

The Cardbox book.

The Cardbox book.

Martin Kochanski

and the Cardbox team

Cardbox Software Limited

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Preface

Cardbox was conceived 25 years ago and it was born in 1982. It has been used by hundreds of thousands of people since then, and many of them have become addicts: we can tell when they move from one job to another because their new employer has to buy them Cardbox to keep them happy and productive.

Cardbox 3.0 for Windows, which you are looking at now, is the eighth major version of Cardbox. In our archives we still have the very first concept sketch for the very first Cardbox, drawn long before Windows was invented. That sketch already shows some of the distinctive features that have stayed in the Cardbox family throughout its life: especially the concept of indexing every word in a field, and of marking which words should be indexed and which shouldn't. It has been a constant puzzle to us why other databases don't adopt such a simple feature; or, indeed, some of the other features we've invented, such as tagging (p.93) or batch editing (p.155). These things are so obvious and so natural that once you've tried them it is very difficult ever to live without them again. We are puzzled why other software manufacturers haven't imitated them, but we're also grateful: it makes a better market for us.

What is Cardbox? That's a difficult question to answer. You can put information into Cardbox, you can search it, you can get it out again. That makes Cardbox a kind of database, but if you say "database" to most people, they think of complexity, elaborate programming, and having to spend hours doing data analysis before you even start. To use the same name for something like Cardbox, where if you put something in, it's in, and you can see it, and you can find it again – to use the same name for something that straightforward seems indecent. Perhaps the best thing we can suggest is to look at Part Six of this book (p.211), where you'll find many examples of Cardbox databases created by us and other people, and you'll begin to understand why for so many users Cardbox becomes a way of life.

The Cardbox Book

Why do we call this book a book and not a manual? Because we've seen what's happened to computer manuals. Once upon a time you could hope to learn your way around a product just by reading its manual. No longer. Today, manuals are mostly detailed lists of commands and step-by-step instructions for performing every conceivable operation, without any suggestion of what the basic concepts are, of what this product is actually *about*. If travel guidebooks resembled these manuals, they'd spend all their time teaching you how to use the ticket machines in the railway stations and they'd never say anything about what being in a country was really like.

The difference between a book and a manual is that you only see a manual after you've bought the software and opened the box, and then it's too late and you have

to read it. A book is something you can take off the shelf and glance through, and if you don't like it, you can put it back. Making a book is much harder than making a manual: a manual doesn't need to be worth reading; a book has to be.

The Cardbox Book is designed from the beginning to be a book. Its aim is to give you an understanding of what Cardbox is all about: what it's useful for, how it works, how it thinks. We reckon that once you've got these things under your belt, the mere step-by-step details are easy. Either they'll be obvious already and you won't have to think about them, or you can press a key and look them up in the Help. But the understanding has to come first, and that's what this book is for.

Our goal has been to make something so interesting, and so clear, that you'd buy it to read on the train even if you didn't own a computer. Perhaps that's impossible, but we've had fun trying; and the result is a lot closer to the ideal than any other computer book we've ever seen.

Cardbox - Home Edition

If the thing you're holding in your hands says "Cardbox Home Edition", you're looking at a slightly different kind of animal. This is no longer just a book that tells you how to use Cardbox, it actually is Cardbox itself, and you'll find the software on a CDROM at the back of the book, ready to load into your computer.

As you might expect from its name, the Home Edition of Cardbox has fewer features than the Professional Edition, and it costs quite a bit less. To design the Home Edition, we went carefully through the Professional Edition and removed features that were relevant only when several people were sharing a database (eg. profiles and passwords) or when the user of the database wasn't the designer of the database (eg. validators) or that needed quite a bit of expertise from the database designer and quite a lot of support from us (such as macros and programming). We also limited the capacity to 10,000 records per database, which is more than enough for practically everyone: we reckon that if you have more than 10,000 friends, or 10,000 books or CDs, or even 10,000 photographs to index, you should be able to afford the Professional Edition. You can find a precise list of the differences between the Home Edition and the Professional Edition on page 13.

Our aim has been to produce something that isn't a truncated version of something else but is complete in its own right: we hope we've succeeded. We also hope that the Home Edition will make Cardbox more infectious. Cardbox has always spread best by personal recommendation, and anything that we can do to encourage that process is worth doing. Tell your friends to try the Home Edition: now that it costs no more than a good dinner for two, they have no excuse not to; and if it's as good as you (and we) say it is, they'll be very grateful.

How to read this book

If you want some inspiration to keep you going, start with Part Six (p.211), which will show you some of the things that other people have done with Cardbox and will give you ideas for how you might use it yourself. It's often easiest to absorb information when you have a definite plan in mind.

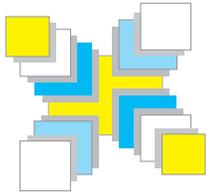
But otherwise, this book is meant to be read from beginning to end, starting from the basic concepts and carrying on from there: so begin at the beginning, go on till you come to the end; then stop.

Acknowledgements

At this point in a book it's usual to see a list of names of all the people the author wants to thank. The trouble with a project that's lasted more than twenty years is that this would be rather a long list and very boring for the reader.

So – very many thanks to everyone who ought to be thanked (you know who you are). Thanks also to our users, without whom we'd have had a quieter life, but whose requests and feedback have made Cardbox into the powerful program you see today. You know who you are, as well.

Finally, we'd like to thank specifically those people who allowed their databases or their stories to be included in this book, including Shaun Seager at Action Technical Services; Daniel D'Alessandro; Sonia Elso Galano at INIA, Chile; Augustine Ford; Alan Humphries at the Thackray Medical Museum; John Huskisson at Winifred West Schools; Paul Smith at the University of Wales, Bangor; Professor Christopher Spry; Charles Welling at Atlas Van Stolk; and The Reverend Canon Dr Peter Williams at Ecclesall Parish Church. We also thank all the other Cardbox users who responded to our requests for user stories. The information they gave us was a great help.



Part One

Orientation

What Cardbox is and what it does; how to use this book; installation and licensing.

The John F. Wilkinson Collection of pharmaceutical ceramics

Location: WILKINSON GALLERY

Accession No: 752.259

Wilkinson Catalogue No: LR 263

Old Wilkinson Catalogue No.: 355

Type: CHERUB AND SHELL

Variety: MORTLAKE C [VAR TWO PELLETS ON TASSEL; NO POINT TO 'FLEUR' IN SHELL]

Description: ENGLISH TIN-GLAZED EARTHENWARE 'DELFTWARE' DRUG JAR, DRY, U: VIRIDE.

Basemark:

Expanded Inscription: Unguentum Viride

Content Details: Green Ointment

Drug Reference: **Pemberton** 1746, p.371; This is given as a new name for Unguentum martiatum in the 1746 pharmacopoeia.

Pot Reference:

Product of:

Place:

Conventional source:

Association 1: Ex **Wilkinson** Collection

Place:

Note:

Association 2: Ex **Richmond** Collection

Place:

Note:

Materials: TIN GLAZED EARTHENWARE

Dimensions: H: 7 3/8" (18.7 cm); W: 5 7/8" (14.9 cm)

Inscription 1:

Position: ON FRONT OF JAR

Transcription: U: VIRIDE.

Inscription 2:

Position:

Transcription:

Inscription 3:

Position:

Transcription:

Condition: SOME OVAL AND CIRCULAR 'SPALLING' CRACKS, PATCH OF GLAZE LOSS REAR SHOULDER; CHIP IN REAR OF NECK RIM, GLAZE FLAKED AND WORN ROUND NECK RIM

Conservation:

Dry/wet: DRY

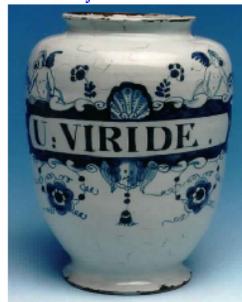


Image Ref: TMM record photos

Date: 1746 +/-: A

Conventional date: +/-

Method: IN-GLAZE PAINTED

Method:

Method:

The Thackray Medical Museum uses Cardbox to catalogue its specialist collections.

www.thackraymuseum.org

Introduction

What is Cardbox?

Cardbox is a flat-file database program. It lets you design your own databases, so you can make them hold anything – people’s contact details, books, abstracts, photographs, biographies, CVs of job applicants, personal records, lists of stolen antiques, museum catalogues, contracts and official documentation, confidential accident reports, poisoning incidents. Databases don’t just store textual information: they can also contain images (photographs, drawings, scanned documents), and, in the Professional Edition, objects (such as spreadsheets or word-processed documents). Throughout this book we’ll give you examples of Cardbox databases and stories of how people are using them. We hope they’ll give you ideas and inspiration.

Cardbox databases can be as small or as large as you like: the limit is 16,000,000 records for the Professional Edition or 10,000 records for the Home Edition. The records can be as simple or as complex as you like. You can have a number of databases open at the same time.

You can store your databases on your own computer, or you can share them across a network, or even across the Internet. With the Professional Edition, you can set up security so that no-one can access your data without the right password and you can set up different levels of security so that some people are allowed to view records while others can edit and update them. The security mechanisms also apply to fields within a record: you can stop certain people from altering particular fields or even from seeing them at all.

You don’t need to program Cardbox. You simply design a format to contain your data and then you start entering the data. When you need to present information in another form (summary reports, standard letters, etc) you just create another format. At the same time, Cardbox is programmable if you want it to be, through its own internal macro system (which uses Microsoft’s VBScript as the programming language) or from external programs such as Visual Basic or Microsoft Word.

About flat-file databases

Flat-file databases are simple and straightforward, which prejudices some people against them because they think that simple must mean trivial. With Cardbox, it doesn't.

You can imagine a flat-file database to be like a card index but easier and quicker to search. Cardbox can index every word in a record for fast retrieval. With an index like that, you can make your searches as elaborate as you like; you can store and search millions of records; and you can have many databases open at the same time and set up links between them. Many of Cardbox's features, such as Batch Edit and relational linking, make traditional relational databases unnecessary; and some features, such as tagging, are almost impossible to implement in a relational model. Throughout the history of Cardbox we've concentrated on keeping the concepts clear and simple and putting the sophistication where it should be – under the hood, making the simplicity work fast, and as a result we're constantly surprised by the uses that our users put Cardbox to.

If you come across a relational database snob who looks down on you for using Cardbox, don't be embarrassed. Experts like relational databases because relational databases make more work for experts. They are complex structures that contain interrelated "tables" of distinct entities. Designing a relational database is not a trivial task. You need to analyse exactly what every data element is and how it is being used, and you need to check how these things will interact or might interact in the future. In the hands of an expert, a simple library card index can get fragmented into separate tables for author, publisher, edition, and so on, and at the end of it all you still won't be able to search for titles with particular words in them... unless the designer goes away and creates another couple of tables. Something that takes half an hour to design in Cardbox can take a week with a relational database.

The history of Cardbox

The Cardbox for Windows you are reading about now is a distant descendant of the very first Cardbox, which was published in 1982. Cardbox has evolved a long way since then, but always with the same team behind it. Our goals are the same now as they were then – simplicity, speed, power – but of course, with computers 1,000 times faster and disks 10,000 times larger, Cardbox today can provide features that were unimaginable twenty years ago.

Here's a very brief summary of what has happened to Cardbox since the beginning:

1980 – The first versions of Cardbox start running, on 8-bit microcomputers running CP/M.

- 1982** – The first commercial version of Cardbox is published for us by Caxton Software in London.
- 1983** – Versions of Cardbox appear for 16-bit computers running MSDOS, including the newly released IBM PC. Portable Cardbox is developed for the manufacturers of the world's first portable PC, the Osborne 1. Cardbox-Plus appears. Published directly by us (like all subsequent versions), it has many enhanced features and comes in both 8-bit and 16-bit versions.
- 1984** – Networking and multi-user versions of Cardbox-Plus are launched. Pioneering features include invisible file and record locking and the instant mutual update of records between users. Epson Computer Corporation bundles Portable Cardbox-Plus on a ROM chip in the world's first laptop, the Epson PX-8.
- 1986** – A lightweight version, called Personal Cardbox-Plus, appears.
- 1988** – Version 3 of Cardbox-Plus can be programmed using any programming language you want. We call this technique “coprogramming”; when Microsoft reinvent the concept a few years later, they call it “OLE Automation” (later, “Windows Automation” or just “Automation”).
- 1990** – Version 4 of Cardbox-Plus doubles the maximum record size. Picture Cardbox is launched. This is the first non-Windows database to contain built-in support for compressed images.
- 1991** – Cardbox-Plus for VAX/VMS appears.
- 1994** – Cardbox for Windows appears.
- 1996** – Version 1.1 of Cardbox for Windows.
- 1999** – Version 2.0 of Cardbox for Windows.
- 2004** – Version 3.0 of Cardbox for Windows appears. It includes a completely new client-server architecture for networks and the Internet.

As you can see, we're in this for the long term. We engineer our software solidly so that it'll go on working for ever, and whenever we have to expand the database format to handle bigger records, or more records, or images and objects, we make sure that your old databases stay readable. If you have a Cardbox database on a 5¼" floppy disk from the mid-1980s then you may have difficulty finding a computer that can read disks of that size; but once you've read the disk, Cardbox can convert your data to the latest format so that nothing is lost.

Cardbox as a software package

Finding your way through the features

A software package is a conjuring trick that gives you tens of thousands of man-hours' worth of programming for the price of an hour or two's consultancy. The trick works because enough people have similar enough needs to make the economics worthwhile. Inevitably this means that there are features that you don't want to use – perhaps even features you can't imagine anyone else wanting. Don't worry: those unwanted features aren't a waste. On the contrary, they are what attracted other people to the package, so there were enough of you out there for you all to share the cost of development between you; they are what made it cheap enough for you all to buy.

As you read this book, if you come across a feature or a command that you can't imagine you'd want to use, just glance at it, skip over it, and go on to the next thing. After a couple of months of using Cardbox you should come back to the book and look at the bits you skipped, just in case you've discovered the need for something that at first sight seemed irrelevant. But if nothing new jumps out at you on the second reading, don't worry: your own personal "mini-Cardbox" is doing what you want it to do and it's doing it well.

To help you with the business of deciding what to read, we'll try to tell you which features we think are important (especially if, like batch editing, you may not instantly see why they make such a difference) and, equally, we'll tell you which features are very specialised: indispensable to anyone who needs them but of no interest to anyone else.

Going beyond the edge

An important question about packaged software is what happens at its edges. You may have specialised requirements that aren't covered by the standard package and you may need to go just one step beyond it: what happens then?

With Cardbox, we've done two things about this. First of all, it's easy to exchange data with other programs: so, for example, if you want to use Cardbox to store the data for your corporate accounts, you don't have to worry that Cardbox isn't an accounting program and that your accounting software isn't nearly good enough at data handling. You store the data in Cardbox and export them to the other program when needed. That way each program does what it's best at, and you get the job done without having to compromise.

The macro recorder is a feature of the Professional Edition.

The other thing that we've done at the edges of Cardbox is to make it programmable. We use Microsoft's VBScript as a programming language (this is a cousin of Visual Basic and the VBA programming language used by Microsoft Office). Cardbox has a macro facility that lets you record your actions within

Cardbox and play them back later by pressing a single key; but you can also expand the scope of the macros to make them into small programs in their own right. These programs have full access to Cardbox data and Cardbox commands. To take one example: if you have a database of people and want to send a bulk fax to some of them, customised for each recipient, a short macro can take care of formatting each fax and passing it on to your fax program.

The programmability also works from the outside in: for instance, if you are used to writing macros in Microsoft Word then you can easily expand your macros to communicate with Cardbox and pick up data from your databases for use in your Word document.

About this book

Our ambition was to write a computing book that was so interesting, you'd buy it to read on the train even if you didn't have a computer. Perhaps that's an impossible goal, but we hope that we've got a lot closer to it than most computer manuals.

We start by telling you how to install Cardbox. After that, we give you a quick overview of the basic concepts of Cardbox. Once you're familiar with what indexing, fields, and formats mean, you'll find it easy to understand everything else.

Then we take you through the main functions of Cardbox. First we describe how to use an existing database, then how to enter data, then how to design formats, and finally we tell you how to create and design a completely new database. You may feel that we're doing this backwards but there's actually some good logic behind all this. The more you know about Cardbox, the more you'll know about what it can do, and the better prepared you'll be to produce a database design that does the things you want it to do. Cardbox is very flexible about letting you change your design even after you've started entering data, but still there's no harm in getting it right first time!

To give you some more inspiration for your database designs, we give you some examples of Cardbox databases, most of them adaptations of databases that real people are already using. You may find you can adapt one of these designs to your own requirements, but in any case they will give you some useful ideas.

After the main explanations we take you through other important topics such as security, backup and disaster recovery, and we give you a taste of some of the advanced features of the Professional Edition, such as what macros are and what you can do with them.

Getting help

This book is not the only source of information about Cardbox: there is also a help file, which contains separate articles about every command in the whole of Cardbox, plus step-by-step guides to specialised topics (for example, importing data from Excel spreadsheets). The help file works like a mini-web site – articles have links to other articles – and it also has a table of contents, an index, and a search facility.

This book and the help file are complementary. The aim of this book is to tell you everything you need to know in order to understand Cardbox, what it does and how to make it do what you want. Once you have that basic understanding, the help file gives you detailed information and more of the technical background.

Commands for opening Help

F1 = Help

Wherever you are in Cardbox, you can press the F1 key. The help file will open and show you a page relevant to where you currently are. If you're in the middle of a command, it will give you help on that command; if you are editing a format, it will tell you all about editing formats. In addition to responding to F1, some command windows have a Help button of their own: this does exactly the same as F1.

The Help menu

Help > Contents opens the help file's table of contents.

Help > Index opens the help file's index.

Help > Search lets you search for a word or phrase in the help file.

Getting help on menu commands

When you open a menu and move your mouse over the various commands, watch what happens to the status bar at the bottom of the Cardbox window. As you move over a command, the status bar will show a brief explanation of what the command does. If you want more information, press F1 while you still have the mouse over the command.

You can do the same sort of thing even if you are using the keyboard rather than the mouse. To highlight a menu command, open the top-level menu with a keystroke (for example, Alt + F for the File menu) and then use the up and down arrow keys to move through the menu.

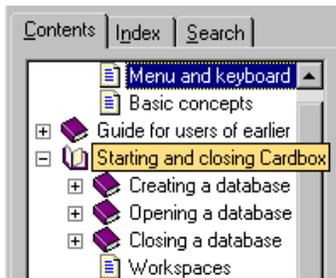
Why is this menu command disabled?

If a menu command isn't available for some reason, Cardbox disables it. Disabled commands still appear in the menu but they are shown in grey. Commands are usually disabled when the particular conditions they require don't exist: for example, a command to delete records will be disabled if there's nothing available to delete.

To see why a command is disabled, move the mouse onto it and look at the status bar. If you hold the mouse over the disabled command for a second or so, a larger window will pop up and give you a more detailed explanation.

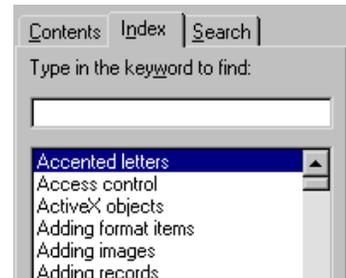
What the help window contains

The window that opens onto the help file is quite small to start with but you can resize it if you want. The right-hand side of the window shows a help article and the left-hand side shows one of three navigational tabs: Contents, Index, and Search.



The Contents tab shows the help file's table of contents. To open a section and see the articles it contains, double-click on it, or click once on the + sign to its left.

The Index tab contains an index of key words and phrases. You can double-click on an index entry in the list or you can type a keyword and press the Display button. If there are several articles indexed under your chosen keyword, Help will pop up a list and let you pick the one you want.



The Search tab lets you type in any word or phrase. Pressing the List Topics button will then find all the articles that contain your search text.

Help Points

As you read through this book, you'll see references to "Help Point" and a number. Help Points are help file articles that give you more details on something the book is talking about: in many cases they also have links to other parts of the help file. To view a help point, use the command **Help > Help Points** and then type in the number of the help point.

References to Help Points usually appear in the margin.

Reliability and support

Reliability

Car manufacturers used to be too shy to talk about how well their cars behaved in crashes because it might suggest to their customers that cars sometimes crashed. They got over their shyness in the end, and it's time that software manufacturers did the same.

There is nothing inevitable about software bugs. We know we can make perfect software if we try (the early versions of Cardbox had no bugs at all), and we want our users to get the benefit of our software: we want it to work for them and to work well. Cynics say that a dollar spent on making sure a product works brings less return than a dollar spent on convincing people that it does. We aren't economists, but from our longer-term perspective we can see that a pound spent on proper software development produces rewards forever while a pound spent on marketing is soon forgotten.

Here's what we are doing to make your computer work better for you when you're using Cardbox:

- We keep your data safe. We have made the Cardbox database engine a separate program from the Cardbox you see on your screen (you don't notice this because the engine starts invisibly whenever it's needed). The Cardbox engine is a small program, it has a well-defined function, and it doesn't go wrong. It's the part of Cardbox that has changed least over the years – and old software is the safest software. Even if something goes wrong with the rest of Windows and makes the visible Cardbox program crash, your data will be unharmed.
- If, despite all this, anything ever does go wrong with your data (for instance, if there is a power cut just as your computer is writing something to the disk) there are functions in Cardbox that let you rebuild your database.
- We are still aiming for zero bugs, so we take bugs very seriously. Whenever someone reports a problem, we hope it is our fault – because if it's our fault then we can correct it. But if it turns out that the trouble is caused by a printer driver, or an anti-virus program, or Windows itself, we'll do our best to identify the bug, explain it to you, and we'll reprogram Cardbox to avoid the bug even if it isn't our fault.

Bugs are rare. When we looked through our database of users to see who might have interesting stories for us, we realised that most of them were people who'd installed Cardbox without trouble and never had any need for support after that. It's very likely that this will be your experience too.

Getting support

<http://www.cardbox.com>

The Cardbox web site is the first place to go for support. It has articles answering the commonest questions and it gives you up-to-date information about access to mailing lists or forums in which Cardbox users can give each other advice. It also tells you how to get support from us if you need it. What direct technical support you are entitled to depends on which edition of Cardbox you have, whether you're paying a technical support subscription, and so on. If you have bought your copy of Cardbox from a distributor outside the UK, other rules may apply. See the documentation that came with your copy of Cardbox for details, and if you're still not sure, have a look at the web site.

Reporting problems

Recently, we praised one of our users for the clarity and completeness of a problem report he sent us. It turned out that this kind of reporting was second nature to him because he was a retired test pilot.

You may not be a test pilot, but here is how to report a problem to us so that we don't have to get straight back to you with a request for more information – which would be tedious for us and frustrating for you.

1. Tell us who you are and what the serial number of your copy of Cardbox is. This not only helps us check your entitlement to technical support but also tells us exactly which version of Cardbox you're using.
2. Be specific. What exactly is happening? If a message appeared, what exactly did it say? If something unexpected happened, what was it and how did it differ from what you expected? "The mailing labels don't print right" is far less helpful than "the second column of labels is $\frac{1}{4}$ " too far to the left".
3. Remember that we can't see what you are doing. Don't be afraid to describe every detail of what you did: every keystroke and every mouse click.
4. If something is going wrong, does it go wrong every time you try it? Or only sometimes? Are you able to give us enough information for us to be able to reproduce the problem for ourselves?
5. Did it start happening recently? If you installed a new version of Internet Explorer last week and your Cardbox screen layout has started to look a little strange since then, we have a good idea of where to search for the cause of the problem. (This is not a fictional example: some Windows fonts have bugs in them, and Internet Explorer sometimes installs new fonts: in the past we've had to reprogram Cardbox to work round bugs like that).

Not every problem that is reported to us is a bug. In fact, most problems aren't. The more clearly you report the problem, the better we will be able to explain to you what is going on and what you should do to make things happen the way you want.

