text. Returns 1 if identical 0 if different.
Hour(time)	Returns the number of hours shown in a time value.
If(test,resultone,resulttwo)	See Section 3.3.
Int(number)	Returns the integer (whole number) of a number.
Left(text:number)	Returns the text containing the specified number of characters as counted from the left.
Length(text)	Returns the number of characters in the text.
Lower(text)	Converts text to upper case.
Middle(text,start,size)	Returns the text containing the specified number of characters (size) as counted from the specified start character.
Minute(time)	Returns the number of minutes shown in a time value.
Mod(number,divisor)	Returns the number remaining after the number is divided by the divisor.
Month(date)	Returns a number between 1 and 12 which represents the month of the date.
MonthName(date)	Returns the month of the date.
NumToText(number)	Returns the text equivalent of the supplied number.

Position(text,search text,start)	Scan of text for the presence of search text from the position specified by start. Returns a number where the text begins.
Proper(text)	Converts text to title case.
Replace(text,start,size,replacement text)	Replaces the text with the replacement text from the position specified by start and until size.
Right(text,number)	Returns the text containing the specified number of characters as counted from the Right.
Round(number,precision)	Rounds the number to the number of decimal places defined by precision.
Seconds(time)	Returns the number of seconds shown in a time value.
Sign(number)	Returns -0 or 1 depending on the sign of the value.
Summary(summary field,break field)	Extracts the value of the summary field for the records sorted by break field.
TextToDate(text)	Returns the date equivalent of the text.
TextToNum(text)	Returns the number equivalent of the text.
TextToTime(text)	Returns the time equivalent of the text.
Time(hours;minutes;seconds)	Returns a time result from the supplied values.
TimeToText(text)	Returns the text equivalent of the time.
Today	Returns todays date
Trim(text)	Returns the text stripped of all leading & trailing spaces.
Upper(text)	Converts the text to upper case.
WeekofYear(date)	Returns a number which represents the no. of weeks since 1st Jan.
Year(date)	Returns a number which represents the year of the date.