Screen shots

Windows is a graphical environment and if your problem is that “the screen looks funny” then a snapshot of what you’re actually seeing is often the best way of telling us what is going on.

To capture the screen

The first step is to copy the screen display to the Clipboard.

To capture the whole of the screen – press the Print Screen key. This copies the entire current screen display (except the cursor) to the Clipboard.

To capture a single window (for example, a command window, or a message, or the Cardbox window as a whole) – hold down the Alt key as you press Print Screen. Windows copies the currently active window display to the Clipboard.

To send us the captured screen

You have to save your capture to a file and send it as an attachment. There are various ways of doing this and some are better than others. Try not to paste the captured image directly into Outlook because this will store it as a .BMP file (usually about 2.2MB in size), which wastes disk space and makes it slow to sent. Word often compresses images when they’re stored as part of a document, so that the overall Word document can be very much smaller (in one test, the 2.2MB image was reduced to a 90KB document). Otherwise, you can open Windows Paint, paste the image, and use File > Save As to save it as a GIF file (not BMP). If you have access to Adobe Acrobat then you can also paste your screen shots into a document and “print” the document to a PDF file.

Windows Paint can be found in the Accessories section of the Start menu.

Error logs

Cardbox keeps a log of major events that occur while running it, and if we are trying to trace the cause of a recalcitrant problem we may have to ask you to send us the error log, or even to turn on additional logging options within Cardbox in order to put more information into the log. If this is necessary, we’ll tell you exactly how to go about it, using the command Tools > Options » Log.

Protect yourself against disaster

Even when your software is perfectly reliable, your hardware isn’t. Back up your data regularly. We have a cycle of daily backups onto rewritable CDs and weekly backups onto CD-R. The weekly backups are kept for ever. Given how small CDs are and how cheap they are, there is no excuse for you not to do the same. When your hard disk crashes and your computer needs to be scrapped, you should be able to laugh, buy a new computer, copy your backups onto it, and carry on from where you left off.

Installing and managing Cardbox

The different editions of Cardbox

If you've already got Cardbox installed and you're not sure which edition it is, Help > About Cardbox will tell you.

There are three editions of Cardbox available.

The Client Edition is available free of charge. You can download it from our web site and use it to access Cardbox databases on the Internet; it can be distributed on a CDROM together with Cardbox databases, for the benefit of users who haven't already got Cardbox (see "Distributing Cardbox Databases", p.20); and on a corporate network, the Client Edition can be used to access databases on a Cardbox Server.

The Home Edition is a straightforward version of Cardbox suitable for most single-user applications. If you have a CDROM in the back of this book, it's probably the Home Edition.

The Professional Edition has additional advanced features for use in business or where several different people may be using the same databases.

	Client Edition	Home Edition	Professional Edition
Databases on your own computer	Read-only access.	Read/write access for databases up to 10,000 records in size; read-only access for larger databases.	Read/write access (no size limit).
Databases on a Cardbox server	Read-only or read/write access, depending on what the server has been set up to allow.		
Advanced features	Not available.		Available.
Number of users per Cardbox Server	Limited to the number specified by the Cardbox Server licence.		Unlimited.

Read-only access means that you can open a database and view, search, browse, and print records. You cannot add, edit, or delete records; make changes to formats; or create a new database.

Read/write access lets you do everything, including creating and modifying records, formats, and databases.

Advanced features

The following advanced features are part of the Professional Edition only:

- User profiles with passwords – to control who is allowed to open a database and who is allowed to do what with it.
- Validators – to check the data being entered and reformat, display warnings, and enter default values.
- Data encryption – to keep your database permanently encrypted even while it's being used.
- Macros – to automate common and repetitive tasks.
- Customisation of the user interface (keyboard shortcuts, menu, and toolbars) – to reduce the amount of time needed to train staff.

What these additional features have in common is that they are either technically advanced or not needed when the owner of the database is also the only person who uses it, and this is why we have left them out of the Home and Client editions.

Although the other editions cannot set up these advanced features, they can use them. For example, only the Professional Edition can encrypt a database but any edition can open an encrypted database; only the Professional Edition can set up user profiles but the other editions will understand them and let you choose which profile to use.

Upgrades

<http://www.cardbox.com>

If you buy the Home Edition but later decide that you need the Professional Edition, you can upgrade: see the Cardbox web site for details.

Installing Cardbox

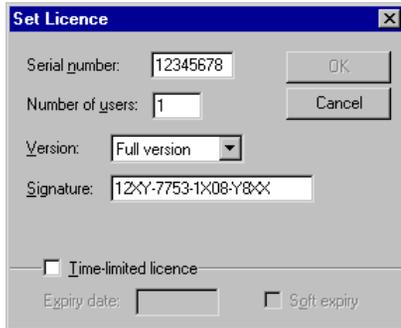
Installing from a CDROM

If you already have Cardbox 2.0 (or earlier) installed on your computer, it will not be harmed by the installation of Cardbox 3.0.

1. Insert the CD into your computer.
2. Depending on your Windows configuration, the Cardbox setup program may start automatically. Wait a moment or two to give it time to do this. If it doesn't start automatically, open the CDROM in Windows Explorer and double-click on SETUP.EXE (Windows Explorer may report this program name as simply SETUP).
3. Follow the on-screen instructions.

Installing from the Internet

The same page that lets you download the Cardbox program files will also give you instructions for installing Cardbox after you've downloaded it.



Inserting licence details

During the installation process, the setup program will show a Licence Management page that tells you what licence is installed in your copy of Cardbox.

If you are installing the Client Edition, you'll see that Setup already has a Client licence built in, and you won't have to do anything more.

If you are installing the Home or Professional Edition, you'll have to enter its licence details into Setup at this stage. If you got the software on CDROM, the details will be on a label stuck to the CD envelope or on a separate piece of paper. If you got the software by download, you will have received the licence details by email.

Always make sure that you keep a note of your licence details, because you will need them if you ever want to re-install Cardbox.

To enter the licence, press the Add button in the Licence Management page, and then enter all the details exactly in the way you were given them.

Multi-user licences

A multi-user licence lets more than one person use it at the same time: for example, an 8-user licence allows Cardbox to be used by up to 8 simultaneous users. The licence itself should only be installed once, not 8 times. There are three ways of arranging this:

Single Cardbox installation – Install Cardbox in a shared directory on your file server. Whoever wants to use Cardbox can then navigate to CARDBOX3.EXE (using Windows Explorer) and double-click on it: Cardbox will start and it will set up appropriate shortcuts on the user's computer to make it simple to start Cardbox in the future.

Separate Cardbox installations – Sometimes it is corporate policy to install software separately on each PC. Cardbox can be installed like this but the licence itself still needs to be installed centrally. Decide on a shared directory that will hold the licence, and use the Licence Location button (in Setup's licensing page) to point all the separate Cardbox installations to that directory.

Licence server – If some of the intended users are located remotely and only have an Internet connection to your main system, you can install the multi-user licence on a Cardbox Server, and individual copies of Cardbox can then "borrow" licences as and when they are needed. See the Cardbox Server documentation for more details.

If some of your users need to be able to use Cardbox even when completely disconnected from your corporate network, then can't use your multi-user licence: they need separate individual licences of their own.

Changing licence details

Occasionally you may want to change the Cardbox licence that is stored on your computer. This may happen because you decide to upgrade to a higher edition or because you want to install a time-limited evaluation licence on top of your existing Cardbox licence. To manage your Cardbox licences:

1. Open the Add/Remove Programs control in the Control Panel. Depending on the version of Windows you are using, you open the control panel using **Start > Settings > Control Panel** or **Start > Control Panel**.
2. In Windows XP, select “Cardbox 3.0” from the list and press the Change button; in other versions of Windows, double-click on “Cardbox 3.0” in the list and then press the button marked Manage Licences.
3. To add a licence, press Add; to change or delete a licence, click on it and press Change or Delete.

Removing Cardbox from your computer

1. Open the Add/Remove Programs control in the Control Panel. Depending on the version of Windows you are using, you open the control panel using **Start > Settings > Control Panel** or **Start > Control Panel**.
2. In Windows XP, select “Cardbox 3.0” from the list and press the Remove button; in other versions of Windows, double-click on “Cardbox 3.0” in the list and then press the button marked Remove Cardbox.

Removing Cardbox will never delete any of your database files. If you want to delete them, you should locate them using Windows Explorer and delete them by hand.

Moving Cardbox from one computer to another

If you have upgraded to a new computer, Help Point 564 describes what files and settings to transfer from your old computer to your new one.

If you're selling or giving away the old computer, remember to remove Cardbox from it first, so that the new owner can't use your copy of Cardbox.

Licensing and the Cardbox Server

(If you're not using the Cardbox Server to share databases, you don't need to read this section).

When you share databases between users on a network, you run the Cardbox Server. The Cardbox Server is licensed according to the number of Client Edition and Home Edition users who are allowed to connect to it simultaneously. There is no limit to the number of Professional Edition users who can connect to the Cardbox Server.

You thus have two opposite choices. You can get Professional Edition licences for everyone on your network, in which case you can get away with a "zero-user" licence for the Cardbox Server itself – or you can give each user the Client Edition of Cardbox (which is free) and buy a Cardbox Server licence that can handle your maximum expected number of simultaneous users.

If some users are only intermittently connected to the network server (users of laptops, for example), then it all depends on whether they need to be able to update their databases even when they aren't connected. If they do, they'll need to have the Professional Edition. If they don't need to be able to make changes while they're not connected, they can stick to the free Client Edition and you can make sure that your Cardbox Server has enough capacity on its licence to be able to serve all the laptop users when they do connect to it.

(You could use the Home Edition to provide local editing capabilities for a laptop user, but it's not necessarily the best solution because you'll still have to allow for a spare licence on the Cardbox Server when that user chooses to connect to it).

As you can imagine, these simple rules can give rise to a large number of different combinations. If you're planning a network, have a look at the advice on the Cardbox web site, or talk to us or to one of our distributors.

Using Cardbox at work and at home

“I have a computer at work and one at home. When I take some work home, I want to be able to use Cardbox there. Your licence says Cardbox can only be installed on one computer. But I’m the only person who uses Cardbox, so I don’t see why I should get two licences.”

We agree. If this is really the situation, we don’t demand that you buy two copies of Cardbox because it wouldn’t be reasonable. The key question is this: when you’re using one computer, could someone else be using Cardbox on the other one?

Can a colleague use your Cardbox at work while you’re using Cardbox at home?

Can your family use your Cardbox at home while you’re using Cardbox at work?

The concession described here applies only to a single-user licence, not to multi-user licences. For advice on how to combine home use with the use of Cardbox on a network at work, see the web site at www.cardbox.com.

If the answer is “Yes” or “Perhaps”, then we’re talking about two separate Cardbox installations and you need to buy two separate copies of Cardbox, one for each place.

If the answer is “No, Cardbox will only ever be used in one place at a time”, then we’re effectively talking about a single Cardbox installation that follows you around, and the fact that the software is physically stored on two different computers is just a convenience to save you repeatedly installing and uninstalling the program. In this case, we’re happy for you to install Cardbox on both computers.

Dialling in to the office

Suppose you have a computer at work (not connected to a network) and a computer at home, and you’ve got the Professional Edition of Cardbox installed on both, obeying the licence restrictions we’ve just described. You’re one of those people who dial in to your work computer when you’re at home. How do you use Cardbox?

Home computer as a “dumb terminal”

There are many remote access software packages on the market, and we don’t make recommendations: it is up to you to choose what is most suitable for your needs.

Remote access software, such as PCAnywhere, Citrix Metaframe, or Windows Terminal Services, lets you turn your home computer into a keyboard-and-screen for your office computer: everything you type on your keyboard gets typed into the office computer’s keyboard and everything the office computer displays on its screen gets displayed on your screen.

- This is extremely simple to set up.
- You are using Cardbox on your office computer, so everything is familiar.

It can be irritating over long periods. Unless you have a very fast link to the office, the screen will behave sluggishly and there can be a noticeable time lag between doing something (especially with the mouse) and seeing the result.

Office computer as a network disk

Some networking/WAN software gives you an option to view your entire office computer as if it were just an extra hard disk drive on your home computer (to save explanations, let's call it drive O:).

- This is simple to set up.
- When you want to open a database on your office computer, use **File > Open » My Computer** to open the database file in drive O:.
- The screen response will be very fast because Cardbox is running on your home computer.
- Searches may be slow because all the disk access has to take place over a telephone line to the office.
- You can't share databases opened in this way: as long as you have the database open, no-one else can open it.

A Cardbox server on your office computer

This is a little harder to set up and costs a little more, but it gives by far the best performance. You don't need remote-access software at all.

Buy the Cardbox Server and set it up on your office computer. You don't need to buy any user licences for the Server because your own copy of Cardbox already has a licence (remember that we've assumed that you already have the Professional Edition of Cardbox).

- When you want to open a database on your office computer, open Cardbox and use **File > Open » Server** to connect to the Cardbox Server in your office and open the database there.
- The screen response will be very fast.
- Searches will be fast because the Cardbox Server is running on your office computer, directly connected to the hard disk where the database is.

Security

If you use the Cardbox Server, all your communications are encrypted using SSL. Even if someone intercepted your Internet connection, they would not be able to see what you were doing with Cardbox and they would not be able to intercept critical information such as passwords.

If you use one of the other approaches, you are dependent on whatever encryption your remote access software might be providing. This may be secure or it may not be secure: you'll have to talk to the supplier.

Distributing Cardbox databases

Distribution on CDROM

As long ago as 1987 people were distributing information in the form of Cardbox databases, along with a special “read-only” or “electronic publishing” version of Cardbox for recipients who didn’t already have the program. We particularly remember Professor Christopher Spry’s “Eosinophils: A Comprehensive Review and Guide to the Scientific and Medical Literature”, published by the Oxford University Press in 1988, which allowed its purchasers to obtain an annotated bibliography of the literature on 3½” floppy disks: it needed nine disks. Nowadays CDROMs make this kind of thing a much less heroic undertaking.

We allow you to include the Client Edition of Cardbox free of charge on your CDROM for anyone who does not already have it. Various terms and conditions apply, principally to protect our copyrights and ensure that you give people the right program files. If you need advice on this, please contact us.

Distribution over the Internet

The alternative to physical distribution is to make your data available on a Cardbox Server connected to the Internet. This can be one of your own, or it can be a server run by someone whose business it is to host other people’s databases. In this case, people who want to search your databases can download the Client Edition free of charge from our Web site.

If you’re interested in doing this, use Cardbox to look at database.cardbox.net and see the databases that are hosted there (the command is **File > Open » Server**). You can also look on the Cardbox web site for more information.

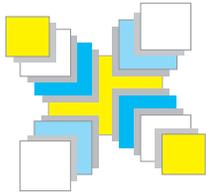
Distribution via the Web

See Help Point 519.

You can design formats that let Cardbox output your data as web pages in HTML: a page can contain a single record or a whole selection of records. Using macros, you can automate the process of creating these pages so that you can maintain your data in Cardbox and make them available to the outside world as a standard Web site.

<http://www.cardbox.com>

If you want your site to have a search form that responds to live queries, a number of vendors offer “middleware” programs that run on your web server and provide an interface between Web browsers and the Cardbox Server. Our Web site will have the latest details.



Part Two

Concepts

The basic concepts of Cardbox.

The concepts of Cardbox

In terms of usability and ease of explanation, the best product we've ever seen is the screwdriver. When you use a screwdriver you don't need an instruction manual. You know you can use it to open tins of paint, stir the paint, and also drive in screws or take them out again; you also know that you are unlikely to be able to bang in nails with it. You know all this without thinking, because you have an instinctive feeling for the way the physical world works and what a slender piece of metal is capable of.

The aim of the Concepts section is to give you the same sort of instinctive feeling about what Cardbox can do. Once you've read it, you should have understand what Cardbox is and you should know, without thinking, what kind of things it can do and what kind of things it can't. After that, you've done the hardest work and everything else is (in a sense) just filling in the details.

Databases and records

A Cardbox database is a collection of records. It is up to you to decide what those records represent. They can be physical objects, or documents, or people, or messages, events or financial transactions. They can even be chapters in a book you're writing. If you can make a list of something, you can make database records out of it.

The current selection



Whenever you are using Cardbox you are always looking at a selection of records, and you can always browse through that selection using the record scrollbar or the keyboard, one step at a time or in great jumps.

When you first open a database, Cardbox doesn't know what you want to see so it shows you every record (as a list if the records are small, or one record at a time if the records are big). Whenever you make a search, Cardbox finds the records that match your search and makes them into the new "current selection". Again you can browse through it to see if you're on the right track, perhaps as a preliminary to making an extra search to refine the selection further.

Most actions – printing, batch editing, data export – work on the current selection, but selections are more than a shorthand for "the records that Cardbox has found for you", they are entities in their own right. When you've made a selection you can give it a name and store it for later use: you can cancel the search and do another one, and come back to your stored selection later on – or you can even combine selections together.

Levels of selection

Every time you perform a search command, it acts on whatever is in your current selection. This means that if you enter two searches in a row then you'll only find the records that fit them both. Combining searches in this way is a good way of building up complex Boolean searches. The status bar has a Level indicator that shows how many combined searches you've made: level 3 means that you've combined 3 searches, and level 0 means that you haven't done any searches at all and you're looking at the whole database.

Fields

Fields are subdivisions of records. You design how records are divided into fields when you design your database, and you can add or remove fields later on if the design evolves or you change your mind about it: this is very easy and it won't cause any upheaval to the records that you've already got in your database.

In a database of people you might have fields for name, address, telephone number, date of last or next contact. In a database of books you might have fields for author, title, publisher, subject, keywords, shelfmark, and so on.

The thing about fields is that they add meaning to what you put in them. Think of a book: "London" could be the name of the author, or part of the title, or the place of publication, or the subject. By putting "London" into one field rather than another, you define what it actually means.

You could have a database with just one field but it would be pretty specialised. We'll cover database design later on, but basically you use fields to distinguish things that

- have different meanings.
- need to be searched separately.
- need to be positioned differently.
- don't always need to be visible at the same time.

Cardbox lets you have up to 4,000 fields, so you really aren't going to run out of them. Fields can be as short as one character or big enough to hold several pages of text.

The one-field database

To make a database with one field, just draw a huge field on the screen and then type text into each record. It could be a diary, or a notebook rather like the Memo Pad application in your palmtop. You can search for records, view them, print them out: it works. But pretty soon you'll want to search on the date the note was made on, and that has to be a separate field to distinguish this date from other dates that happen to be mentioned in the text. And perhaps you'll need a category name as well, just like Memo Pad... so that's three fields in total. So the one-field database was OK to start with, but having two more fields made all the difference.

The Extra Text field

If you think of a Cardbox record as an index card, you can think of Extra Text as a sheet of paper stapled to the back of the card. Extra Text is what it says it is: a lot of text (there's no limit) attached to a Cardbox record. Some other databases have a similar concept, which they call Memo fields.

Not everyone finds Extra Text useful or even interesting, so if you can't think of a use for Extra Text, don't bother with it. But when you do need it, it can be invaluable. It's flexible and of unlimited length, whereas Cardbox records usually have a fixed layout and a fixed height for each field. Because it's attached to a record you can (at a press of the F6 key) view the Extra Text on its own, or the record on its own, or (with Shift + F6) both together; and you can print it separately as well, if you want. The only thing you can't do with Extra Text is index it, although you can still do unindexed searches on it.

Here's an example of a database used as a text repository. Extra Text contains the text, and the main record is just a way of finding that content or sorting it into a desired order.

ID: Leo.OR.R2	The special obligations of our ministry
Although the universal Church of God is constituted of distinct orders and ministries, the Church subsists as an integral whole, just as the Apostle Paul says: "The body of Christ, which is the Church, is saved as a whole, if one part suffers, all the parts suffer with it; and if one part is honored, all the parts are honored with it." (1 Cor. 12:26-27) And again: "But you are a chosen people, a royal priesthood, a holy nation, a people of God's own possession, who are to show forth the virtues of God who called you out of darkness into His marvelous light; once you were dead in your sins, which were forgiven you in Christ, who has redeemed us to Himself by His blood, purifying to Himself a peculiar people, zealous of good deeds." (Titus 2:14-15) For all, regenerated in Christ, are members of His body, of His flesh, and of His bones, united to Him by the Holy Spirit, so that beyond the special services of the apostles, prophets, and teachers, there are also other members, who are the royal race and are sharers in the office of Christ, after having surrendered your soul to Him in love unblemished victims of God, because, through the grace of God, you are keeping with a religious attitude for the honor of God, who is to be honored. For indeed one sacramental priesthood is celebrated through the consecration of the bread and wine, and this has richer effects in the higher grades, yet it is not so	One Cardbox user wrote an entire reference book in this way. The Extra Text was what he was actually writing, while the record's main fields gave headings and a sequence number: when he wanted to move sections around, he just changed its number. At the end of the process he sorted the database into numerical order, printed it out and sent the result to the publisher.

ID: Ps12:6-7	Code: Che Name:
ID: Ps120	Code: MJK Name: Psalm 120
ID: Ps121	Code: MJK Name: Psalm 121
ID: Ps121:1,2,4,5,6,9	Code: Che Name:
ID: Ps121:1,5	Code: Che Name:
ID: Ps122	Code: MJK Name: Psalm 122
ID: Ps122:1-2	Code: Che Name:
ID: Ps123	Code: MJK Name: Psalm 123
ID: Ps123:2-5,7,8	Code: Che Name:
ID: Ps124	Code: MJK Name: Psalm 124
ID: Ps125	Code: MJK Name: Psalm 125
ID: Ps126	Code: MJK Name: Psalm 126
ID: Ps127	Code: Che Name:
ID: Ps127:1,2,4,5	Code: Che Name:
ID: Ps127:1,5	Code: Che Name:
ID: Ps129	Code: MJK Name: Psalm 129
ID: Ps129:1,4,7,8	Code: Che Name:
ID: Ps129:1,6	Code: Che Name:
ID: Ps130	Code: MJK Name: Psalm 130
ID: Ps131:1-10	Code: MJK Name: Psalm 131
ID: Ps131:1,5,11-14	Code: Che Name:
ID: Ps131:11-14,17-18	Code: Che Name:
ID: Ps131:11-18	Code: MJK Name: Psalm 131
ID: Ps131:6-10	Code: Che Name:
ID: Ps133	Code: MJK Name: Psalm 133
ID: Ps134:1-12	Code: MJK Name: Psalm 134
ID: Ps134:1,6	Code: Che Name:
ID: Ps134:13-21	Code: MJK Name: Psalm 134
ID: Ps135:1-3,16-18,21	Code: Che Name:
ID: Ps135:1-9	Code: MJK Name: Psalm 135
ID: Ps135:10-15	Code: MJK Name: Psalm 135
ID: Ps135:10-26	Code: MJK Name: Psalm 135
ID: Ps135:1, 10,15, 23,2	Code: Che Name:

Formats

A format is what gives shape to your data. It is everything you see on the screen when you look at a record, except for the actual data. It covers the way your fields are laid out (and which ones appear at all), plus any captions, lines, boxes, and so on. A Cardbox database can have as many formats as you like.

Put like that, it's pretty abstract, but the format mechanism is more powerful than it sounds and it's worth getting to know it early in your acquaintance with Cardbox.

1	Name:	NA	Date:	DA	By:	BY	Ref:	RE
	Position:	PO	Last contact:		LP	Next contact:		NP
	Org'sation:	ORGANISATION	Sales Rep.:		DI			
	Address:		Products of interest:					
	AME1							
		ADDRESS						
	County:	CO	Area:	AF	How heard of products:			
	Postcode:	PC	MailCode:	MC	HH			
	Country:	CY	Name:		NS			
	Business:	BU	Tel:		TE	Fax:		FX
	Dear:	DE	Transferred to:					
	Contacts history:							CH

Here's a format that looks like a form to be filled in. Most databases have a format like this to make data entry easier. The format has plenty of captions and boxes to guide you when entering data. You can have more than one format of this kind if circumstances justify it: perhaps a terse format for experts and a long-winded one for novices, or specialised ones for different stages in the use of a record. On the next page you can see what this format looks like when you put some data into it.

Name	Organisation	First contact	How heard & source	Ref.
NA	ORGANISATION	DA	{HH} {NS}	RE

Many database programs call this sort of format a "list view".

Here's a format that works as a summary. This sort of format is useful for printed summaries but it's also very good when searching, because if the records are just one line high then you can see a lot of them on the screen at once and get a good idea of whether your search is finding the right sort of things.

There's nothing to stop you using a summary format for data entry as well: this is what we do ourselves with our accounting databases, where we have an elaborate form that explains everything in detail but we use the one-line version a lot because we know what we're doing and we don't need all the captions and explanations.

1 Name: Dr A. Scouler Position: Partner Org'sation: Leggott Auction House Address: 29-31 Tyssen Road Huddersfield	Date: 1/7/2003 By: SFE Ref: 40
County: West Yorkshire Area: NM Postcode HD2 8BE MailCode: 1 Country:	Last contact: 22/7/2003 Next contact: 15/11/2007 Sales Rep.: Peter Mulliner
Business: Auctioneer	Products of interest: DATABASE
Dear: Dr Scouler	How heard of products: Name:
Contacts history:	Tel: 01484 230707 Fax:
	Transferred to:

This is what the big format on the previous page looks like when it has some data in it. The multicoloured appearance is because we've chosen to use bold red text to indicate the words that have been marked for indexing: this is useful when you're entering data, so that you know what's indexed and what isn't (note that only the surnames of the contact and the sales representative are indexed), but it's not compulsory and you normally wouldn't use it when designing a format that's going to be printed out.

Name	Organisation	First contact	How heard & source	Ref.
H. Holdup	Simkin Personnel	1/7/2003	Word	32
E. Meyrick	McCracken & Moore	1/7/2003	Mailshot AW02	33
T. Smith	Pearce, Reynolds & White	1/7/2003	Mailshot AW02	34
Tony Riley	Knight & Mahony Electricals	1/7/2003	User	35
N. Friis	Danish Foods	1/7/2003	Advertisement JID 6/03	36
B. Pope	Chester Castle Library	1/7/2003	Dealer	37
B. Drummond, Esq	Drummond Gallery	1/7/2003	User Crown Arts	38
David King	Davenant Gallery	1/7/2003	User	39



On the left is an example of a barcoded label produced by a Cardbox format. A field in the record contains the number, and Cardbox draws the barcode automatically. You could use this in a library, with each label identifying one book. The record for the book would contain all its bibliographical details, plus its location and loan status. Given a suitable barcode reader and a bit of programming, you'd have the core of a library automation system.

The screenshot displays a detailed candidate profile for Jerry Fisher. The interface includes a toolbar at the top with various icons for navigation and actions. The main content area is divided into several sections:

- Header:** Candidate ID 148850, Title Mr, Dear Jerry, Born 19 67, Availability 1 WEEK NOTICE.
- Personal Information:** Surname SN Fisher, First Names FN Jeremy, Address AD 3 Lily Walk, Moreton-in-Marsh, Gloucestershire, GL56 9QP.
- Employment History:** Underwater constructor (PRESENT), Potter Engineering (PREVIOUS EMPLOYMENT PS).
- Qualifications:** Updated 25/11/2002 CT, EXPERIENCE EX, 22/03/2004 M.JDS, COMPUTER SYSTEMS CS.
- CV Status:** Waitfor, DeterType, Resume, WORD, PERM CV, CV Update.
- Other Fields:** Telephone Nos. (HOME NH 01207 380102), POSITION PO, Net Ins No..., SALART SA, QUALS QU., NOTES NO, PER/CONT PC, SOURCE SO, DATE DA, 19/03/2004 Un, Show CV to.

The interface is highly interactive, with numerous pushbuttons and macros for managing the recruitment process.

Setting up pushbuttons and macros is a feature of the Professional Edition.

Finally, here is an epic format. This is the nerve centre of a recruitment agency that deals with over 25,000 candidates. Each record contains a candidate's details, CV, qualifications, references, and a complete history of every conversation, interview, and job offer. The designer has filled the format with pushbuttons for every conceivable purpose: making a note of a conversation, planning the date of the next contact, dialling a telephone number, offering a job. This format scrolls through many screens, and half a dozen different formats (also activated by pushbuttons) zoom in on different stages of the recruitment process. A vast array of standard letters covers CV updating, job offers, and interview results.

Native and alternative formats

The very first format you create for a Cardbox database is called the native format, and it's special.

Most formats tell Cardbox where to draw your fields, but before it can even do this, Cardbox needs to know something more fundamental – **what fields exist?**

The native format answers this question: if a field is in the native format, it exists in the database. If it isn't, it doesn't. Drawing a field in the native format causes it to exist in the database. Deleting a field from the native format destroys the field itself and all its data.

The native format also tells Cardbox more about each field:

- What it contains (text, images, or objects).
- How it is to be indexed (every word, nothing at all, or under user control).
- Its name.
- A short description.

Apart from this special role, the native format is a format like any other. In really simple databases the native format may be the only format you need.

Alternative formats

Any format other than the native format is called an alternative format. It can use any field that exists in the native format but it doesn't have to use them all and the fields don't have to be the same size or laid out in the same way. You can have as many alternative formats as you like.

For detailed information on how to set up alternate field views, see page 192.

Alternate field views

The normal way of viewing a field is as text. You type it in, and later on you look at it or print it out. But for fields that represent a restricted set of options, there are more graphical approaches that may be easier to use.

An alternate field view is like a filter that inserts itself between the text and what you actually see. Underneath it all, the field still contains ordinary text; but on the surface, what you see is a set of radio buttons or check boxes, or a drop-down list.



For data entry this is good because you don't have to type, you can just click. Because the field view does the typing for you, you can be sure that it doesn't make any spelling mistakes.

Not every format has to have the same view of the field. It's often a good idea to use an alternate view to make things easier for data entry but switch to ordinary text when it comes to summaries or printed reports.

The labels shown in the alternate views don't have to be identical to the real text of the underlying field. You can use long explanatory labels ("Business Insurance", "Company Accounts") in the view but short codes (such as INS and ACC) in the field text. When you display your data in summary form, the short codes will save space.

- Having labels different from the field text can also be good in a multinational context, because you can design formats in English, French, Spanish and so on, while still maintaining one consistent set of codes within the actual database.

Company Accounts
Business Insurance
Company Accounts
General
Pension Fund
Personal
Trusts

3.1 95 98 ME NT 2000 XP

Appearance

“Appearance” is shorthand for “font and colour and size and boldness and italics and underlining and line thickness and background” – in other words, everything that makes your text look the way it does.

For details of how to control appearance, see page 107.

Word processors give you infinite control over appearance and they will let you make every letter of every word a different colour if you really insist. Cardbox is less generous: appearance is assigned to fields, not to individual characters. The only variation within a field is that you can make indexed words look different from unindexed ones, and captions can look different again.

Appearances are assigned when you design your format. You can have one appearance for the format as a whole, and then, if you want, you can make exceptions for particular fields and other format items. Don't go overboard on this: a screen with every field in a different font will look a terrible mess.

Whatever the appearance that is stored in the format, you can override it when you are viewing it on the screen. You won't usually need to do this, but it's good for experimentation and, as one of our programmers discovered, it is useful if you're colour-blind and need to use a colour scheme that everyone else hates.

Indexing

To make searching faster, Cardbox creates an index of your database. That way, instead of having to look through every single record to find the ones you're looking for, Cardbox can look at the index and find what you want in a fraction of the time. The bigger the database, the bigger the benefit.

Indexing is something that all databases do to some extent, but here's how Cardbox is different:

- It can index every word, number, or date in a field.
- Within a single field, it can let you choose which words (or numbers, or dates) to index.

These are such obvious things to do that we don't understand why other databases don't do them. The benefits are clear: you don't have to twist names round to fit the way the computer wants them – “Public, John Q.” – or even “John | Q | Public” in three separate fields. You don't have to have artificial fields (KEYWORD 1, KEYWORD 2, KEYWORD 3) or use sophisticated programming. You just mark the words you want to be indexed, and Cardbox indexes them.

For each field, you decide the indexing strategy when you design the field; although like everything else in Cardbox, you can go back and change your mind afterwards. The simplest indexing modes are All, which indexes everything in a field, and None, which indexes nothing. More interesting is Manual, which lets you mark individual words for indexing as you type them in (or you can go back and mark or unmark them later). There is also Auto, which is rather like Manual backwards: everything's indexed unless you tell Cardbox not to index it.

Marking indexed words

If you tell Cardbox to index everything in a field, or to index nothing, there's no real need for words to look different when they're marked for indexing. But if you do want to control indexing manually, then it helps if indexed words look different from unindexed ones. By default, Cardbox shows you indexed words in red and unindexed words in black, but if you don't like the piebald appearance this gives, you can change it. In printouts in particular, a consistent single colour makes more sense.

You can turn indexing on and off for a word by tapping the Ctrl key, or by right-clicking and using the pop-up menu. You can also use validators to control indexing. Validators look at what you have entered into a field, and make changes (such as indexing) based on what they see. Validators can implement stoplists (lists of common words not to be indexed) or they can do the exact opposite, indexing certain key words whenever they see them. They are especially useful if many different people are going to be entering records and they have different ideas about

See page 206. Setting up validators is a feature of the Professional Edition.

what ought to be indexed. A validator can automate the process of deciding what to index and keep the policy consistent.

Cardbox has two indexes

There are a couple of problems when it comes to indexing numbers, because numbers behave differently from words. This difference is especially significant when you are trying to search on ranges of values (“give me numbers between 30 and 40”) or when you sort records into alphabetical or numerical order. It’s easy to see the problem with a couple of simple examples. If you are looking for words between ANT and DOG in the alphabet, it’s obvious that BABY fits within the range. On the other hand, if you are looking for numbers between 100 and 400, it’s equally obvious that 3105 is far outside that range. In other words: when you compare words, you compare one letter at a time, but with numbers, the longer number is always bigger than the shorter one.

Cardbox handles this by having two separate indexes for every field. The word index handles words and is in alphabetical order, and the numeric index handles numbers (and dates) and is in numerical order.

ALBANIA	1
ARGENTINA	2
ARUBA	3
AUSTRALIA	8
AUSTRIA	2003.0128
BARBADOS	2003.0204
BELARUS	2003.0207
BELGIUM	2003.0213
BENIN	1370434
BOTSWANA	1370713
BULGARIA	1370996
CAMEROON	1371370
CANADA	1371486
CAPE VERDE	1372590
CHILE	1373771
CHINA	1373935

Cardbox chooses the index automatically when it looks at the term (word, number or date) to be indexed. When you are doing a search, Cardbox looks at the search term you’ve entered and deduces which index you want to search.

How Cardbox indexes

When Cardbox starts indexing text, it splits it into terms (words, numbers or dates). Terms are separated by spaces, so if you inadvertently type “SMITH,JONES” instead of “SMITH, JONES”, it will end up being treated as a single term.

Older versions of Cardbox did this differently: see Help Point 552.

To decide whether a term is a word or a number, Cardbox looks through it. If it sees any alphabetic characters then it treats the term as a word: this means that 3M and 3RD both count as words.

Indexing words

If the word is a very long one (more than 64 characters long) Cardbox truncates it. It then goes through the word removing all non-alphabetic characters. It removes any accents from the letters and converts them to upper case: it also does useful things such as converting the German double-S ‘ß’ to ‘SS’. This converted upper-case word is what actually goes into the index.

There are a couple of exceptions to the “remove non-alphabetic characters” rule. Underlines are treated as if they were a letter of the alphabet, and hyphens are treated specially. Hyphens divide a word, so that every piece of a hyphenated word is indexed as if it were a separate word – so ‘fer-de-lance’ is indexed as FER, DE, and LANCE – and then the whole word, without hyphens, is indexed again – FERDELANCE. This sounds a little eccentric but it is the best way of ensuring that the word can be found and that records containing it can also be sorted into the right order.

For more about collating sequences, see Help Point 533.

For specialised applications, you can change all these indexing rules by setting a specific collating sequence for the database. Collating sequences are an advanced feature and are part of the Professional Edition only, although all editions of Cardbox will understand and obey a database’s collating sequence if one has been set.

Indexing numbers

When Cardbox indexes a number, it ignores non-numeric characters other than decimal points, slashes, and hyphens. Cardbox indexes numbers according to their value, which means that 3, 3.0 and 3.00 (etc) are all indexed identically. When you view the database index (for example, when previewing the results of a search you plan to make) Cardbox will show you the simplest possible form of the number, omitting any trailing zeroes.

Date formats and Cardbox

There are many different ways of writing dates. Even the sequence of the components varies: 'day, month, year', 'month, day, year' and 'year, month, day' are all used in different parts of the world. Because Cardbox databases can be international, Cardbox cannot deduce the date sequence from the location where you're using it. Instead, it looks at the way you typed the date: specifically, at the character that you used to separate the different parts of the date. Here is the 19th of April 1962:

Separator	Format	Example
/ (slash)	day/month/year	19/4/1962
- (hyphen)	month-day-year	4-19-1962
. (decimal point)	year.month.day	1962.4.19

- The day and the month can be one or two digits long: 04 is the same as 4.
- Cardbox identifies the date format by looking at the separator, so you cannot enter something like 4/19/1962 and expect Cardbox to handle it properly.

When Cardbox indexes a date, it reshuffles it into a number, in a standard format. All the date formats shown in the example above will be indexed as the same number, 1962.0419. This has the advantage that when records are sorted into numerical order, this will yield exactly the right date sequence as well.

As a result of the way that Cardbox indexes dates, when you are previewing an indexed search, the preview listing will show all your dates as numbers.

Years and centuries

If you have the Professional Edition, you can set up a validator that automatically reformats the dates you type in. See page 206.

You will have to decide on your own convention for the year. Either use 2-digit years throughout (62) or 4-digit years (1962). Now that the 20th century is over, you may choose to use 2-digit years to save typing (though not for dates of birth, obviously!). But you must be consistent, because Cardbox sees no resemblance at all between 04 and 2004 or between 68 (death of the emperor Nero) and 1968 (death of Martin Luther King).

Specialised date formats

See Help Point 522 for details of how these date and time formats work.

If days aren't interesting to you, you can use dates in 'month/year' or 'month-year' format: Cardbox will assume the day to be zero.

As well as dates, you can index times, either on their own ('hour.minute.second') or together with a date.

Only the Professional Edition of Cardbox is able to set up validators. Once they've been set up, any edition can use them.

See "Using Validators", page 152.

Validators

Cardbox's great strength is that you don't need to declare your text fields as being of any particular type. Once you've drawn the field in your format, it will accept anything: numbers, dates, codes, long text, single letters. A field is a field is a field.

There are times, however, when you do want to restrict what is allowed to be put into a field. This is especially the case when more than one person is responsible for editing records, since the more people are involved, the harder it is to trust all of them to keep to the same conventions.

Validators can only be set up by the Professional Edition (its Advanced Features manual gives full details of the available validators and how to set them up), but once they have been set up, a database with validators can be used by anyone, so it's important for you to know what to expect.

There are several different kinds of validators but they all behave in a similar way: they watch as you are editing a record, and as you move off each field, they check that field or make changes to it.

Validators that check things

Validators can check that an entry has been made in a particular field; they can check the types of terms that have been entered (word, number, date); they can control how many of them there are and how long each of them should be; they can even restrict entries to certain specific values.



If there is something wrong with a field, a warning button flashes in the toolbar, and if you try to save the record, a warning message pops up and asks you to correct the problem.

Validators that change things

Validators can automatically index or unindex words for you (thus enforcing stoplists or keyword lists) and they can also reformat dates so that the date format is consistent throughout the database.

Validators that type things

Validators can automatically type text into a field for you. You can use this to put codes in automatically (for example, the user's initials) or to create timestamps to say when a record has been created or edited.

Images

Not everything you want to store in a database is necessarily text. There are also photographs, drawings, and scanned documents. Because they have so much in common we lump them together in Cardbox as one thing: “images”.

An image is anything that can be displayed on the screen or printed on a printer. It comes into Cardbox from a camera or a scanner or simply by being imported from an image file in any of the standard formats (BMP, JPEG, GIF, TIFF). Cardbox stores images in an image field: you can only have one image field in a format but that field can hold as many images as you like, so if you want to scan an 80-page document into Cardbox then that's not a problem.

The one thing Cardbox can't do with images is search inside them. If you want to find a picture of a clown with green hair, you can't expect Cardbox to look inside each image to find a likely-looking patch of green. On the other hand, there's nothing to stop you having a text field that describes in words what the image contains and then indexing it. In that case searching for CLOWN GREEN HAIR will probably find what you're looking for.

Images can be pretty large lumps of data – a picture takes as much space as ten thousand words – so Cardbox compresses them to save disk space. There are two levels of compression, a light one which preserves image quality and a heavier one which makes the image look less good but saves a lot of space. You can choose which level to use each time you import an image into Cardbox.

Only the Professional Edition of Cardbox is able to set up object fields.

OLE is a Microsoft term. It stands for "Object Linking and Embedding"

Objects

Not everything you want to store in a database is necessarily text. We've covered images already. Images are just a set of passive pixels, but objects are altogether more dynamic. Here are some examples of objects:

- Microsoft Word documents.
- Microsoft Excel spreadsheets.
- MP3 sound recordings.
- Video clips.
- Adobe Photoshop images.

These things all have one thing in common: they belong to other programs. Cardbox doesn't know what to do with Word documents, Excel spreadsheets, or Photoshop images: Word, Excel, and Photoshop do. The core of OLE is that these objects can live inside Cardbox but work where they are understood. An embedded object doesn't need to exist in an ordinary file, it lives entirely inside the Cardbox database.

Here are a couple of examples:

- A firm of investment analysts indexes company accounting information. Cardbox gives the main information about the company, but the accounts themselves are stored in Excel spreadsheets that are embedded in each company's Cardbox record.
- We maintain a daybook database that contains all our incoming and outgoing correspondence. Incoming letters are scanned into an image field, but we can store outgoing letters, as Word documents, in an object field: this means we can not only read the letters we write but reuse them in other circumstances. We could even put the daybook on our Internet server and access it from anywhere in the world.

Some warnings

OLE is a way of linking programs with other programs. We didn't write those other programs and we can't guarantee how well they will work with embedded objects. If they don't work well, it's not our fault. Try out the actual software before you embark on any big projects.

An OLE object is useless without a program that understands how to make it work. This is an important thing to remember on a network. You may store an Excel spreadsheet inside your Cardbox record, but if you view it from a computer that doesn't have Excel, you will be able to see the record but you won't be able to open the spreadsheet. Make sure that everyone who should be able to open your objects has software that will let them do so.

User profiles

Only the Professional Edition is able to set up user profiles, but any edition of Cardbox can use them once they have been set up.

See "Passwords and User Profiles", p.253.

Your copy of Cardbox lets you do anything you like to the databases you create. This is only fair, since it's your copy of Cardbox and your data.

But as soon as someone else is involved – if you're using their data or they're using yours – it is better to be a little less trusting. You may be able to redesign your formats, edit records, delete records, and so on, but it doesn't follow that everyone else should be able to do the same. Moreover, you may have confidential information that you only want some people to be able to see, while less privileged users only see selected portions of your data.

The setting up of profiles is an advanced feature of the Professional Edition, but you may very well find yourself on the receiving end of a user profile system when you open a database that someone else has created, on a network or on the Internet, so here is what to expect.

- A user profile has a name and, optionally, a password.
- For each field, the profile defines whether you are allowed to edit its contents or indeed whether you're allowed to see it at all.
- The profile does the same thing for formats, so you may only be allowed to see and use a small number of formats. Even the native format may be invisible to you.
- The profile can control the commands you are allowed to use. In a public database it'll probably stop you from making any changes at all, and it may even stop you from printing anything out. In a corporate database it may let you add records but not edit or delete them, or add and edit records but not edit formats. There are a wide range of possibilities, but it is always easy to tell what is happening because any commands that you are not allowed to use will be disabled in your menus and on your toolbar.

How all this affects you depends very much on how the database owner has set things up. It is possible to create profiles that don't need a password, so you may not notice anything at all (except that some commands aren't available) or you may find that you're asked for a password even before you can get into the database.

If you are more privileged than ordinary users of the database, the database owner may give you the name and password of a different user profile: in that case you can use the command **File > User Profile** to switch to the chosen profile. You'll normally have to enter the password every time you open Cardbox and it tries to reopen the database for you, but you can make your workspace remember your passwords for you: for how to do this, and the security implications, see page 63.

Networking

You can happily spend all your time creating and using your own databases on your own computer and not bothering about anyone else. If that's the case then you can skip the rest of this section; but if you use shared databases on a corporate network or public databases on the Internet, read on.

When someone wants a Cardbox database to be accessible to several people, he sets up a copy of the Cardbox Server and tell it what databases to share. The Cardbox Server is a separate product with a separate manual, so we won't cover it further in this book.

If you look closely at the Open File box, you'll see that it has two tabs. The My Computer tab lets you open databases on your own computer, and the Server tab lets you open databases on other computers: to open a database, you need to know the name of the server and the name of the database. In a corporate network, your system administrator will tell you the name of your server (indeed, it may be in your list already) and if you're opening an Internet database, the owner's web site will tell you the server name. For some more information, see "Opening Databases", p.57.

And that's really all you need to know. Everything else behaves just as it does when you're using your own databases. Cardbox coordinates everything. If someone else changes a record and saves it while you're looking at it, it'll change on your screen as well. If two people try to edit a record at the same time, Cardbox lets one of them do it and tells the other to try again later.

The Cardbox web site tells you more about the Cardbox Server and how to get hold of it. The Cardbox Server comes with a separate manual that gives you detailed information about setting up the server and sharing databases.

Unicode

Here are all the characters that you can type into your computer using the standard Windows character set:

! " # \$ % & ' () * + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < =
 > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 [\] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w
 x y z { | } ~ € , f " ... † ‡ ^ § Š < € Ž ' ' " " • - - ~ ™
 š > œ ž Ÿ ĩ ċ £ ¤ ¥ ¦ § ¨ © ª « ¬ - ® ¯ ° ± ² ³ ´ µ ¶ ·
 ¸ ¹ º » ¼ ½ ¾ ¿ À Á Â Ã Ä Å Æ Ç È É Ê Ë Ì Í Î Ï Ð Ñ Ò Ó Ô
 Õ Ö × Ø Ù Ú Û Ü Ý Þ ß à á â ã ä å æ ç è é ê ë ì í î ï ð ñ
 ò ó ô õ ö ÷ ø ù ú û ü ý þ ÿ

See Help Point 544 for how to set up a Cardbox database in Unicode.

This is adequate for most Western European languages but not for the rest of the world. The computer industry has designed a new standard, Unicode, to allow you to type any character from any language in the world. Cardbox supports version 3.2 of Unicode.

The characters that Cardbox supports

If you really need Cardbox to support a right-to-left or complex script, please let us know.

At present, Cardbox can display characters from any script that is written from left to right and is not a “complex” script (complex scripts are ones where the letters change shape depending on the adjacent letters in the word, as in the Devanagari scripts of India). Cardbox may have got better at displaying other scripts by the time you read this: check Help Point 553 or our web site for details. Some samples of scripts that Cardbox can handle are shown in the margins of this page.

Displaying and printing Unicode

For more about fonts, see Help Point 545.

Not all fonts contain all characters, and this can be a problem if you use Unicode. It is one thing to be able to type classical Greek and quite another to find a font to see it in. Windows XP contains technology that should help with this – it claims to be able to “borrow” missing characters from similar-looking fonts – but you should check on the availability of the fonts you need before embarking on a big project. As a simple test, try typing the characters you want into Wordpad: if they come out right, then Cardbox will be able to display them too.

Wędzony łosoś

The Arial Unicode MS font, supplied with many Microsoft Office products, includes practically all Unicode characters, so if you have font problems it may be worth installing it on your system.

μη μάν άσπουδί γε και άκλειώς άπολοίμη
 άλλα μέγα ρέξας τι και έσσομένοισι πυθίσθαι

Կրնամ ապակի ուտել և ինձի անհանգիստ չըներ:

Typing Unicode

Windows supports many keyboard layouts and allows you to switch dynamically between them. One solution if you have a lot of text to type is to install several different layouts and switch from one to the other as necessary. Obviously the labels on your physical keys won't change, but your fingers will soon learn the feel of (say) a Polish keyboard even when the key labels don't correspond.

Tavultesoft:
<http://www.tavultesoft.com>

We have also tried out an add-on product called Tavultesoft Keyman which allows you to type in languages that Windows doesn't support and even to design your own keyboard layouts. This is especially relevant for scholars working with ancient languages: you will probably find that someone has already designed a Keyman layout for the language you're interested in.

You may know that you can access the more exotic Windows characters by typing numeric codes: for instance, Alt + 0 2 4 1 for "ñ". This isn't something you'd want to spend a long time doing, but it works well for occasional use. Cardbox lets you do the same for Unicode: for instance, Alt + 0 9 6 9 for a lower-case Greek omega.

The Unicode Consortium:
<http://www.unicode.org>

The Unicode Standard lists codes for all defined Unicode characters. Most Unicode character tables use hexadecimal notation for the code values. To save you having to do arithmetic, Cardbox lets you use these numbers directly. If you see a character referred to as U+03C9, you can type it into Cardbox by holding down the Alt key, typing the decimal point on the numeric keypad, and then typing 3 C 9 before releasing the Alt key. After the decimal point and before releasing Alt, you can type all the hexadecimal digits without moving your hand from the numeric keypad, using the special layout shown on the left.

	A	B	C
7	8	9	D
4	5	6	
1	2	3	E
0		F	

Windows 95, 98, and Me

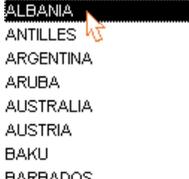
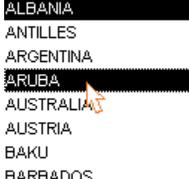
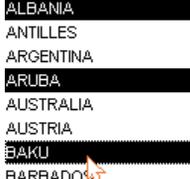
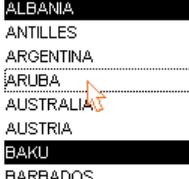
These versions of Windows have limited Unicode support, and this affects what Cardbox can do. You can use Unicode databases, but Windows can't display or input Unicode in menus and dialog boxes: so, for instance, you can't enter Unicode characters into a search command or have them in validators. You can, however, have Unicode in your database records, and if someone else has designed a format that includes Unicode in its text and captions, you'll be able to use that too.

Things you already know about Windows

Cardbox is a Windows program, so it tries to behave as much as possible like other Windows programs. However, some features of Windows aren't used very often and it's possible that you may not have come across them recently. Here, to refresh your memory, is a short description of them.

Multiple selections in list boxes

List boxes are something you come across every day when using Windows. Most of the time you look at the list and click on the item you want; but some list boxes let you select multiple items at once. This is very useful with Cardbox. For example, you can tell Cardbox to show you a list of possible search terms, and then you can choose the ones that you want Cardbox to search for. Here's how you can do this using the mouse:

<p>Click on an item to select it. If you click on another item, this deselects the first one.</p>	 <p>ALBANIA ANTILLES ARGENTINA ARUBA AUSTRALIA AUSTRIA BAKU BARBADOS</p>	 <p>ALBANIA ANTILLES ARGENTINA ARUBA AUSTRALIA AUSTRIA BAKU BARBADOS</p>	 <p>ALBANIA ANTILLES ARGENTINA ARUBA AUSTRALIA AUSTRIA BAKU BARBADOS</p>
<p>Ctrl + click on an item to select it. Other items aren't affected. If you Ctrl + click on a selected item, this deselects it.</p>	 <p>ALBANIA ANTILLES ARGENTINA ARUBA AUSTRALIA AUSTRIA BAKU BARBADOS</p>	 <p>ALBANIA ANTILLES ARGENTINA ARUBA AUSTRALIA AUSTRIA BAKU BARBADOS</p>	 <p>ALBANIA ANTILLES ARGENTINA ARUBA AUSTRALIA AUSTRIA BAKU BARBADOS</p>
<p>If you click on an item and then Shift + click on another one, you will select all the items in between</p>	 <p>ALBANIA ANTILLES ARGENTINA ARUBA AUSTRALIA AUSTRIA BAKU BARBADOS</p>	 <p>ALBANIA ANTILLES ARGENTINA ARUBA AUSTRALIA AUSTRIA BAKU BARBADOS</p>	 <p>ALBANIA ANTILLES ARGENTINA ARUBA AUSTRALIA AUSTRIA BAKU BARBADOS</p>

Shift + click deselects anything that isn't in the range you're selecting. To preserve selections outside the range, use Ctrl + Shift + click instead.

If you have multiple workspaces open at once, each of them works like a separate copy of Cardbox, with its own database windows inside it.

This example comes from the Galpin Society, which is dedicated to the study of old musical instruments. It uses Cardbox to manage its subscriptions.

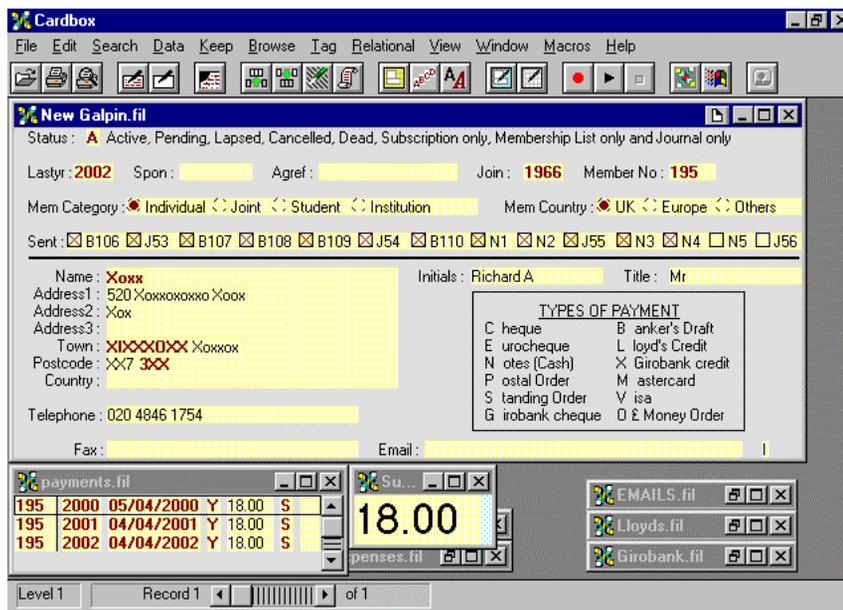
Multiple documents in one program window

When you use Windows Paint to open more than one picture, you get two copies of Windows Paint, each of them with one picture. On the other hand, if you open more than one email folder in Eudora, they will all open inside a single enclosing Eudora window. Microsoft Word behaves sometimes one way, sometimes the other way, depending on which version you've got and how you've set it up.

In Cardbox, each database opens in its own window inside the enclosing Cardbox window. In case you're not familiar with using windows in this way, here are some examples.

Several database windows visible at a time

All the databases within a Cardbox workspace are opened inside one Cardbox window. There are two basic ways in which you can lay things out. You can have several database windows visible at once:

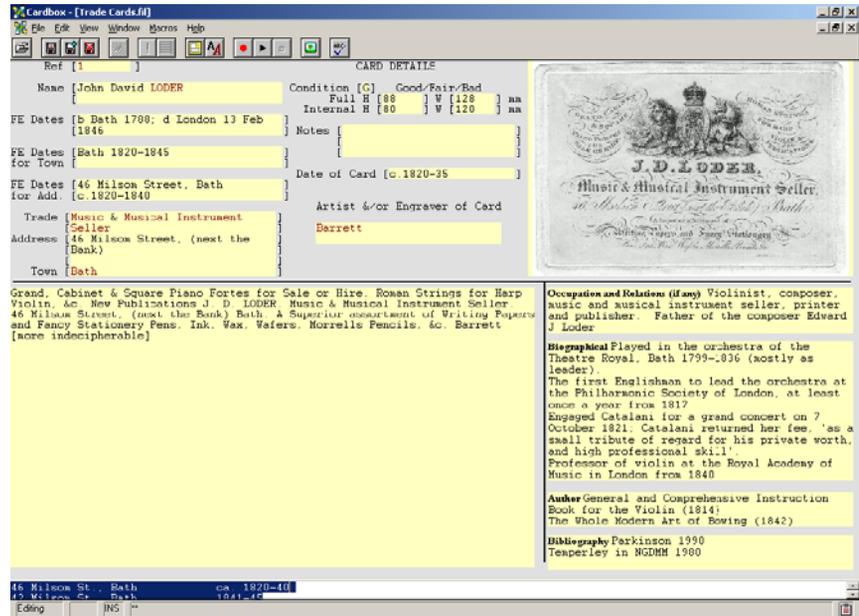


In this case each window can be moved and resized in any way you want, and you can see several databases at the same time.

One database window at a time

If you maximise one of the database windows then it grows to fill the whole Cardbox window and the result looks something like this:

This database indexes trade cards of musical instrument makers from the collection of Tony Bingham for a future illustrated book.



This means that you can only see one database window at a time, but on the other hand you have enough space to see far more of it.

People sometimes get confused by the fact that there are two sets of window-control tools at the top right-hand corner of the Cardbox window. The top set (think of it as the outer set) minimises, maximises, or closes Cardbox as a whole. The bottom set (the inner set) controls the database window inside Cardbox, and lets you minimise, resize or close just that window, leaving the rest of Cardbox unaffected.

If you have more than one database open in your Cardbox workspace, you can use Ctrl + F6 to switch from one database window to the next. To move through your database windows, hold down the Ctrl key, press F6 until you get to the window you want, then release Ctrl. Alternatively, use the Window menu, which lists your database windows by name, or use the command Window > Windows.



A look at the Cardbox screen

The top of a Cardbox window



For more about workspaces, see page 61.

The title bar: if you have several different workspaces, you can use File > Workspace to give each one a different name, in which case the name will appear at the top in place of the word "Cardbox". If you have a database window that is maximised so that it takes up the whole of the Cardbox window, its name appears on the title bar as well.

The menu bar contains all Cardbox's standard menu commands. The miniature Cardbox logo on the left appears when you have a maximised database window and it gives you access to that window's System menu.

The toolbar contains buttons for commonly used functions. If you're not sure what a button does, hold the mouse over it for a moment and a brief description will appear. If you have the Professional Edition then you can add toolbar buttons of your own. If there are too many buttons to fit in the size of your Cardbox window, you'll see a little arrow on the right-hand edge: press it, and the remaining buttons will pop up in the form of a menu.

The bottom of a Cardbox window



The level of selection tells you how many selection commands are currently in force: see page 24.

The browse bar lets you browse through your records: see page 65. If your database has images in it, there will be a second browse bar so you can browse through the images attached to each record: see page 69.

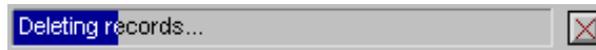
The number of tagged records appears if you've tagged any records: for more about tags and tagging, see page 93.

The name of the current format will appear next, if you're using a format other than the native format: see page 27.

The two status markers have various uses: when something appears here, click on the marker to get an explanation of what it means. In this example, the marker is telling you that your link to a remote Cardbox server is encrypted for security.

Progress of a long-running command

Sometimes a command can take a long time: downloading a large database is one example. Cardbox displays a progress bar to tell you what it is doing and give you some idea of how far it has got:



If Cardbox knows how much work remains to be done, the blue bar gets gradually longer. If it doesn't know, a smaller blue bar moves across from left to right.

To cancel a long-running command, click on the button to the right of the progress bar.

Warning displays within records



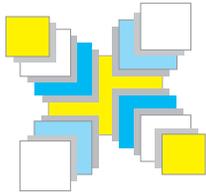
A pattern made of tiny clock-faces tells you that Cardbox is waiting for some data to arrive. This will most often happen when you are connected to a Cardbox Server and the link is slow or the server is busy. You don't need to do anything. As soon as the data have arrived, the clocks will disappear and you will see the data instead.



A hatched pattern indicates that the record you are looking at is deleted. You won't normally see this, because in most cases when a record is deleted Cardbox instantly removes it from your selection. Occasionally this isn't practicable and you'll see the hatched pattern. Don't worry: this doesn't indicate an error, and the deleted record won't appear in any printouts.



A cross-hatched pattern indicates that there is something wrong with the record. This is very rare: so rare, in fact, that we had to fake an illustration of it because we couldn't get it to happen. If you see this pattern, you should rebuild the database or restore it from a backup: see page 249.



Part Three

Search and Retrieval

How to open and close Cardbox; how to open and close databases; browsing; searching; sorting; printing, export.

Opening and closing Cardbox

Opening Cardbox



How you open Cardbox depends on what options you used when you installed it. You may have an icon on your desktop, or an entry in the Start menu, or both. If you're a sophisticated user you may even have set up different Cardbox workspaces, again either with their own icon or their own Start menu entry.

You can also open Cardbox just by double-clicking on a Cardbox database file when you see it in Windows Explorer.

If you really can't see what else to do, ask Windows to find the file `CARDBOX3.EXE`, and then double-click on it. If this is the first time that you've run Cardbox on your computer, it will offer to create a desktop icon and a Start menu entry for you.

Closing Cardbox

To close Cardbox, use the command `File > Exit` or press `Alt + F4`.

Shutting down Windows

You don't need to close Cardbox before you shut down Windows: it will close itself automatically when Windows shuts down.

Opening databases

Before you can do anything with a database, it has to be open in Cardbox. Exactly how you open a database depends on where it is: whether it's in a file on your computer or whether it's in a shared location (on your LAN or on the Internet) and accessible through a Cardbox server.

Although opening a database is logically the first step, you'll find yourself doing it remarkably rarely. This is because whenever you close Cardbox and then open it again, it remembers exactly what you were doing last time and re-opens all your databases for you automatically. See "Workspaces", p.61.



File > Open
Ctrl + O

File > Open is the main command that you use for opening databases. It brings up a screen with three tabs: My Computer, Server, and Recently Used.

File > Recent Databases takes you straight to the Recently Used tab, which shows you the 20 databases that you have opened most recently.

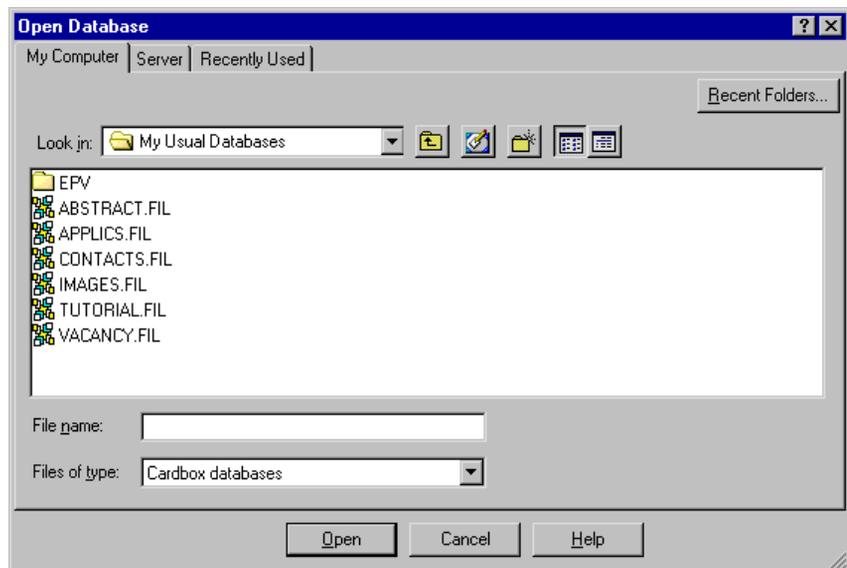
File > 1, File > 2,... take you instantly to one of the four most recently opened databases. If you'd like more than four databases to be listed here, use the command Tools > Options » Menus to set a different number.

Another way of opening a database

If you double-click on a Cardbox database file (filetype .FIL) in Windows Explorer, Cardbox will open the database. Cardbox doesn't already have to be running when you do this: it'll start automatically.

Open command: My Computer tab

Use this tab to open a database that's in a file somewhere on your computer. The My Computer tab looks just like any other Open File box in Windows, so you'll be familiar with it before you start.



- You start by seeing the folder you used last time you opened a database.
- At the top right-hand corner you'll see a Recent Folders button. This lets you jump directly to folders you have opened databases in recently.
- If you have a lot of databases with long names, Windows will spread them out and you'll probably want to make the Open Database window bigger. To do this, drag the resizing handle (at the bottom right-hand corner) outwards.

Opening files on a network

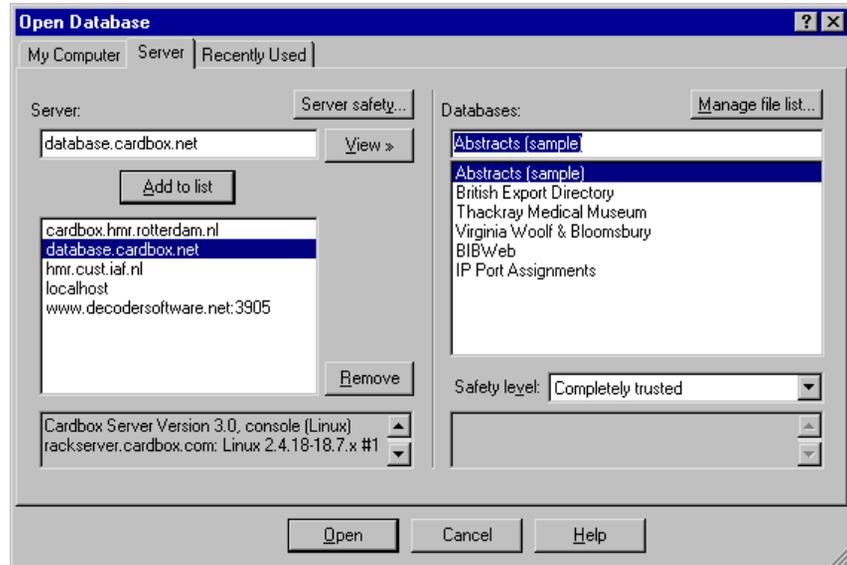
You aren't confined to files on your own computer: if you've got access to shared drives on your network, you can use the My Computer tab to open files on those drives as well. But remember that when you open a database using the My Computer tab you get exclusive access to it: no-one else can open the database as long as you have it open. To open a database so that several people can use it at the same time, you have to use the Server tab.

This doesn't restrict your own ability to have several copies of Cardbox open at the same time and have the same database open in each of them: it only restricts what other people can do while you've got the database open.

- There is one important exception to the rule about the My Computer tab. If you have a database on a networked drive and use Windows Explorer to make both the database file (.FIL) and its corresponding format file (.FMT) read-only, then any number of people can use the database at the same time. This is because if the files are read-only then Cardbox knows the database can't change and so it is safe for several people to have it open at once. To make a file read-only in Windows Explorer, right-click on it and select "Properties" from the pop-up menu.

Open command: Server tab

Use this tab to open a database that's accessible through a Cardbox server somewhere. The mechanism is a simplified version of what happens when you open a Web page in a Web browser. For example, what happens when you try to open a web page called <http://www.cardbox.net/index.htm> is that the browser locates the computer at www.cardbox.net, connects to the Web server there, then asks the Web server to give it [index.htm](http://www.cardbox.net/index.htm). With Cardbox, the steps are the same but you do them one at a time.



Before you start, you need to know the name of the server you want to access (just as you need to know the name of the folder when you open a file on your own computer). You can see a list of servers on the left-hand side: it starts off containing just our own public database site, database.cardbox.net, but you can add or remove server names as you like, so that your most frequently used servers are just a mouse click away. You probably won't need to have a very long list: if your organisation shares Cardbox databases by keeping them on a central server, that server's name is the only one you'll need.

Picking the server

Click on the server name in the list, or type the server's name into the Server box and press the View button to connect to it. At the bottom left, Cardbox will display some technical information about the server, or an error message if it can't connect.

Picking a file

Once you've connected to a server, you'll see on the right-hand side a list of the databases it is offering. Click on the database you want and press the Open button; or just double-click on the database name in the list.

A Cardbox server can be set up so that some of its databases aren't shown in the list. This is sometimes done for security (if you don't know the database's name, you can't ask for it) although of course it isn't a foolproof security precaution all by itself. If you have to open a database that doesn't appear in the list, ask someone what its name is, and type the name into the Databases box, then press the Open button.

Safety levels

Macros are sequences of Cardbox commands that can be activated by a keystroke or by a pushbutton on the screen. They are very convenient, and some database authors take care to provide many macros to simplify your use of their data. But a macro is essentially a mini-program (written in Microsoft's VBScript) and so if you're opening a database that was created by someone else, you have to protect yourself against the possibility that the database author was malicious and wrote macros that could harm your computer or reveal sensitive data.

The default safety level is Untrusted, which allows macros to run but won't let them read or write your hard disk or do other potentially harmful things. Unless you know that a database contains sophisticated macros that need to be more trusted than this, there's no need to alter this safety level. There is a spectrum of safety levels, from Completely Untrusted to Completely Trusted, and you can set safety levels for individual databases or for the server as a whole, so that (for example) you can make your organisation's corporate server Completely Trusted but leave all other servers Untrusted.

For more about safety levels and trust, see Help Point 526.

Open command: Recently Used tab

Cardbox remembers the last 20 databases you opened, and the Recently Used tab lets you open one of them just by double-clicking on it. You can sort the list into order by name, location, or recency of use by clicking on the appropriate heading. To remove a confidential or embarrassing database name from the list, click once on it and then press the Remove button.

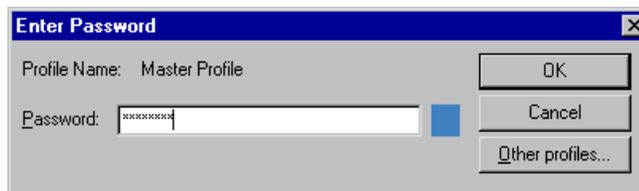
Security messages when opening a database

Cardbox databases can be protected with passwords, and they can even be encrypted. Whether you are able to set these features up depends on the kind of Cardbox licence you have, but whatever the licence, you may find yourself using a database that has been given this kind of protection, especially if the database is a shared one.

Profile and password

User profiles give different users different levels of access to the same database. When you try to open a database that has user profiles, you'll see a message asking you for a password.

The coloured blob helps to protect you against typing mistakes: its colour changes depending on the password you've entered, so if it looks unfamiliar then you've got something wrong.



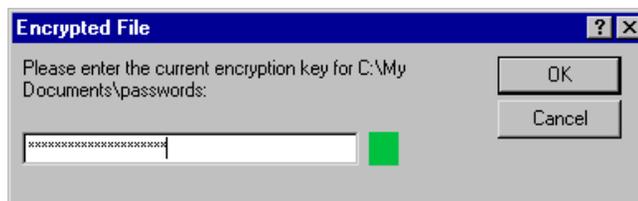
The exact message will vary depending on how the owner of the database has set things up. You may be asked to choose from a list of profiles; on the other hand, you may find yourself not being asked for a password at all because a "default profile" has been set up that doesn't require one. (This is common with databases intended for public access: there's a default profile with no password that lets people view the public data but not alter anything, and there are other, password-protected profiles that let the administrators do their work).

For more information, see "User Profiles", p.41.

Encryption

Encrypted databases are much less common than password-protected ones, and you may never come across one.

There are so few possible colours that the coloured blobs don't give anything away, even if an enemy films the screen while you're typing.



When you try to open an encrypted database, you'll see a message asking you to enter the encryption key. Without the encryption key, the database is unreadable.

Remembering passwords and keys

There is an old saying that people want security as long as they don't have to do anything about it. This is as true in computing as in any other field. You may feel that you want to protect your data against strangers, but having to type a password every time you open your database is just too much work.

With Cardbox, there is a way round this. If you password-protect your workspace, the workspace will remember your passwords and keys for you, so that you have only one password to remember (the workspace password). If you really want, you can even get Windows to remember your workspace password for you, though in some versions of Windows this may make things less secure against a determined hacker. See "Workspaces", p.61.

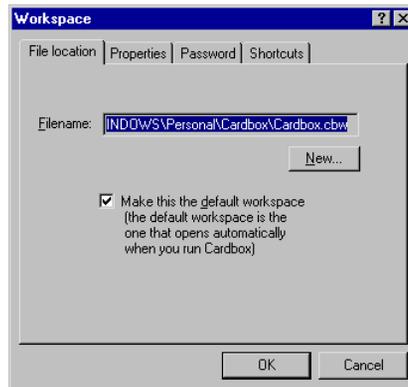
Workspaces

Open Cardbox, open some databases, do some searches, and close Cardbox. When you open Cardbox again, you'll find yourself back exactly where you were: same window sizes, same databases, same selections, same everything. This is because Cardbox has created a workspace file and used it to store everything about the state of your session.

If your use of Cardbox is fairly simple, you can feel mildly pleased about this feature and never think about workspaces again; but if you find yourself using Cardbox for many different things, then segregating your activities into different workspaces makes a lot of sense.

Creating separate workspaces

File > Workspace shows you which workspace you're using at the moment. To create a new workspace, press New and choose a filename and location for the new workspace file. Once you've created the new file, set up Cardbox the way you want it (open the databases you want, close the databases you don't want, and so on) and then close it. You now have a separate workspace file, in the location you've chosen.



To delete a workspace that you don't want, just use Windows Explorer to find the workspace file (its filetype will be .cbw) and delete it.

Workspace shortcuts

You can put shortcuts to Cardbox workspaces into the Windows Start menu or onto your desktop. You can tell Cardbox to create these shortcuts when you're creating a new workspace, or you can do it afterwards using **File > Workspace » Shortcuts**. You can remove shortcuts in the same way.

Opening a workspace

If your Start menu has a shortcut for the workspace, use it.

If you've got a shortcut for the workspace on your desktop, use it.

Otherwise, find the workspace file in Windows Explorer and double-click on it.

You're allowed to have several workspaces open at the same time, and you can also have the same database open in more than one workspace if that's what you need to do.

Which workspace am I using?

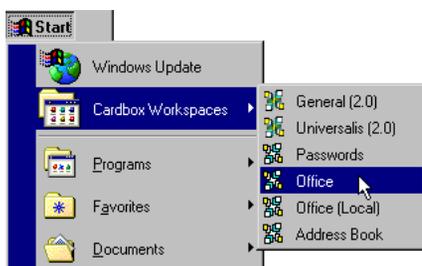
If you have several workspaces open at the same time, how can you tell which one is which?

1. You can find out the filename of your current workspace by using **File > Workspace** and seeing what filename it reports.
2. You can make each workspace give a different title to your main Cardbox window. By default the main window is called "Cardbox", but you can change the title by using **File > Workspace » Properties**. If you give the main Cardbox window a different title in each workspace – for instance, "Mailing", "Library", "Accounts" – then the workspaces will look different both on the screen and in the Windows task bar, so that you can easily tell them apart.

Protecting your workspace if you make a mistake

Suppose that you have a workspace that you use every day, with lots of carefully arranged windows in it, and then you accidentally close some of those windows. If you now close Cardbox, your unintentional change will be stored in the workspace.

There is way round this problem. If you hold down the Shift key when you close Cardbox, the workspace will be left unchanged, in the state it was in when you opened Cardbox, and all your mistaken changes will be forgotten.



Preset workspaces

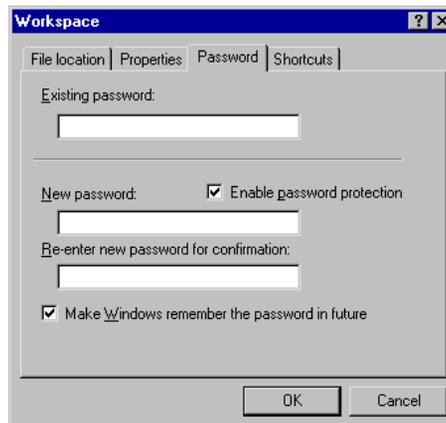
To make a file read-only, right-click on it and pick "Properties" from the pop-up menu. The filetype of the workspace file is .cbw.

There is another way of making sure that a workspace isn't unintentionally changed. Create the workspace, set it up to be exactly the way you want it, and close Cardbox. Then use Windows Explorer to make the workspace file read-only. Now nothing can change its contents, and the workspace will come back in the same state every time it's opened.

Password protection

You can give your workspace a password so that it can't be opened by someone who doesn't know the password. This is quite useful anyway, but the best thing about it is that the workspace can then remember the passwords of password-protected user profiles and the encryption keys of any encrypted databases (this information is stored in the workspace file in an encrypted format that is unreadable without the workspace password). So instead of having to remember and type a lot of codes, you only have to remember the password for the workspace.

To set up or change the password, use File > Workspace » Password.



If the workspace already has a password, enter it in the box. Then turn on Enable Password Protection if you want to give the workspace a password or turn it off if you don't want password protection. When you turn on password protection, you'll have to enter the new password twice as a protection against mistyping.

If you encrypt a database, make sure you keep a separate note of the encryption key locked away somewhere, in case you ever have to delete the workspace file.

If you give your workspace a password and you then forget the password, the workspace is useless. There is no way of retrieving the password and you will have to delete the whole workspace and start again. Since workspaces don't contain any of your data, this should only be an inconvenience and not a disaster.

Getting Windows to remember the workspace password

If it's too much bother to remember and type in the workspace password every time you open your Cardbox workspace, you can get Windows to remember the password for you.

On Windows 2000 and above (including Windows XP), this uses methods built into Windows by Microsoft which tie secret information to the identity of a user. If you choose to remember the workspace password in these versions of Windows:

- You will be able to open the workspace without being asked for its password.
- Anyone else using your logon account will be able to open the workspace without being asked for its password.
- Other users who try to use this workspace will be asked for its password.
- If your logon account becomes inaccessible or has to be deleted and re-created, the remembered password may be lost. In that case you will have to enter the workspace password the next time that you open the workspace.

The storage of the password is only as secure as the relevant Windows security systems. We didn't write them. We have no reason to believe that Microsoft have made any mistakes in their implementation of these systems, but to make your own assessment of how secure your password will be, look up "Windows Data Protection" on the Microsoft web site.

On Windows 95, 98, and Me there is no built-in protection of secret data. We've done our best to get round this deficiency, but if you choose to remember the workspace password in these versions of Windows:

- Anyone who uses your computer will be able to open the workspace without being asked for its password.
- Anyone who takes a copy of your workspace file and tries to use it on a different computer will be asked for the workspace password. It follows that there is no security threat if you make a backup copy of your workspace file and it is then stolen.
- Someone who takes a copy of your workspace file and is also able to spend some time at your computer extracting technical information from the Windows Registry (and has enough technical expertise to know what to look for) may be able, later, to open your workspace file on his own computer without being asked for its password.
- If you have to reinstall Windows then the remembered password may be lost. In that case you will have to enter the password the next time that you open the workspace.

It's up to you to judge whether this is secure enough for your purposes.

Browsing through your records

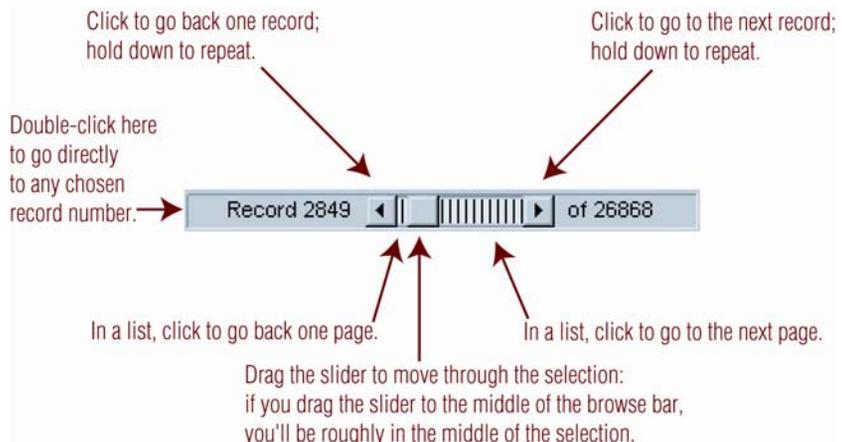
When you have a selection of records – whether it's a selection that results from searches you have made or the “Level 0” selection that represents all the records in your database – you will want to look through it. We call this process “browsing”.

Whenever you look at a Cardbox database, one record is the **current record**: if you tell Cardbox to edit, this is the record that will get edited; if you tell Cardbox to delete a record, this is the record that will get deleted. If the screen is only displaying one record, that's the current one; if the screen is displaying a list of records, Cardbox draws a thin black frame round the current record so you can see which one it is.

Car Licence	5	24/10/1983
Intelligence UK	6	3/11/1983
L&C Autos	7	3/11/1983
VAT	8	30/11/1983
Telephone	9	1/12/1983
L&C Autos	10	1/12/1983
Cash	11	25/12/1983
oil	12	6/1/1984
coal	13	9/1/1984
Wm Corv Boiler Service	14	20/1/1984
VAT	15	30/11/1984
Barclaycard	16	9/2/1984
Telephone	17	20/2/1984
Access	18	28/2/1984

Using the browse bar

If you look on the left-hand side of the status bar at the bottom of the Cardbox window, you'll see what looks like a scroll bar with corrugations. This is called the browse bar. It tells you which record you're looking at and how many records there are in the current selection.



Using the keyboard

Right arrow Down arrow	Next record.
Left arrow Up arrow	Previous record.
Ctrl + Home	First record.
Ctrl + End	Last record.
Ctrl + G	A specified record number. Cardbox will ask you which record number you want.
Ctrl + Z	The record you were on just before the last big jump (Ctrl + Home or Ctrl + End) or the last search command.

Page Down	Go forward one page in the list.
Page Up	Go back one page in the list.
Home	The top record on this page.
End	The bottom record on this page.



The vertical browse bar

If your records are small enough for Cardbox to fit several of them onto a screen (for instance, if you're viewing them as one-line summaries), then it will display an extra browse bar on the right-hand side of the screen. It behaves just like the browse bar we've already described – except, of course, that it's vertical.

Scrolling large records

If a record is too big for the window you're viewing it in, you'll see scroll bars at the edges of the window. You can use the scroll bars to scroll different parts of your record into view. If you have a mouse with a wheel on it, you can roll the mouse wheel to scroll the record. Use the mouse wheel on its own for vertical scrolling, or hold down the Shift key as you roll the wheel in order to scroll horizontally.

Scrolling large fields

Because Cardbox doesn't impose built-in limits on the amount of text you can put into a field, you can sometimes end up typing more text into a field than the field is able to display. If this happens to you, you can scroll different parts of the field into view by moving the mouse onto it and using the mouse wheel, on its own for vertical scrolling or with the Shift key for horizontal scrolling.

If you don't have a mouse with a wheel, you can move the mouse onto the field, depress the left mouse button, and drag in the direction of the text you want to see.

For more about extra text, see pages 26 (concepts) and 204 (format design).



View > Extra Text
F6



View > Split Window
Shift + F6

For more about opening multiple database windows, see page 46.

Viewing Extra Text

The Extra Text field is a piece of text that you can optionally attach to each record in your database: it resembles the Memo field that some other database programs provide. Cardbox can show you the Extra Text field on its own or together with the record it's attached to.

Viewing extra text on its own

Use this command to display extra text; use it again to return to your normal record display.

Viewing extra text together with a record

Use this command to display the current record together with its extra text. A horizontal bar will separate the two components, and you can use the mouse to drag this upwards if you want to see more of the extra text or downwards if you want to see more of the main record.

If you would like to start in this mode as soon as you open a format, turn on "Format display starts with extra text visible" in the format properties: see page 204.

A note for users of older versions of Cardbox

Since Extra Text was first invented, the keystroke for it has always been F3. Over time, however, F3 has become widely accepted in PC software as "Find" or "Find Next", and so with Cardbox 3.0 we have decided to follow the same convention. We have moved Extra Text to F6 because that is the generally accepted key for "switch to the next pane in a multi-pane display". We apologize for the confusion to your fingers that this will cause at first, but we believe that in this case consistency is more important than tradition.

Opening a new window onto your database

Sometimes you may want to see the same database in two different windows: to do two different searches, or to edit in one window and search in the other. To open a new window onto your database, use Window > New Window.

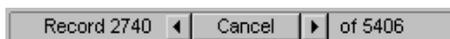
Switching from one database window to another

If you have more than one database open in your Cardbox workspace, you can use Ctrl + F6 to switch from one database window to the next. To move through your database windows, hold down the Ctrl key, press F6 until you get to the window you want, then release Ctrl. Alternatively, use the Window menu, which lists your database windows by name, or use the command Window > Windows.

Step browsing

Step browsing is a specialised technique. It is like a cross between searching and browsing.

Step browsing begins like a search: you choose what to search on (the index, the record data, tagged records, etc) and Cardbox finds the matching records. But once it's found the records, Cardbox doesn't change your current selection. Instead, you are left in your original selection and you can browse it much as you'd expect, except that **you are only allowed to land on records that match the search**. (The best mental image we've found is of lily leaves on a pond: a frog crossing the pond can only jump to where there is a leaf). To remind you of the fact that you're browsing differently, the browse bar looks a little different:



To get out of the step browse mode, click on the Cancel button or press the Esc key.

The point of step browsing is to be able to look at selected records in the context of their neighbours. Some people really need this; most people don't. So if you can't see a use for step browsing, don't bother to think about it.

Using the browse bar

To start a step browse using the browse bar, right-click on the record number and a menu will pop up, giving you a choice of search types to use for the step browse. Once you've chosen the search type, the appropriate search command will open: see "What you can search for" (p.76) for more details.

Using the Browse menu

The Browse menu is a submenu of the Search menu. Open it with the mouse, or with Alt + S followed by B, or even with Alt + B. If you're likely to be using the Browse menu a lot, you can promote it to the main menu bar, just to the right of the Search menu. To do this, use the command **Browse > Promote Menu**.

Browse > Step to Tagged Records starts a step browse that lands only on tagged records.

Browse > Step to Specific Records starts a step browse that lands on records that match an index search. When you use this command, an index search window will open so that you can specify the index search: see "Searching the Index" (p.80) for more details.

Browsing and viewing images

To store images you need to create an image field: see “Format Design”, page 189.

For Cardbox, an image is anything visual – a photograph, drawing, scanned document, or fax. Images are stored in a special field, the “image field”, which you design as part of your format. You can have only one image field, but that field can contain as many images as you like.

Viewing images

When you look at a record that has an image field in it, that field will show you the image that you’ve stored in the record. If you have stored several images in a record, Cardbox starts by showing you the first one.

If the image field on the screen is smaller than the image, Cardbox shrinks the image to fit inside the field. With photographs, you can often design the format so that the field is big enough for the photograph to be decently visible. Scanned documents, on the other hand, are better viewed on their own in the image window rather than as part of a record, because a miniaturised document is too small to read.

Multiple images and the image browse bar



Towards the middle of the status bar at the bottom of the Cardbox window, you’ll see what looks like an ordinary Cardbox browse bar, except that it’s shorter and the corrugations are a different shape. This is the image browse bar. It tells you which image you’re looking at and how many images there are in the current record. You can drag the slider or click on the arrows to move forward and back through the images.

Using the keyboard to browse through images

Alt + Right arrow	Next image.
Alt + Down arrow	
Alt + Left arrow	Previous image.
Alt + Up arrow	
Alt + Home	First image.
Alt + End	Last image.

The image window

The image window displays an image so that it occupies practically the whole screen. For a normal-sized document, this makes it big enough for you to read the document without having to print it out. The image window lets you zoom in or out and browse through images.

Opening the image window



View > Images
F12

View > Images opens the image window. Alternatively, you can right-click on the image field and select “Full Screen” from the pop-up menu.

Closing the image window

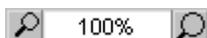
The same toolbar button that opens the image window will close it and return you to your record display. You can also press F12, or you can right-click anywhere within the image window and select “Full Screen” from the pop-up menu.

Browse bars in the image window

This difference is because you're more interested in images when the image window is open and so it makes more sense not to require Alt for image browsing.

At the bottom of the image window you'll see the usual browse bars for browsing between images and records. They work just as usual, but if you are in the habit of using the keyboard for browsing, you'll find that the use of the Alt key is reversed.

- To browse through images, press the appropriate arrow key without holding down Alt.
- To browse through records, hold down Alt when you press the appropriate arrow key.



Zooming in and out

The zoom control is at the bottom of the image window.



To zoom in: click on the large magnifying glass, or hold down the Ctrl key and press + (plus) on the numeric keypad.



To zoom out: click on the small magnifying glass, or hold down the Ctrl key and press - (minus) on the numeric keypad.

If you have a mouse with a wheel, you can use the wheel for zooming: hold down the Ctrl key and roll the wheel away from you to zoom out or towards you to zoom in.

The zoom menu

For more detailed control of zooming, open the Zoom menu by clicking on the white area between the magnifying glass symbols.

Pixel Count and Image Size

There are two ways for Cardbox to measure the amount by which an image is being zoomed. In the Pixel Count mode, a zoom factor of 100% means that Cardbox displays one pixel on the screen for every pixel in the image. In the Image Size mode, a zoom factor of 100% means that Cardbox makes one inch of the image take up one “screen inch” on the screen. The size of a “screen inch” is something that has been decided by the manufacturer of your computer screen: a common convention is to have 96 pixels per screen inch, which usually makes a screen inch rather more than 2.54 centimetres in size.

● Image Size
Pixel Count

The reason why these two zoom modes are different is that not every image is created with the same resolution as your screen: it all depends where the image has come from (scanner, camera, fax) and how it has been processed. If you display a 200 dots per inch fax image at 100% in Pixel Count mode, it will be twice the size of the original document and you will have to zoom out to 50% (or switch to Image Size mode). On the other hand, the software inside some digital cameras make bizarre statements about the resolution of the photographs, and if this happens then Pixel Count ends up being the most sensible choice. Try playing with the various combinations and see what suits you and your images best.

50%
75%
✓ 100%
150%
200%
Custom...

Choosing zoom factors

You can pick your zoom factor from the list that pops up in the zoom menu, or you can select “Custom” to type your own. The available zoom factors depend on the capabilities of your display drivers and the version of Windows you are using, but a typical range is from 20% (÷5) to 1200% (×12).

Fit Width will make the image as wide as possible while still fitting inside the width of the window: the result may be an image that is too tall for the window and needs to be scrolled vertically.

Fit Height will make the image as tall as possible while still fitting inside the height of the window: the result may be an image that is too wide for the window and needs to be scrolled sideways.

Fit In Window will make the image as big as possible while still fitting entirely within the window, with no scrolling.

Fit Width
Fit Height
Fit In Window

Scrolling

When you are viewing an image that is larger than the available space, you'll see scroll bars next to it. You can use the scroll bars to scroll a large image, or you can simply place the mouse inside the image, hold down the left mouse button, and drag the image in the direction you want.

If you have a mouse with a wheel, you can use the wheel to scroll vertically. To scroll horizontally, hold down the Shift key while you are using the wheel.

Thumbnail display

On the left-hand side, the image window can display miniature “thumbnail” versions of your images. You can use these to decide which image you want to look at, if you have several images attached to a record. Thumbnails are more useful for photographs than for scanned documents, because at thumbnail size all documents look much the same.

You can turn thumbnail display on and off by clicking on the  button at the bottom of the image window, or by pressing the F4 key, or by right-clicking anywhere in the image window and selecting “Thumbnails” from the pop-up menu. Right-clicking also lets you decide the size of thumbnail you want to see: small, medium, or large.

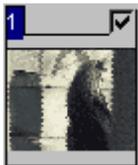
For some purposes (such as printing) you may want to select specific images. To select or deselect an image, hold down the Ctrl key and click on the thumbnail, or (without using Ctrl) click on the top right-hand corner of the thumbnail. A tick will show you which images you have selected.

More information

Printing images – page 81.

Exporting images – page 129.

Adding images – page 160.



Searching the database

The basic search commands



Select

Select looks in the current selection.

It creates a new selection, retaining only the records that match your Select command.

This is the commonest search command in Cardbox.



Exclude

Exclude looks in the current selection.

It creates a new selection, leaving out any records that match your Exclude command.

Exclude is the opposite of Select. Instead of telling Cardbox which records you want, you tell it which records you don't want.

Once you've entered one of these search commands and got the records you want, you can do whatever you like with them: look through them, or edit them, or print them, or pass them to another program.

Before you start a simple search, always make sure that the status bar says "Level 0", which means that Cardbox is showing you every record in the database. (Another way of putting this is to say that the current selection contains all records). If you don't do this, your search commands will go towards refining or revising the last search that you did.

To get to Level 0, do **Search > Clear All Selections**, or hold down the Ctrl key and press the Undo button on the toolbar:



Building up searches: levels of selection

When you do a simple search, you'll see the status bar change from "Level 0" to "Level 1". This reminds you that you're looking at the results of a search command and not at the whole database.

What happens if you do a second Select command without undoing the first one? Cardbox looks at the current selection (Level 1), picks out the records that match your new Select command, and creates a new selection out of them. In other words these two Select commands have combined, and the records you're left with (at Level 2) are just those that match **both** the Select commands.

If you are used to Boolean logic, Select is AND, and Exclude is AND NOT.

Commands that expand the current selection

Include

Include starts with the current selection.

It creates a new selection from it, by adding to it **every record in the database** that matches the Include command.

Select Also

Select Also starts with the current selection.

It creates a new selection from it, by adding to it **every record from the previous selection** that matches the Select Also command.

Select Also seems to do the same sort of job as Include, so why did we put it in? Here's an example that will help to show why.

Imagine that you run a pet shop and you want to make a list of girls in London aged between 8 and 12 who keep rats or snakes as pets. The first few steps are easy. Start at Level 0, select the sex to get to Level 1, select the age to get to Level 2, select the location to get to Level 3. Select RAT, and you're at Level 4. You might be tempted to include SNAKE at this point, but if you did, you'd get absolutely everyone who kept snakes, even 40-year-old Scotsmen. But if you use Select Also, it'll look back at your Level 3 selection (girls between 8 and 12 in London), find SNAKE among those, and add them to the Level 4 selection you've already got (RAT), which gives you exactly what you wanted.

In this simple example, you could have got away without using either Include or Select Also, because Cardbox lets you search for both RAT and SNAKE in one single command; but in more complicated cases, where you really do need those commands, this example helps to explain the difference between them.

Undoing search commands

Undo One Level

Undo goes back one level of selection: from Level 3 to Level 2, or from Level 1 to Level 0. For basic search commands, this is similar to undoing the last command.

Clear All Selections

Clear undoes all selections at once and gets you back to Level 0, where all the records in your database are visible and ready to be searched. You can also use the toolbar to do this, by holding down the Ctrl key as you click on the Undo button.

In terms of Boolean logic, Include and Select Also both function as OR.



Search > Undo

Search > Clear

Seeing where you are



Search > History

History of Selections

When you're building up a really complex search, it's possible to get a little lost. The History command shows you all the search commands that got you where you are now. You can print the list as an audit trail, or copy it to the Clipboard. If you want, you can even make the history pop up automatically every time you do a search.

Highlight Matches

View > Highlight Matches

This command is part of the View menu, and it represents a mode that you can turn on and off. When you turn "Highlight Matches" on and then enter a search command that looks for a word, Cardbox will highlight the word in your record display. This can be helpful if you've got a field with a lot of text in it and you want to see the word in its proper context.

One more command...

Exclude Also

Exclude Also is almost identical to Exclude. The only difference is that it modifies the result of the last Exclude command instead of creating a new level of selection. It's unlikely that you'll ever want to use this command: we've included it only for completeness.

What you can search for

Searching the index (p.80)

The index is what makes Cardbox searches so fast, so searching the index is the best and most usual way of searching your database.

Single words (p.82)	LONDON																																	
Wildcards (p.82)	SM?TH*																																	
Ranges (p.82)	E : K																																	
Single numbers and dates (p.83)	3 / 8 / 1923																																	
Ranges (p.83)	12 . 5 : 15																																	
Phrases (p.83)	"RED DOG"																																	
Lists (p.84)	1370441 1373910 1329990																																	
Boolean combinations (p.85)	HISTORICAL +RESEARCH -INSTITUTE																																	
Preview lists (p.85)	<table border="1"> <tr><td>ALBANIA</td><td>CHANNEL ISLANDS</td><td>FRA</td></tr> <tr><td>ANTILLES</td><td>CHILE</td><td>GER</td></tr> <tr><td>ARGENTINA</td><td>CHINA</td><td>GH#</td></tr> <tr><td>ARUBA</td><td>COLOMBIA</td><td>GIBF</td></tr> <tr><td>AUSTRALIA</td><td>CROATIA</td><td>GRE</td></tr> <tr><td>AUSTRIA</td><td>CYPRUS</td><td>HAIH</td></tr> <tr><td>BAKU</td><td>CZECH REPUBLIC</td><td>HOM</td></tr> <tr><td>BARBADOS</td><td>DENMARK</td><td>HUN</td></tr> <tr><td>BELARUS</td><td>ECUADOR</td><td>INDI</td></tr> <tr><td>BELGIUM</td><td>EGYPT</td><td>INDC</td></tr> <tr><td>BENIN</td><td>EL SALVADOR</td><td>IREL</td></tr> </table>	ALBANIA	CHANNEL ISLANDS	FRA	ANTILLES	CHILE	GER	ARGENTINA	CHINA	GH#	ARUBA	COLOMBIA	GIBF	AUSTRALIA	CROATIA	GRE	AUSTRIA	CYPRUS	HAIH	BAKU	CZECH REPUBLIC	HOM	BARBADOS	DENMARK	HUN	BELARUS	ECUADOR	INDI	BELGIUM	EGYPT	INDC	BENIN	EL SALVADOR	IREL
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Searching through record data (p.90)

Sometimes you do need to search through unindexed text, either because you forgot to index something or because it wasn't worth indexing a field because searches in it are so rare. Data searches are slower, but they're still quite fast.

Tags and tagged searches (p.93)

As you look through your records, you can mark or “tag” particular ones. The tagged search commands then let you select or exclude the tagged records. This feature is unique to Cardbox, and it’s invaluable for fine-tuning a selection by hand.

Keeping and combining selections (p.97)

When you have made a selection, you can save it for later use. You may never need this feature, but it can be good when you want to combine different selections together or even if you want other people to review a selection you have made.

Advanced search commands

You can also search on record numbers, “Select the 10th to 20th records of the current selection” (p.99) and you can combine selections from different windows (p.100) as long as they’re windows onto the same database.

Relational linking

This is a feature of the Professional Edition only.

Relational searching is different from ordinary index searches in two ways.

Getting the search text

In an ordinary index search, you tell Cardbox which field to search and you also tell it what text to look for.

In a relational search, you don't specify the search text directly, but you tell Cardbox where to get the search text for itself: it will look in a window that you specify, and in a particular field within the current record in that window. As you can see in the illustration above, you can tell Cardbox in detail how to extract search terms from your chosen field.

Relational links

Once you've made a relational search, it remains "live". Using the sample search in the illustration: if you switch to the window called "Sledger" and move to a different record, the contents of the field `IN` will be different. So Cardbox will redo the relational search in "Winser" using search terms extracted from the new contents of that field.

This effectively creates a link between the two windows, which lasts until you explicitly cancel the search using **Search > Undo**.

If you were editing a record in "Sledger", then much the same thing would happen: any changes you made to `IN` would make the search different and Cardbox would redo the search in "Winser" each time. It would be very inefficient to do this every time you pressed a key, so in this case you have to use **Window > Update** to tell Cardbox to redo the relational search.

Window > Update
F9

You can have more than one relational search active at the same time. For example, suppose that you have one database of houses and another of people looking for somewhere to live. You could make several searches in the Houses database, using relational links to different fields in the People database. If you had both databases on the screen at the same time then you could watch the selected Houses records change as you moved from one People record to the next; and you could edit a People record and make changes to it to see what Houses records were found as you changed the search criteria.

For more about relational linking, including some suggested applications, see Help Point 500.

Searching the index

Because index searching is the commonest kind of search in Cardbox, there are many ways to start an index search. You can make an index search look at just one field, or at all fields.

Starting a search

Right-click = Select

Move the mouse onto a field, click the right-hand mouse button, and you'll start a Select command for just that field. Or an advanced move: right-click when you're on the record but not on any field, and you'll start a Select command for all fields at once.



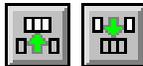
Right-click-and-hold = menu

Move the mouse onto a field, press the right-hand mouse button, but don't release it for a few moments. A menu will pop up. Choose the command you want, and it'll open with the field already chosen for you.

The Search menu

Open the search menu (either with the mouse or with Alt+S) and pick the search command you want. Once the search command has opened you'll need to tell Cardbox which field to search, unless you want to search all fields.

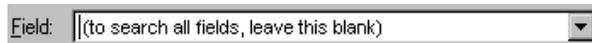
The toolbar



Select and Exclude are the commonest commands, so they have toolbar buttons of their own.

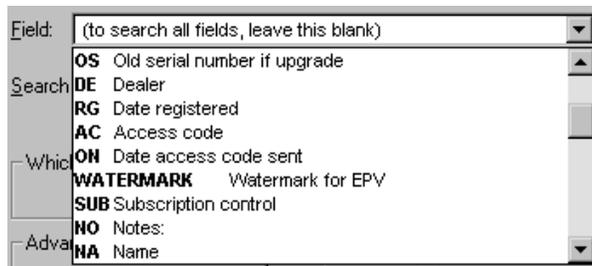
Choosing a field to search

If you used a right-click to start a search command, Cardbox noticed where you clicked and so you can skip this section (unless you change your mind about which field to search).



You can type the name of the field you want, or you can leave the Field control untouched if you want to search all fields.

You can open the drop-down list by clicking on the arrow, and pick the field you want from the list:



Next to the box with the field name you'll see a hook. If you click on this, the search box will disappear temporarily and you'll be back looking at your records again. The cursor will have changed into a hook. Click on the field you want to search, and Cardbox will bring back the search box with the name of the field filled in.

Things you can search for

Single words

To search for a single word, type it into the “Search For” box and press OK. There is nothing else to say about this, except that it’s the commonest search you’ll use.

Wildcards

When you type a word into “Search For”, there are two special characters you can use as wildcards:

? matches exactly one character.

* matches any number of characters.

This can be useful if you want to capture a number of different spellings, or if you aren’t sure if a term was being used in the singular or the plural (HOUSE versus HOUSES) or even if you’re lazy and don’t want to type the whole of a long and complicated word.

You can use any number of question marks and asterisks, and also combine them: so, for instance, `SM?TH*` will match SMYTHSON as well as SMITH.

The question mark ? represents one character, and there must be a character there to match it, so `MODE?` will match MODEM and MODES but not MODE.

The asterisk * represents zero or more characters. If it is entered as the only search character, it will match any word at all. For example, you can find records in which no alphabetic text has been indexed (in a particular field) by using the Exclude command with * in the “Search For” box.

Ranges of words

You can put two words separated by a colon into the “Search For” box:

- `E : K` finds all indexed words beginning with a letter from “E” to “K” inclusive.
- `: COB` finds all words from the beginning of the index to the last word that starts with “COB”.
- `XE :` finds all words from the first indexed word that starts with “XE” to the last word in the index.
- `:` finds all indexed words as long as you’ve got the “Which Index” option set to “Words”. If you don’t, Cardbox will assume that you want a numeric search. If you really want to find all indexed words, you’ll find it easier to use the asterisk * instead.

If you’re not sure what words your wildcard will match, press the Preview button and Cardbox will show you a list.

Single numbers and dates

To search for a single number or date, type it into the “Search For” box and press OK. For details of the date formats that Cardbox understands, see “Date formats and Cardbox”, p.37.

Ranges of numbers and dates

You can put two numbers (or dates) separated by a colon into the “Search For” box:

17:32	finds any indexed number between 17 and 32, inclusive.
14.6:	finds any indexed number greater than or equal to 14.6.
:30000	finds any indexed number less than or equal to 30000.
:	finds all indexed numbers.

Phrases

If you put a series of terms (words, numbers, or dates) in quotation marks, Cardbox will search for records that contain those terms adjacent to each other and in exactly that order. It will only look at things that are indexed: unindexed text will be ignored.

"RED DOG" will match BIG RED DOG but not RED BIG DOG.

You can also search for words that are in a particular order but may have other words separating them, by using special search words.

... (three dots) will match any number of words. So "RED ... DOG" will match RED DOG, RED BIG DOG and RED BIG FIERCE DOG.

* (asterisk) will match exactly one word. So "RED * DOG" will match RED BIG DOG and RED LITTLE DOG but not RED DOG or RED BIG FIERCE DOG.

For details, see
Help Point 510.

There are more sophisticated options as well: for instance, you can search for two words that are not more than a certain distance apart.

Lists

You can type several terms (words, numbers, or dates) into the “Search For” box, separated by spaces. What happens depends on the setting of the “Match All” option.

Search for: 1 2 3 5 7
 Match all

With “Match All” turned off, Cardbox will find records that contain any of the terms you have typed: in Boolean terms, this means OR.

With “Match All” turned on, Cardbox will find only those records that contain all the terms you have typed: in Boolean terms, this means AND.

By default, Cardbox leaves “Match All” turned off when you start a search, so that you have to turn it on manually. You can change this default using **Tools > Options » Search**. We strongly recommend that you choose your favourite default setting early on in your use of Cardbox and then never change it, because there is nothing more frustrating than typing a lot of terms into the “Search For” box, pressing OK, and then realising that “Match All” was off when it should have been on, or on when it should have been off.

Some more examples:

Search for: 28056:28060 50614 50603 28045:28047 28052 28050
 Match all

This is what we do when someone comes back from paying in cheques at the bank. We open our Sales Ledger database, right-click on the Invoice Number field, and type a command like this one to find all the invoices whose cheques have just been paid in. You can see that the “Search For” box accepts ranges as well as single values.

Search for: S* V* R*
 Match all

This is something we use when we need to find a user’s record but have nothing more than an abbreviated company name to go on. It’ll find any record where the field contains a word beginning with S, a word beginning with V, and a word beginning with R, not necessarily in that order.

Boolean combinations

You can have more elaborate combinations of search terms than just “any” (OR) or “all” (AND), by using a few extra symbols:

A plus sign + in front of a term means that that term must occur in any record that Cardbox finds: a Boolean AND.

A minus sign - in front of a term means that that term must not occur in any record that Cardbox finds: a Boolean AND NOT. [If you put this in front of a number, leave a space between the minus sign and the number, or Cardbox will think that you’re simply talking about a negative number].

Parentheses () round a group of terms means that at least one of those terms must occur in any record that Cardbox finds: a Boolean OR.

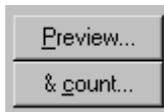
You can combine these symbols in more or less any way you like. For example, (HISTORY HISTORI*) +(INSTITUTE SOCIETY) would find records that had INSTITUTE or SOCIETY in them as long as they also had HISTORY, HISTORIAN, HISTORICAL, etc.

Help Point 532 gives many more details of how these symbols work alone and in combination, but don’t worry if you find them obscure or complicated: there is no obligation to use them. You may not be doing this sort of complex search anyway; and even if you are, you can always build up your search step by step, using Select, Include, and Exclude, if you find that clearer.

Preview lists

On the right-hand side of the Search command windows you’ll find two buttons, Preview and Preview-and-Count. They almost do a search, but not quite. Instead of finding records that match your command, the Preview buttons look through the index and find the index terms that match, and they present you with a list of them. Here are some possible uses:

- If you’ve put a particularly elaborate wildcard into the “Search For” box, you can use Preview to work out if it’ll match anything in the index; and if it does, whether it is finding what you want it to find.
- If you’re not very familiar with the database you’re using, and you aren’t sure what values a field can contain, you can leave “Search For” blank, press Preview, and get a list of the indexed terms in that field. Remember to set “Which Index” to “Words” or “Numbers/Dates” first, because Cardbox can’t guess which index to search if you haven’t typed anything into “Search For” that would give it a clue!



For a guide to selecting multiple items from a list, see "Multiple Selections in List Boxes" (p.45).

- If you want to search for only some of the words in the list, use Preview to bring up a list of index terms and then click on the ones you want to use in your search, to highlight them.
- When you've highlighted all the terms you want, press OK and Cardbox will find the matching records. This is especially useful if you are looking for misspelt or inappropriate index terms.
- If you want to process the list of index terms or pass it on to another program, use Preview: next to the list of terms you'll find buttons for copying the list to the Clipboard or saving it to a file.

Left: a Preview list.
Right: Preview-and-Count.

ALBANIA	CHANNEL ISLANDS	FRA	AUSTRALIA,18	MALTA,1
ANTILLES	CHILE	GER	BELGIUM,46	MEXICO,1
ARGENTINA	CHINA	GH#	CANADA,10	NEPAL,1
ARUBA	COLOMBIA	GIEF	CHANNEL ISLANDS,8	NETHERLANDS,20
AUSTRALIA	CROATIA	GRE	CHILE,2	NORWAY,19
AUSTRIA	CYPRUS	HAIT	CHINA,1	PERU,1
BAKU	CZECH REPUBLIC	HON	DENMARK,3	PHILIPPINES,1
BARBADOS	DENMARK	HUN	FALKLAND ISLANDS,2	PORTUGAL,2
BELARUS	ECUADOR	INDI	FRANCE,5	SAUDI ARABIA,1
BELGIUM	EGYPT	INDC	GERMANY,3	SOUTH AFRICA,1
BENIN	EL SALVADOR	IREL	GIBRALTAR,3	SPAIN,1

Preview and Preview-and-Count are very similar. Preview is simple-minded: it just searches the database index and reports every index term that matches your "Search For" request (or all index terms, if you have left "Search For" blank). Preview-and-Count is more sophisticated: for each index term it finds in the index, it checks to see if any records in the current selection match that term. If nothing in your current selection matches the term, Preview-and-Count ignores it altogether; otherwise it reports the term to you and also tells you how many records matched it. Because of the extra work it does, Preview-and-Count is often slower; but it gives you more focused information. It is particularly useful when you are looking at a field that someone else designed, because you can see at a glance which terms appear often and which appear rarely.

Specialised options for index search

Fuzzy matching

Sometimes you're not sure of the spelling of a word that you're looking for: this is especially true of names, but it also applies to words that are spelt differently in different countries. One option is to use wildcards, but they aren't always the best idea because they're often too powerful. `COLO*R` will find `COLOR` and `COLOUR` but it will also find `COLONISER`. And is it `STREATFIELD` or `STREATFEILD`? Finding a wildcard that matches both of them is a tedious effort. In cases like this, fuzzy matching is the solution.

In fuzzy matching, Cardbox finds index terms that **almost** match what you put in the "Search For" box. Effectively, it plays the sort of game that children play when they try to transform one word into another, one step at a time. It keeps the score like this:

Action	Score
Remove a letter	1
Insert a letter	1
Replace a letter by another one	1

What you put into the "Fuzzy Match" box is the maximum score that you are prepared to allow: in other words, the maximum difference between the word that Cardbox finds in its index and the word that you specified in "Search For".

There is one extra refinement: often you're certain of the first few letters in a word and it's later that doubt sets in. You can save Cardbox some work by telling it that the first few letters aren't fuzzy and must be matched exactly: that way it won't have to look through so much of the index. For example, if you put `3+2` in the "Fuzzy Match" box, you are telling Cardbox that the first three letters must match exactly and the rest of the word is allowed a fuzziness of 2.

Here, to continue the game, is a set of words that are only 2 steps apart in a fuzzy match:

Search string	Matching string	Changes that make the strings match
SMITH	SMYTHE	1. Replace I by Y. 2. Add E.
JONES	JOHNS	1. Insert H. 2. Remove E.
WATSON	WATERSON	1. Insert E. 2. Insert R.
HILLINGS	SHILLING	1. Remove S. 2. Insert S.

- Fuzzy matching doesn't work with wildcards or ranges or phrases.
- If you're in any doubt about what a fuzzy match will find, use the Preview button to get a list of matching terms.
- Fuzziness makes quite big differences very quickly, especially if the words are short. A search with a fuzziness of more than 5 is likely to be so fuzzy that it is meaningless.

Find Unique Terms Only

If you turn this option on,

- Cardbox goes through the index, according to the "Search For" specification.
- For each index term it finds, it counts how many records in your selection match that term.
- If more than one record matches the term, Cardbox ignores it and goes on to the next index term.

Find Unique Terms is a very specialised option. The only real use we know for it is to use it with Exclude to identify index terms that occur more than once in a selection, which can be useful if you have a field that is meant to contain something distinctive like a serial number. For more details, see Help Point 565.

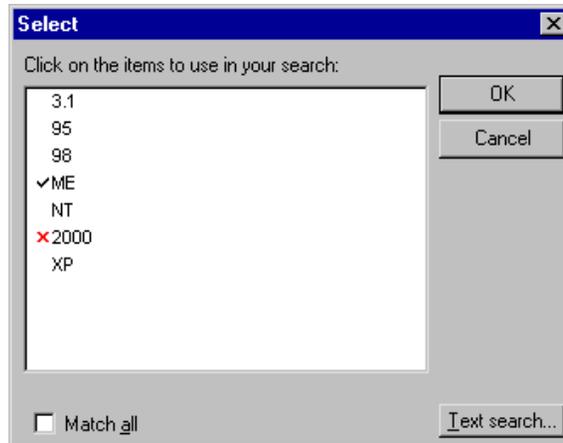
Searching check box fields

For more information, see “Alternate Field Views” on page 32.

So far, we’ve been talking about searching fields that are displaying text, because they are the commonest kind of field; but it’s also possible to set up your format so that fields are displayed as check boxes, radio buttons, or drop-down lists.

System: 3.1 95 98 ME NT 2000 XP

If you right-click on this sort of field, Cardbox will list all the possible values in the field:



Click on the item or items you want to search for. Clicking once produces a tick ✓, meaning that you want records containing this item; if you click again, you’ll get a cross ✗, meaning that you want records that don’t contain this item; if you click once more, you’ll get nothing at all, meaning that Cardbox won’t consider this item at all. When you’ve chosen what you want to search for, press OK and Cardbox will do the search.

If you prefer to use the standard Search command window, just as you would for a field that was displayed as text, press the Text Search button.

The Match All option appears only when you’re searching a field that is displayed as check boxes. It makes a difference if you have clicked on more than one search item. Effectively, it changes the search from a Boolean OR to a Boolean AND: for a full explanation, see Help Point 586.

Searching through record data

In most databases there are fields that you'll never want to search... and then some time later it turns out that "never" really means "very rarely, once in a blue moon". For us, telephone numbers are like that: it would be pointless to index every telephone number, but occasionally someone leaves us a really garbled voicemail message and the only thing we can understand from it is part of the phone number. This is where a data search comes in useful. Data searches are inherently slower than index searches but often the difference isn't always that noticeable: you can expect a data search of a few hundred records to take a fraction of a second.

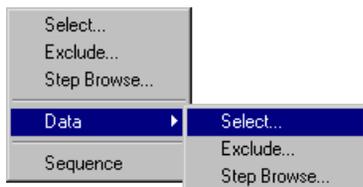
Starting a search

Right-click = Select

If a field is defined as "Index=None", so that Cardbox knows that it can't contain any indexed words at all, you can just move the mouse onto a field and click the right-hand mouse button, and you'll find yourself in a Data Select command for just that field.

Right-click-and-hold = menu

Move the mouse onto a field, press the right-hand mouse button, but don't release it for a few moments. A menu will pop up. If it has a Data submenu, open it and choose one of the commands inside it. If it hasn't got a Data submenu, this means that the field isn't indexed and so Cardbox is going to give you a Data search anyway.



The Data menu

The Data menu is a submenu of the Search menu. Open it with the mouse, or with Alt+S followed by D, or even with Alt+D, and pick the search command you want. Once the search command has opened you'll need to tell Cardbox which field to search, unless you want to search all fields.

If you're likely to be using the Data menu a lot, you can promote it to the main menu bar, just to the right of the Search menu. To do this, use the command **Data > Promote Menu**.

Chosen the wrong search?

If you start an Index search and then realise you want a Data one, there's no need to cancel: just press the Data Search button at the bottom of the Index search box.

Choosing a field

The ways you can choose a field to search are the same for data searches as for index searches (see page 81). There's just one refinement: when you leave the "Field" list blank, telling Cardbox to search all fields, you can decide whether to include the Extra Text field in the search or not:

Don't search extra text

Entering the search text and using wildcards

In the "Search For" box, type the text that you want Cardbox to look for. If you want, you can use the following wildcard characters:

The question mark ? matches exactly one character.

The asterisk * matches any number of characters.

The space matches one or more spaces.

You can use any number of these characters, and also combine them: so, for instance, `SM?TH*` will match `SMYTHSON` as well as `SMITH`.

Search options

Match Entire Field as One Unit

If this option is turned on, Cardbox will look at the field as one indivisible thing, so that your search specification has to match the whole field: for example, searching for `THE` would find records where the field contained "THE" and nothing else, and searching for `THE*` would find records where the entire field started with the three letters T, H, E. When "Match Entire Field as One Unit" is turned on, the asterisk is a wildcard that matches any character at all, even a space.

If this option is turned off, Cardbox will match parts of the field (words or groups of words) as well as the field as a whole: for example, searching for `THE` would find records where the field contained the word "THE" somewhere within it but contained other words too, and searching for `THE*` would find records where the field contained at least one word starting with T, H, E.

When "Match Entire Field as One Unit" is turned off, the asterisk matches any character **except** a space. This is to maintain the concept of searching for words within a field. If you search for `B*G` then you want to find fields containing the words `BIG` and `BORING`, but you don't, as a rule, want to confuse matters by being given `THE BUS WAS GOING FAST` as well, just because one word started with B and a later one finished in the same field happened to finish with G.

Match Punctuation

If this is turned off, Cardbox ignores punctuation marks when matching your search text against a record. If it's turned on, Cardbox treats punctuation marks just like any other letter.

Match Case

If this is turned off, Cardbox ignores the case of letters when matching, so that `LTD` will match "Ltd". If it's turned on, there won't be a match because some of the letters are in a different case.

Match Accents

If this is turned off, Cardbox ignores accents when matching, so that `PECHE` will match "pêche" and "péché". If it's turned on, there won't be a match because the accents are different.

An unexpected use of Data search

Sometimes someone writes to us, quoting a non-existent Cardbox serial number. Probably they've transposed two digits.

Fuzzy matching isn't very useful because it would change digits as well as reshuffle them, and anyway it works only on words and not numbers.

So if the user has said something like 2170031, we successively do Data searches on `*2*`, `*1*`, `*7*`, `*0*`, and `*3*`. The result is a collection of serial numbers that contain just those digits, and with any luck there won't be more than a handful of them and we can look through and find the likeliest one.

Changing your mind about indexing

If you find yourself using Data search frequently in a field only because you hadn't originally marked the field as indexed, you should consider editing the native format and changing the indexing mode: see page 190. Help Point 541 tells you about re-indexing existing records after you have changed the indexing mode.

Tags and tagged searches

Tags are so simple that it's hard to explain them. They're also so useful that we find it hard to understand why every database program doesn't have them; but so far Cardbox is the only one. If you do any database searching at all, it's worth reading this section to see if tags will make your life easier.

Let's start with a definition:

A tag is a temporary mark that you can make on the record you're looking at. Tags don't alter the content of a record, they don't change how the record looks when it's printed, and if you're on a network, other users of the database won't be able to see your tags.



Tag > Tag Record
TAB

Tagging is easy. To tag or untag a record, move onto it and press the Tab key; or just hold down the Ctrl key and click on the record.

So what are tags for?

Just as you can search on indexed words, so you can search on tags.

And that's it. The point of tags is that they form a quick and informal way of fine-tuning your searches or of putting complex searches together. Here are a few examples.

ID: Ps40	Code: MJK
ID: Ps40:2-5,13-14	Code: Che
ID: Ps41	Code: MJK
ID: Ps41:2-3,42:3-4	Code: Che
ID: Ps41:2-3,5	Code: Che
ID: Ps41:2-3,5,42:3-4	Code: MJK
ID: Ps42:1-4	Code: Che
ID: Ps42:1-5	Code: MJK
ID: Ps43:10-11,14-15,2	Code: Che
ID: Ps43:10-17	Code: MJK
ID: Ps43:18-26	Code: MJK
ID: Ps43:2-9	Code: MJK
ID: Ps44	Code: MJK
ID: Ps44:10-12,16	Code: Che

Fine-tuning a search

You've been searching a library database and your search has come up with a dozen records that match the criteria you entered. You want to print out the books you want, but you can see just from glancing at the list that you only really want details of four of them.

1. Tag the records you want.
2. Use Tag > Select to select them.

(Without tags, you would have had to invent elaborate manual searches that found just the four records you wanted and left out all the others, which is ridiculous when you can see at a glance what you want).

Excluding specific records

Let's suppose that you're preparing a big mailing and you've selected the records of the people you want to write to. But you've talked to one or two of them recently, and you don't want to send the usual standard letter to them because you want to write to them personally.

1. If you want mailing labels as well as standard letters, print out the mailing labels.
2. Tag the records of the people who should have personal letters.
3. Use **Tag > Exclude** to exclude them from the selection.
4. Print out standard letters for everyone in the new selection.
5. Use your favourite word processor to write those personal letters.

(Without tags, you'd have had to design an extra field in your database saying "needs a personal letter" or "has been talked to recently", which means more complication and more bureaucracy).

A shopping basket

You're back in the library again. This time you want to print a single list of all the journal articles you're looking for, in alphabetical order for easy reference; but the snag is that each article needs a search of its own, and you've got half a dozen different articles to search for.

1. Use **Tag > Clear** to make sure nothing is tagged.
2. Search for the first article, and when you've found it, tag it. Use **Search > Clear** to go back to Level 0 for the next search.
3. Search for the second article, and when you've found it, tag it. Use **Search > Clear...**
4. If one of your searches gets you several articles and you want to include them all, you don't have to wear yourself out hitting the Tab key: use **Tag > Tag Rest of Selection** instead
5. When you've tagged everything you need, use **Tag > Select** to select all the records you've tagged.
6. If you realise you've included some records you didn't want in the end, untag them and then use **Tag > Select** again so that you only keep the records that still have tags.
7. Sort the selection into sequence and print it out.

The details

The Tag menu

The Tag menu is a submenu of the Search menu. Open it with the mouse, or with Alt + S followed by T, or even with Alt + T. If you're likely to be using the Tag menu a lot, you can promote it to the main menu bar, just to the right of the Search menu. To do this, use the command Tag > Promote Menu.



Tag > Tag Record
TAB

Tagging records

Tag > Tag/Untag Record tags the current record if it isn't already tagged. You can also do this by holding down the Ctrl key and clicking on the record.

Tag > Tag Rest of Selection tags the current record and all the records that follow it in the current selection. If one of those records is already tagged, it stays tagged. If you've just entered a search command, you'll be at the beginning of the current selection anyway, which means that this command will tag the whole selection.

Untagging records

Tag > Tag/Untag Record untags the current record if it's already tagged. All the same toolbar buttons and shortcuts apply.

Tag > Untag Rest of Selection untags the current record and all the records that follow it in the current selection.

Tag > Clear untags all records in the entire database, whether they're part of the current selection or not.

Searching on tags

Tag > Select, Tag > Select Also, Tag > Exclude, Tag > Exclude Also and Tag > Include all behave exactly like the indexed search commands of the same name, using the "taggedness" of records as the test of whether a record matches the search command. Since there is nothing further for Cardbox to ask you, a Search window doesn't pop up: Cardbox just performs the command at once.

Red tags

You'll have noticed that the tags that you normally use look black on the screen. Red tags are a new feature in Cardbox 3.0. They've appeared because some of our users have asked for them; but they are likely to be quite a specialised feature, so if you can't think of an immediate use for red tags, just forget about them.

Red tags don't interfere with black tags, so a record can have tags of both colours attached to it.

Red tags are there so you can tag records in two different ways. You may be looking through a selection and tagging for two different purposes; or you may be happily using black tags and then the phone rings and you have to do a new search that involves tags as well: using red tags means that you can leave the black tags untouched.

For red tags, use the **Tag > Red Tags** menu (Alt+T, D). This has all the usual commands for setting tags, removing tags, and doing tagged searches, but they all refer to red tags instead of black ones. There's also a set of shortcuts for setting and removing red tags on a single record:

- Hold down the Shift key and press Tab.
- Move onto the record, hold down the Shift key, and press the toolbar button.
- Hold down the Shift key and the Ctrl key together, and click on the record.



There's also one extra command that makes all black tags red and all red tags black: **Tag > Red Tags > Swap Red And Black Tags**. This can be useful if you want to put your current (black) tags to one side to deal with an interruption, but don't want the fuss of handling red tags directly.

Kept selections

The idea of kept selections is that sometimes, when you've selected some records, you want to remember that selection and use it again later, perhaps combining it with others. Kept selections can be a way to identify collections of records on a long-term basis without needing to edit the records themselves, but they have less elegant uses too. To take one simple example: if you find yourself working through a selection of records and then get interrupted, you can save those records as a kept selection and come back to it another time.

What a kept selection is

A kept selection is a list of records. It isn't the same thing as the records themselves, so deleting it won't do anything at all to the records. When you first create a kept selection you give it a name and you decide whether it is to be private or shared.

Earlier versions of Cardbox called private kept selections "temporary" and shared kept selections "permanent".

- A private kept selection only lasts as long as you have the database open, and if you close the database then your private kept selections will evaporate (of course the records will be unaffected, because a kept selection is only a list). If you're sharing a database across a network, no-one else can see your private kept selections.
- A shared kept selection lasts for ever, or until someone explicitly deletes it. If you're sharing a database across a network, everyone sees the same shared kept selections.

Managing kept selections

The Keep menu

The Keep menu is a submenu of the Search menu. Open it with the mouse, or with Alt+S followed by K, or even with Alt+K. If you're likely to be using the Keep menu a lot, you can promote it to the main menu bar, just to the right of the Search menu. To do this, use the command `Keep > Promote Menu`.

To create or replace a kept selection

`Keep > Keep This Selection` saves the current selection as a kept selection. You can choose the name of the new selection and whether to make it private or shared: then press the Save button. If there was already a selection with the name you choose, Cardbox replaces it.

- If you are using a database across a network, you may not be allowed to create shared kept selections: it depends on what the owner of the database has decided to let you do.
- You are allowed to use numeric digits as part of the name of a kept selection: indeed, the name can be entirely numeric (“1234”). Cardbox doesn’t have a separate numeric index for the names of kept selections: it just treats a numeric digit in the same way it would treat any ordinary letter.

To add records to a kept selection

This can be a useful thing to do if you’re building up one big selection from a lot of smaller ones (just like the Shopping Basket example of the uses of tagging). Use **Keep > Keep This Selection** as before, but instead of pressing the Save button, press **Append** to add the currently selected records to the existing kept selection.

To forget a kept selection

If you close a workspace without explicitly closing any databases, all its private kept selections will reappear when you open it again.

Keep > Clear Kept makes Cardbox forget a kept selection. It doesn’t matter what records you have selected at the time you use this command. When you enter the command, a window pops up and you can choose the name of the selection to forget and whether it’s private or shared. Remember that if you close a database, Cardbox forgets all its private kept selections anyway.

Using kept selections

The search commands **Keep > Select**, **Keep > Select Also**, **Keep > Exclude**, **Keep > Exclude Also** and **Keep > Include** all behave just like their counterparts in an index search – except that there are fewer options: for instance, you don’t have to choose the field or the type of search. You can use any of these word searches:

- Single names
- Wildcards
- Ranges
- Lists
- Boolean combinations
- Preview lists

For details of how these searches work, look them up under “Searching the Index” (p.80).

Advanced search commands

These commands are in Cardbox because a few people have needed them, but they are quite specialised.

Searching by record number

Sometimes you may want to tell Cardbox “Select the first 30 records from the current selection”. Searching by record numbers lets you do this.

When Cardbox tells you where you are in the current selection:



it's effectively numbering the records for you: the first record is record 1, the second record is record 2, and so on. These are the numbers that Cardbox lets you do searches on. These numbers aren't really properties of the records themselves: if you make a different selection, record 31 from the old selection may be record 2 in the new selection, or it may not appear in the new selection at all.

How to do a record number search

To start a record number search, use the command Search > Select or Search > Exclude. Then open the drop-down list at the bottom of the Search window, and choose the following option:



Now you can enter one of the following values in the “Search For” box:

Format	Example	Matches
A number	31	Just record 31.
Number, colon, number	10 : 20	Records 10 to 20 inclusive.
Number, colon	100 :	Record 100 onwards.
Colon, number	: 50	Records 1 to 50 inclusive.

Combining selections from different windows

Cardbox lets you open the same database in several windows. Some people take advantage of this feature and use it to do separate searches in both windows. If you do this, and then you want to combine the selections from both windows into one, do **Window > Merge**. This will bring up a menu that lists the windows that are available: choose the window you want. **Window > Merge** behaves rather like an Include command. It takes the current selection in the current window and creates a new selection consisting of all the records in that selection plus all the records that are in the current selection in the window you picked from the menu.

If you have just one other window on the database, then the menu will only have one item; if you haven't got any other windows open on this database, **Window > Merge** will be disabled.

Sorting

Records in a Cardbox database naturally come in the order in which they were added, so that the first record that was put into the database comes first and the one that was added most recently comes last; but you can sort the records into any sequence you like, view them in their sorted sequence, print them, or write them to a file.

When it is sorting, Cardbox only pays attention to indexed terms: it sorts words in alphabetical order, numbers in numerical order, and dates in chronological order. Special rules apply to hyphenated words: the rules make Cardbox sort records into the sequence you'd naturally expect, but you can see the details at Help Point 517.

Simple sorting

Simple sorting is easy to specify and it is quite fast. It is restricted to just one field, and Cardbox only looks at the first indexed term of that field. This means that if you have a field that contains several indexed words, and you do a simple sort on that field, the records will be in alphabetical order as far as the first word is concerned, but the second and later words will be ignored.

Using the mouse

Move the mouse onto a field, press the right-hand mouse button, but don't release it for a few moments. A menu will pop up. Choose the Sequence command, and Cardbox will do a simple sort on your chosen field, in ascending order.

If your selection is already sorted, a tick will appear next to the Sequence command to remind you of this, and the Sequence command will remove the sequence and leave your records in their natural order: you'll have to do the Sequence command a second time, on your newly chosen field, to sort the selection.





The Sequence command

View > Sequence brings up a window that gives you three options: Field, Custom Sequence, and No Sequence. For simple sorting, click on the “Field” radio button:

You can type the name of the field you want to sort on or pick it from the list. The way you choose the field is exactly the same as for the Search command (p.81).

When you’ve chosen the field, and whether you want to sort it in reverse order, then press OK to sort the selection.

Simple sorting: the detailed rules

Cardbox has two indexes (p.35), one for words and one for numbers and dates. When it is sorting records, Cardbox first looks at the word index, going in alphabetical order from A to Z (“words” such as 3COM come before A in the alphabet), and then at the number/date index, going in ascending order numerically (or chronologically). Any records that don’t contain any indexed terms at all come at the end of the list.

If two records turn out identical as far as the index is concerned, Cardbox puts them in the same order that they occur in the database.

Custom sequence

Sorting on a custom sequence is more powerful than simple sorting. First of all, Cardbox will look at every indexed term in a field, not just the first one; and secondly, you can give Cardbox a list of fields to sort on, so that if two records are identical based on the first field, it will look at the next field in your list to try and decide which record comes first. For instance, if you had a database of addresses, you could sort your records according to the country, and then, within each country, on the town, and then, within each country and the town, on the name of the person or organisation. You can specify ascending or descending order separately for each field in your list.

Custom sequencing is also different because it has a memory. Cardbox remembers the last few custom sequence commands you did, so that you can pick them from a list and you don’t have to specify the whole list of fields all over again.

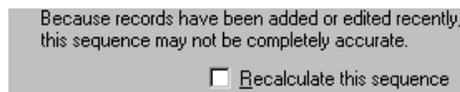
To set up a custom sequence, do View > Sequence and click on the radio button marked "Custom Sequence":



If the sequence you want is one that's been used recently, you can pick it from the list. Otherwise you'll have to define it: to do this, press the Define button. A new window will appear so that you can specify the list of fields to be used for the custom sequence. Press F1 if you need help with this window, or see Help Point 587.

Recalculation

Looking through the index in order to build up a custom sequence may take a little time, and so, to speed things up, Cardbox remembers the result of each custom sequence command. The idea is that the next time you do a custom sequence on the same fields, Cardbox can use the remembered result instead of having to scan the index again. This makes things faster. But if you've added or edited some records recently, then there's a chance that those changes have affected the order in which some of your records should be sorted, so Cardbox displays a warning:



To make absolutely certain that your sequence is perfectly correct, tell Cardbox to recalculate the sequence. If you know that the changes you made won't have affected the order that the records come in, or if you don't mind a slightly inaccurate sequence, tell Cardbox to go ahead without recalculating. This will save a little time, though it must be said that with smallish databases (up to about 10,000 records) the difference in speed won't be very noticeable.

Sorting on a custom sequence: the detailed rules

When it is sorting records on a custom sequence, Cardbox compares records according to the first field that you told it to sort on: if they are identical as far as that field is concerned (remember that only indexed terms count in the comparison), it looks at the next field in your list; if they are identical there as well, it looks at the next field, and the next... until it runs out of fields. If any records that are identical according to every field that you specified for the custom sequence, Cardbox leaves them in their original database order.

Within each field, Cardbox looks at both its indexes (p.35). First of all, it looks at the word index, going in alphabetical order from A to Z ("words" such as 3COM come before A in the alphabet), and then at the number/date index, going in ascending

After sorting

Once Cardbox has sorted your records, you can view them in the sorted order, or print them, or write them to a file.

If you were looking at the results of a search command when you asked Cardbox to perform the sort (that is, if you were not at Level 0), then Cardbox will not forget the chosen order until you undo that search command: any search commands that you enter **within** the current one will automatically show their results in the order you have chosen.

If you add a new record while the records are sorted, it will appear at the end of the list: to put it in its correct place, you will have to sort again.

If you edit a record while the records are sorted, it will not change position even if the changes you made mean that the record is no longer in the right place (for instance, if you have sorted books by subject classification and you change GENETICS to PHYLOGENETICS, the record will stay in its old place just before GEOLOGY, when it should have moved to just before PHYSICS). To get the record in its correct place, you will have to sort again.

The Sequence toolbar button will tell you whether you are looking at a sorted display: if it looks normal, the display is not sorted; if the button is depressed, the display is sorted. To see what sequence is being used, move the mouse over the button and leave it there for a few moments without clicking:



Sequence (+OR+NA)



To cancel sorting

To cancel a sort and revert to the normal sequence of the database, click on the Sequence button on the toolbar. Alternatively, you can use View > Sequence » No Sequence.

Changing the format

A format controls how your records appear on the screen. For all except the simplest databases you'll probably have more than one format: for data entry and browsing; for simple summaries; and perhaps even for mail-merging and mailing labels.



View > Change Format
Ctrl + F

(Ctrl + F works only
when you are viewing
records, not when you
are editing them)

View > Change Format lets you switch to a different format. It will show you a list of formats and you can do any of the following:

- Type the name of the format and press OK.
- Select the format in the list. You'll see a description of the format at the bottom of the window (assuming that whoever designed the format gave it a description). To use this format, press OK.
- Double-click on the name of the format in the list.

The native format doesn't have a name. You can pick it from the list of formats, or you can type a space into the Format Name box that is expecting a format name: this will blank out whatever name was already there. Thus the quick keyboard shortcut for switching to the native format is Ctrl + F, Space, Enter.

If user profiles have been set up for this database, your user profile may include a default format, which is the one that the designer of the user profile thinks you'll be using most often. In that case you'll see an extra button labelled "My Main Format", and pressing the button will take you straight to that format.

Changing the appearance

By “appearance” Cardbox means the fonts, sizes, colours, backgrounds and line thicknesses that are used to display or print your data. The basic appearance is something that you set up when you design each format (if you can’t be bothered with this, Cardbox uses some reasonable defaults), but you can override the appearance at any time by using the command **View > Appearance**. You can also override the appearance for printing only (for instance, removing background colours). The command for this is **File > Printer Settings » Appearance**.

In addition to all this, you can give specific appearances to individual items within a format: perhaps a heading in large letters, or a field with a bright red background. You do this while editing the format, with the command **Edit > Item Properties » Appearance**.



View > Appearance
Ctrl + A

(Ctrl + A works only
when you are viewing
records, not editing
them)

The **View > Appearance** command changes the appearance. If you enter it while editing a format, the new appearance will become part of the format; if you enter it while viewing or editing records, it’ll apply until the next time you change formats.

- If you change the appearance while viewing or editing records and then want to get back to the appearance defined in the format, use **View > Change Format** to reload the format.
- If you change the appearance while viewing or editing records and then want to store it as part of the current format, just edit the format with **Edit > Format > Edit** and then save it.

Kinds of text

A record can contain the following kinds of text:

Normal – unindexed data.

Indexed – indexed data.

Extra Text – data in the Extra Text field (which is never indexed).

Captions – anything else, including field captions, static text items, and the parts of a merge block that aren’t derived from a field.

Each of these kinds of text can have its own font, size, colour, and settings for Bold, Underline, and Italic. They don’t all have to be different, and it’s often best to make them all be the same – when printing, for instance. But on the screen, it’s quite useful to have indexed text looking different because it helps to know what’s indexed and what isn’t; and if you’re creating a summary report with all the captions at the top of their respective columns, making the captions bold can help to separate them visually from the actual record data.

You can set up different background colours for the different kinds of text. These are interpreted as follows:

Normal – the background colour of each field.

Indexed – not used.

Extra Text – the background colour of the Extra Text field.

Captions – the background colour of the format as a whole.

Lines and boxes

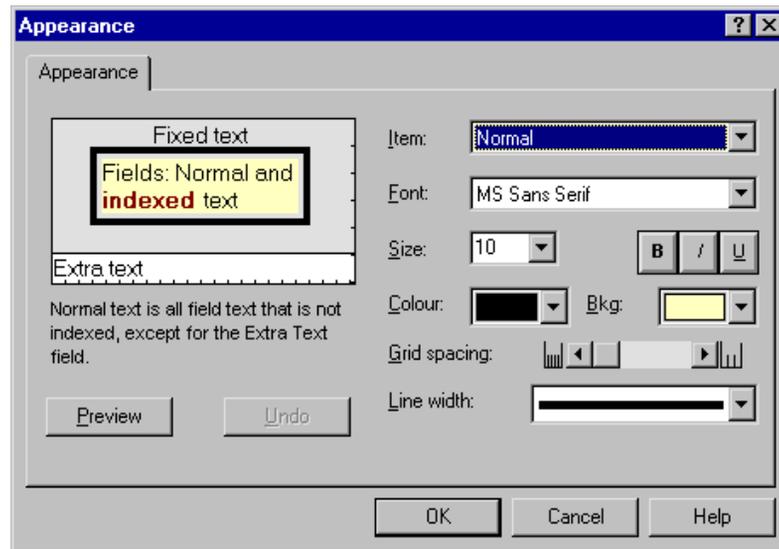
You can control the thickness of the lines used to draw lines and boxes in the format. Lines and boxes are drawn in the Captions text colour.

Grid spacing

This setting applies to the format as a whole: it is quite specialised and you can usually ignore it. When you design a format in Cardbox, you draw it on a grid of rows and columns, and Cardbox takes the size of each row and column from the sizes of the fonts you are using in the format. This makes it easy for you to change font sizes because the whole format automatically re-sizes itself to match the new font. The Grid Spacing slider lets you influence how wide the columns should be.

For more technical information, see Help Point 572.

The Appearance window



At the top left-hand corner of the Appearance window, you'll see a schematized picture of how text would look with the settings you have chosen. To change the appearance for a particular kind of text, you can pick it from the item list or click on it in the picture.

The Preview button updates the main record display to correspond to the changes you have made, so that you see what the new appearance will look like with a real record. The changes you make aren't fully applied until you press OK: if you press Cancel, Cardbox will discard your changes and the display will revert to its original state.



When you are setting the colour, Cardbox will pop up a list of commonly used colours. If you don't see the colour you want among them, select the rainbow colour at the bottom of the list, and a Windows control will open and let you create any colour you like.

An overview of printing

Printing in Cardbox is very simple.

1. Select the records you want: see “Searching”, p.76.
2. If you want to print them in a different format, use **View > Format** to select that format: see “Formats”, p.106.
3. If you want the records to be in a particular sequence, select that sequence: see “Sorting”, p.101.
4. Use **File > Print** to print the records.

Printing one record

Sometimes you may want to print just one record. This quite often happens when you are printing a form letter. In that case, it's even easier:

1. View the record you want in the format you want.
2. Use **File > Print** and press the button marked “Print One Record”.

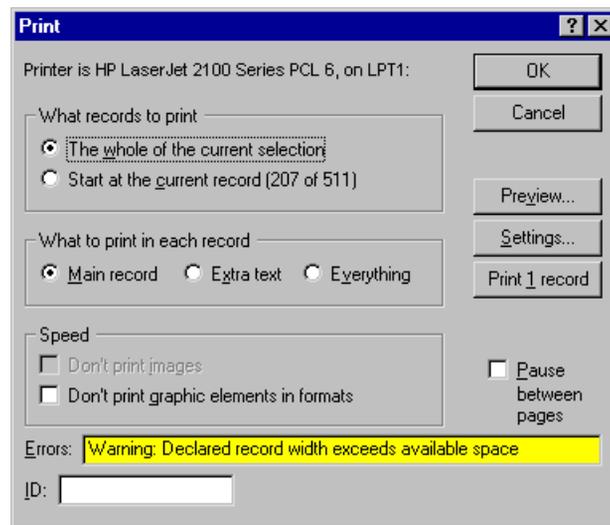
Other options

Behind the scenes, there are a lot of options you can set when you are printing, including the paper size, layout, margins and fonts. Most of the time it's enough to set these options once and store them as part of your format. For details of what options are available and what they do, see “Printer Settings”, p.115.

The Print command



File > Print
Ctrl + P



Choosing what to print

You can print all the records you have selected, or you can go part of the way into the selection and print everything from the current record onwards. (You can also print *just* the current record, by pressing the “Print 1 Record” button).

If your records have an Extra Text field, you can print the record without Extra Text, or Extra Text on its own, or the record including Extra Text.

Faster printing

Some printers are quite slow at printing graphics. If you have image fields in your database, you can tell Cardbox to save time by not printing them; and if you have graphic elements in your formats (pictures, letterheads, logos, etc) you have the option of telling Cardbox not to print them.

The print job ID (optional)

It is possible to design your format to include a “print job ID” (see “Merge Blocks”, page 196). If you have done this, then whatever you type into the ID box here will be printed as the print job ID.

- Not many people use this feature, but if you regularly make searches and print them out, then including a unique ID at the top or bottom of the page can help remind you what the search was or who you did it for.

Checking your design

If you want to make quite sure that the printout looks the way you want it and that you’ve got the right records in the right format, you have several options.

- You can press “Print 1 Record” and see what just one record looks like.
- You can turn on “Pause Between Pages” and then press OK. After printing each page, Cardbox will wait for you to tell it whether to carry on with the next page.
- You can press “Preview” to get the screen to display a preview of the printed page: see page 114.

Choosing a different printer or paper

The Print command tells you which printer you’re currently using. If you want to use a different printer or size of paper, press “Settings” and you’ll be in Printer Settings: see page 115.

Errors and warnings

Errors and warnings appear at the bottom of the Print command window, with a bright yellow background so that you can’t miss them. If you want to know what a particular message means, press the F1 key and look at the on-line help, which gives an explanation of each possible message.

Warning: Declared record width exceeds available space

This is the commonest warning message. On modern computers the screen (viewed at its most natural resolution) is wider than the paper. A screen 1024 pixels wide represents about 10.6 inches, and a sheet of A4 paper is about 8.2 inches wide: so if you design a nice wide format on the screen, it’ll be too wide to print. Cardbox lets you print despite the warning, because it’s sometimes easiest to have a piece of paper in front of you to help you see what’s going on; but of course the bits of the format that stick out beyond the edge of the paper won’t be visible.

Previous versions of Cardbox would not let you print if the format was too wide.

Here are some things you can do about this:

- Switch to a format that is narrower and better suited for printing.
- Edit the current format to make it fit: Cardbox can show you the width of the printable area while you're editing the format.
- Switch to a smaller font, which will make the format narrower.
- Press "Settings" to tell Cardbox to print in landscape format. A sheet of A4 is 11½ inches long, so landscape format should deal with any format that fits on your screen without scrolling... unless your screen is an extra large one.
- If you can't understand why there isn't enough width, press "Settings" and then open the Page Width tab. You'll see a report that takes you step by step through the logic that Cardbox used when it was working out how well the format would fit on the paper: there is an example on p.118.

Printing images

When you print a record that contains an image field, the image field will be printed along with everything else, unless you specifically tell Cardbox not to print any images ("Faster printing", p.81). But you can also print images on their own, without the record. This is useful if you have large images such as scanned documents, or more than one image in a record.

While viewing a record, you can print an image by right-clicking on the image field and selecting "Print" from the pop-up menu.

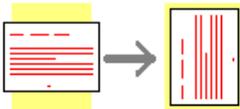


Ctrl + P

While you are in the image window, you can print an image by clicking on the Print button in the toolbar, or pressing Ctrl + P, or right-clicking anywhere in the image window and then selecting "Print" from the pop-up menu.

Printing options

You can choose to print all images, just the current image, or all images that you selected by clicking on their thumbnails.



Cardbox prints one image on each page, and shrinks large images so that they fit inside the paper. It will automatically rotate an image before printing it if this will make it fit better.



File > Print Preview

The Print Preview command

The Print Preview command lets you see how the printed output will look. You can look at the preview in two ways: either the whole page can be shrunk to fit your screen, or you can see a part of the printed page at its full size.

- A coloured margin shows you the parts of the paper that cannot be printed. Most printers, especially laser printers, can't print closer than $\frac{1}{4}$ " (7mm) to the edge of the paper.
- Images aren't shown in the preview: instead, you get a box of the exact size that the image will be when printed.
- If you're previewing a sheet of mailing labels, you can move the mouse over each label and Cardbox will highlight the exact area occupied by that label.

Accuracy of preview

Your printer can print 300, 600, or even 1200 dots per inch. Your screen typically works at 96 dots per inch. You can see the difference between printed output and the screen display in this sample:

words
words

This difference can make the previewed output look a little strange. Let's take an example. Suppose you're using 10-point type. On a 600-dots-per-inch printer, this will be 83 pixels high. On the screen, that equates to 13.3 pixels on the screen – and since you can't have a fraction of a pixel, Windows has to choose either a 13-pixel-high font for the preview, which will be slightly too small, or a 14-pixel one, which will be quite a bit too large. Either way, the words will end up the wrong height, and the wrong width as well, either too short or too long.

Cardbox makes up for this by positioning the start of every word exactly where it would be when the page is printed, but this means that the words may end up jostling each other or having wide gaps between them. Don't worry: the preview is only meant to give you an idea of the final layout, and it'll all come out right when it's printed.

The Printer Settings command

File > Printer Settings

The Printer Settings command controls the settings that Cardbox will use when printing. It is accessible directly as a menu command, or you can call it up from within the File > Print command by pressing the “Settings” button.

Cardbox remembers your printer settings until you change to a different format. To make printer settings permanent, use File > Printer Settings while you are editing a format: the settings will then be stored as part of the format.

The Printer Settings command has five tabs:

1. Printer and Paper selects the printer, the size of paper or labels, and the paper source: if your printer has specific settings of its own that you want to adjust, you can do this here.
2. Text Margins says how much space to leave between your records and the edge of the paper.
3. Records deals with the way records are laid out on the paper: how many records per page, the space to leave between records, etc.
4. Appearance overrides the appearance you have given to your format on the screen.
5. Page Width tells you exactly how Cardbox has calculated the width of your records relative to the width of your paper.

Units of measurement

Throughout Printer Settings, you can measure in inches, millimetres, or characters and lines. You’ll see a control called “Unit” at the bottom of every tab: whatever unit you choose, Cardbox will display measurements using that unit.

c	Characters
i	Inches
"	Inches
l	Lines
m	Millimetres

If you type a number into a box that asks you for a measurement – for example “Top Margin” in the Margins tab – Cardbox will interpret it using whatever unit is currently selected: so typing 0.5 will mean 0.5 inches, 0.5 millimetres, or 0.5 lines, depending on the current unit. If you don’t want to change the current unit but you do want to use a different unit for a particular measurement, specify the unit you want directly, by typing a letter after the number: for example, 0.5*i* means half an inch.

- You can change units as often as you like: this won’t alter any measurements you have already entered.
- If you choose to measure in characters and lines, Cardbox uses the character width or line height of whatever font you are currently using.

Printer and Paper

It is almost always best to use the default Windows printer, especially if you are designing a format that will be used on a network, because then Cardbox can use each computer's default printer, which is usually the nearest or most convenient one. But if you do want to insist on a specific printer (perhaps one that can print in colour) then turn off "Always Use the Default Windows Printer" and pick the printer from the list. If there are any specific features that need setting for this printer – for instance, the print quality – then the "Properties" button will take you to the printer's own Properties window, where you can set these features.

The list of paper sizes shows all sizes of paper that Windows has reported as being available for this printer. For more details of paper sizes and how to select and define label formats, see "Paper and Labels" on page 119.

This tab also lets you choose the source of the paper (if your printer can feed paper from more than one tray) and whether you want to print in Portrait (upright) or Landscape (horizontal) format.

Text Margins

This tab tells Cardbox how much blank space there should be between your records and the edge of the paper.

Most printers can't print right up to the edge of the paper: this applies to many inkjet printers and almost all laser printers. If you specify a margin that's closer to the edge than your printer can print, Cardbox will automatically widen that margin for you, so there's no need to read your printer's manual to find out what the real margins should be. Just tell Cardbox the margin you really want and it will get as close to it as your printer's limitations allow.

Records

This tab is a mixture of settings related to the way that records are laid out on the page.

Variable text width – the Extra Text field doesn't have a built-in width of its own, and you can also design merge blocks so that they grow in width according to the available space. When you're printing, you can choose to make these items no wider than the format design itself, or you can tell them to occupy the whole width of the paper. The second option is usually the best.

Omit blank lines at the end of records – it's quite common to have a record design where the last field occupies a lot of space but doesn't always have very much text in it. You then have a choice of making every record the same size (so that records without much text have a lot of blank space) or of omitting the

blank lines at the end of each record so that the records fit tightly together but are irregularly spaced (because they vary in the amount of text they have).

Translate underlines into spaces – some people use underline characters like any other letter: this is part of some (old-fashioned) indexing strategies for indexing a phrase as a single word. These people then have the choice of keeping those underlines in the printout (so that HYDROGEN_BALLOON appears as HYDROGEN_BALLOON) or translating them into spaces to make the text look more natural (HYDROGEN BALLOON). If you don't use underlines in the middle of words, don't worry about this option.

1 record per page (or label) – start a new page (or mailing label) every time you start a new record.

Gap between records – if you're not printing one record per page, you can specify how much blank space Cardbox should leave between one record and the next.

Try not to split records across pages (or labels) – start a new page (or mailing label) if the whole of the record won't fit in the current one.

Truncate record at end of page (or label) – we don't really recommend using this. When printing mailing labels, some people like to make sure that an exceptionally long address won't spread onto two labels, and this option is designed for them. We feel far happier if the long address spreads over two labels, because then someone will notice and either stick both labels on the same package or edit the record to make it shorter. This option only appears if you have chosen "1 record per page (or label)".

Copies of each record – sometimes you may want to print more than one copy of each record: this applies to mailing labels especially. This option only appears if you have chosen "1 record per page (label)".

Print labels across the page, then down – if you have a sheet of mailing labels 3 labels wide and 8 labels deep, there are two ways you can print them: down the first column, then down the second column, then down the third column; or across the first row, across the second row, and so on. To use the latter method, turn this option on.

For why we don't recommend this, see Help Point 559.

Appearance

Normally, you use the command **View > Appearance** to set the fonts, font sizes, and colours that you want to use, and these apply to both the screen and the printer. Cardbox does, however, give you the option of setting up an appearance specifically for printed output, by using the Appearance tab. This can be useful if you use a lot of solid background colours in your screen design and you want them all to come out white when you print. You are also able to select fonts for printing that are different from the ones you use on the screen, but we don't recommend this because it can get really confusing if you decide to change fonts later on.

Page Width

The Page Width tab is for information only. It takes you through Cardbox's calculations step by step, and it's especially useful if Cardbox is warning you that your layout is too wide for the paper. Here is an example:

Printer resolution is 600 pixels per inch.
Left margin is 6mm (required by the printer).
Right margin is 6mm (required by the printer).
Paper width is 210mm, so width available for printing = 198mm (=4677 pixels).

You are using the printer font News Gothic MT 8.
Character width: average 33 pixels, maximum 99 pixels.
Your chosen width: 48 pixels (=2mm).
So, width available for printing = 97 columns.
You have designed your format to be 127 columns wide.

Paper sizes and label types

The Printer & Paper page of the Printer Settings command lets you select the paper size or label type you want.

Paper sizes

Printer & Paper contains a list of paper sizes for you to choose from. Windows reports this list to Cardbox, so it should be accurate for your printer.

To add extra paper sizes to the list, see Help Point 503.

Labels

Labels typically come in sheets in either A4 or US Letter size. Cardbox thinks of labels as very small pieces of paper (such as 64mm × 34mm) and all your formatting is done inside that paper size. Then, when the time comes to print, Cardbox uses what it knows about the label layout to print the text for each label in the right place on the sheet.

For continuous rolls of labels, see Help Point 504.

For all this to work, Cardbox needs to know how the labels are laid out. It has a built-in set of definitions for the commonest label types – essentially, those for which the manufacturers publish the specifications – but it is easy to define your own.

We talk a lot about mailing labels, but exactly the same principles apply to sheets of “print-your-own” business cards and even to the special Filofax paper that is sold for use in laser printers.

Picking a label type from the list

After you’ve used a particular label type once, you’ll find it in Cardbox’s list of paper sizes, and you can pick it directly from there. Labels are listed just after the sheet size they belong to: for example, Avery L7160 is 2½”×1½” labels in an A4 sheet (three labels across, seven labels down), so you’ll find it below “A4” in the list.

Adding a label type to the list

The first time you use a label type, it won’t be in the list. Select the paper size that corresponds to the size of the sheet the labels come in, then press the button marked Manage Label Types. Choose “Define New Label Type” from the menu that pops up, select “Use Standard Label Type”, and pick the type you want from the list.

- If the list is empty, check that you’ve chosen the right paper size.
- If you can’t see the label type you want in the list, you’ll have to define it for yourself.

Defining your own label type

In the Paper Size list, choose the paper size that corresponds to the size of the sheet of labels. This is important: if you get it wrong, all your measurements will go wrong. Then press the button marked Manage Label Types, choose “Define New Label Type” from the menu that pops up, and choose “Define Custom Label Type” from the resulting command window and then press OK.

Get a ruler and a sheet of labels, and start measuring. Here is what the various settings mean:

Labels across the page	The number of labels in each row.
Left offset	The gap between the left-hand edge of the sheet and the left-hand edge of the first label.
Label width	The width of each label.
Gap across	The gap between the right-hand edge of one label and the left-hand edge of the next.
Labels down the page	The number of labels in each column.
Top offset	The gap between the top edge of the sheet and the top of the first label.
Label height	The height of each label.
Gap down	The gap between the bottom of one label and the top of the next.

- Cardbox is fairly intelligent. If you leave a measurement blank or type the word “auto”, it will guess or calculate what you mean.. Suppose that you say there are three labels across the page and there is a left offset of 6mm. Cardbox will guess that the sheet is symmetrical, insert a 6mm gap on the right-hand side, and then calculate the width of each label as one third of the remaining space. Cardbox displays its guesses next to each “auto” box, so you can see for yourself if the results are sensible.
- Always keep the sheet upright (*ie.* in portrait format) when you measure it, even if you’re planning to print on it in landscape format eventually.
- Often some of these measurements are zero: for instance, if each label is next to the one below it, “Gap Down” is 0.
- Remember that you can use both inches and millimetres: see “Units of Measurement”, p.115.
- If you really can’t make the figures add up and match what your ruler is telling you, check that you’re using the right paper size. If you’ve told Cardbox that the sheet is A4 and it’s actually 10”x8½”, you’ll never get the sums to work. Cancel, pick the right paper size from the list, and try again.

Checking your layout

To check your label design quickly without using up any labels, use the button marked Print Sample Page. The sample will show the exact area taken up by each label in your design. Print it onto a plain sheet of paper, then hold the paper up to the light on top of a sheet of labels and make sure that it all matches.

Laser printers and margins

Laser printers can’t usually print right up to the edge of the paper (some inkjet printers share the same limitation), so try to choose labels that don’t go right up to the edge of the sheet. The trouble with labels that do this is that you risk losing the ¼” or 7mm (or whatever your printer’s limitation is) from every label, and while that isn’t much space to lose from a whole large sheet of paper, it’s a lot to lose from a small label. But if you really have to use labels that go all the way to the edge then Cardbox will do its best to make sense of the situation.

See Help Point 527.

Other printer settings to use with labels

In the “Records” tab of the Printer Settings command, you’ll probably want to turn on “1 record per label” so that each record starts on a new label. “Truncate record at end of label” and “Print labels across the page, then down” are also relevant: see page 117.

Multi-column printing

The mailing label mechanism also provides a simple way of printing text in more than one column.

For example, to print in two columns, design a fake label type that has two labels across the page with a suitable gap between the “labels”, and one label down the page. You can then print on plain paper and the printing will come out in two columns.

Export and communication

You can do a lot with Cardbox – you can search, browse, view records and print them – but sometimes you may need to get other programs involved. You may want to use a word processor to produce mail-merged output; you may want to get your data into a spreadsheet or into another database; you may want to write your own program to process or analyse your records; or you may want to send faxes and emails from Cardbox. This section gives you a guided tour of the things you can do. If you read it, you should have a good idea of what is possible, and the Help Points will show you where to get more information.

Using the Clipboard

People sometimes forget it because it seems so simple, but the Clipboard is a good and reliable way of getting data from one program to another. To get some text from Cardbox to another program, highlight the text in Cardbox, use **Edit > Copy** (Ctrl + C), and then paste it into the other program (most programs use Ctrl + V). You can copy images as well: right-click on the image field and pick “Copy” from the pop-up menu. See also “Copying an image to the Clipboard”, p.129.

Copying all fields

Edit > Copy Record (Ctrl + Shift + C) copies a whole record to the Clipboard at once. If you paste this into another program, you’ll see the text of all your fields together. This may mean that you get a lot more text than you want, but selective deletion after you’ve pasted the text can be less work than repeated copy-and-paste. Try this feature: if you decide you don’t like it, you don’t have to use it.

Dynamic Data Exchange (DDE)

DDE has been around for a long time, as its snappy 1980s name suggests. Microsoft are a bit embarrassed about it because it’s so old, but the thing about old software is that it works. By now there aren’t that many programs that don’t support DDE, and because it’s old, they all support it in the same way and you’re unlikely to have any unpleasant surprises.

The main way that people use DDE with Cardbox is for a sort of instant one-record mail-merge. Of course Cardbox can do mail-merging by itself without any need for a word processor, but sometimes people want some special features that they find easier to get in a word processing program. If you want to send out a hundred form letters, there are other ways of transferring data to the word processor; but when you want to send just one, DDE can be the answer.

programs that use address lists can read them in from comma-separated files: these include email programs and the Palm Desktop. Cardbox can import CSV files as well, but it's not a good idea to use them for Cardbox-to-Cardbox transfer because CSV files don't contain any information about which words are indexed.

XML

```
<f id="12"><x>Esq.</x></f><f id="16">Mr Smith,</f><f id="17">100</f><f id="18">100</f><f id="19">100</f><f id="20">100</f><f id="21">100</f><f id="22">100</f><f id="23">100</f><f id="24">100</f><f id="25">100</f><f id="26">100</f><f id="27">100</f><f id="28">100</f><f id="29">100</f><f id="30">100</f><f id="31">100</f><f id="32"><x>Mailshot</x></f><f id="33"><x>KML5</x></f><f id="34"><x>1</x></f><f id="17"><x>30/7/1997</x></f><f id="19"><x>1997</x></f><f id="21"><x>10/1/1998</x></f><f id="22">Mr</f><f id="23">989</f></record><record><f id="1">Mr G. <x>Sorby</x></f><f id="5"><x>Brittain, Hamilton</x> & Partners</f><f id="7">100</f><f id="9"><x>ECl 8VG</x></f><f id="18"><x>Exchange_Broker</x></f><f id="14">0171 342 1990</f><f id="2"> <x>DATABASE_TRANSURE</x></f><f id="3">100</f><f id="33"><x>KML5</x></f><f id="15"><x>LCY</x></f><f id="16">100</f><f id="17">100</f><f id="19"><x>SFE</x></f><f id="20"><x>20</x></f><f id="21">100</f><f id="22">Margaret <x>Grimaldi</x></f></record></xml>
```

XML (Extensible Markup Language) is designed to make it easy for structured data to be shared between different programs. XML isn't a file format in itself but a standard way of constructing file formats. The idea is that if all formats share XML as a basis then it will be possible to translate any format into any other format automatically. Web browsers will be able to open any XML document and display it by using a "stylesheet" (written in XSL, a language based on XML). One XML-based format can be translated into another XML-based format by using XSLT (another language based on XML), and so on.

Cardbox can output data in XML, and there is an XML Schema on our web site that should enable any XML-aware application to read the results. In addition, you can write your own XSLT transform that turns Cardbox's XML into another XML-based language (although writing XSLT is not a trivial task)

In practice XML is a lot less fully developed than its prophets claim, and many applications that claim to "support XML" actually only support their own restricted subset of XML. We won't name names here, because software is developing the whole time and what was true when this manual was written may not be true by the time it's printed. Our summary is that XML is potentially a very good thing, but that you should check carefully that any particular use of XML to transfer data from one program to another will actually work.

See Help Point 523.

Cardbox External format

```

NA:Dr A. Tilney
DE:Dr Tilney
PO:Finance Director
ORGANISATION:Pacific General E
ADDRESS:16 St Swithins Lane
:London
PC:EC4 7BU
BU:Bank
TE:0171 534 2333
FX:0171 534 2336
PI:DATENC
HH:Mailshot
NS:KML5
AR:LCY
PC:1

```

See Help Point 520.

Cardbox External format is a format we defined ourselves, so other packages won't read it "out of the box". But as you can see, it's a very simple format, so if you want to write your own programs to process data exported from Cardbox, External format may be a good choice.

Cardbox Internal format

See Help Point 528.

This is another format that we have defined. Unlike Cardbox External format, it contains full information about which words are indexed, and it can also contain images and objects if you want. Cardbox Internal format is good if you want to transfer records from one Cardbox database to another without loss of information (as long as the native formats of both databases are identical), and although it's less simple than Cardbox External format, it's still possible to write programs that read and write it.

Print-to-disk

See Help Point 530.

This isn't so much a file format as a way of constructing file formats. The idea is that if you are faced with a program that wants to import data in a way that doesn't match any of the standard formats, you create a Cardbox format that makes your records look exactly right when you view them on the screen. Then you "print" the records, not to the printer but to a file. Because Cardbox has so many ways of laying out fields and merge blocks, you have a lot of freedom in the output you create.

Only the Professional Edition of Cardbox can record and edit macros, but all editions can use them.

Communicating with programs directly

Exporting data from Cardbox and reading them into another program is reliable and (once you've set it up) quite fast, but it still seems a bit circuitous. Cardbox's macro language is built on Microsoft's VBScript, and this means that it can talk directly to other programs. The possibilities are endless but we've worked out some of the commoner examples for you.

Email

You may want to

- Send a single email to a recipient whose address you've picked up from a Cardbox field.
- Send the same email to a whole list of recipients.
- Use a Cardbox format to create a personalised email for each recipient.

Help Point 529 tells you how to do this, using Outlook, Outlook Express, Eudora, and MAPI-compatible email programs, or directly through an SMTP server. In every case except SMTP, Cardbox just puts the generated emails into your program's Outbox, and your program is then responsible for the actual transmission.

Fax

You may want to

- Send a single fax to a recipient whose number you've picked up from a Cardbox field.
- Send the same fax to a whole list of recipients.
- Use a Cardbox format to create a personalised fax for each recipient.

Help Point 512 tells you how to do this, using WinFax Pro or using the fax engine built into Windows XP. Cardbox just creates the faxes and your fax software will then transmit them automatically.

Telephone dialling

Help Point 562 tells you how to write a macro that dials a telephone number picked up from a Cardbox field.

Retrieving Cardbox data into other programs

See Help Point 531.

If a program you are using has its own macro language (for example, VBA in Microsoft Word), you can write a macro in that language to do searches in Cardbox databases and retrieve the results. The possibilities are limited by your programming competence and your imagination. Virtually every aspect of Cardbox can be controlled in this way, and you can add and edit records as well as retrieving them.

Creating Web pages from Cardbox

See Help Point 519.

To create a Web page from Cardbox, design a Cardbox format that contains the necessary HTML code together with field references that translate their contents into HTML, and then use **File > Export » Print-to-Disk** to output the result to a file. You can create an HTML page from a single Cardbox record, or you can create it from a whole selection of records – for example, to make a summary report.

- An alternative strategy is to output the records in XML and either translate the result automatically into HTML or let XML-aware browsers view the page directly. Help Point 525 gives details.

Exporting images

Before you export an image, use the image browse bar (p.69) or the image thumbnail to select the image you want.

Copying an image to the Clipboard

While viewing a record, you can copy an image to the Clipboard by right-clicking on the image field and selecting “Copy” from the pop-up menu.

While you are in the image window, you can copy an image to the Clipboard by clicking on the toolbar button, or pressing Ctrl + C, or right-clicking anywhere in the image window and selecting “Copy” from the pop-up menu.



Ctrl + C

Writing an image to a file

You can write an image to a file and then open it using an image-editing program such as Microsoft Paint or Adobe Photoshop. Cardbox writes images in the standard Windows .BMP format, which all programs can read.

While viewing a record, you can write an image to a file by right-clicking on the image field and selecting “Save As” from the pop-up menu.

While you are in the image window, you can write an image to a file by clicking on the toolbar button, or pressing Ctrl + W, or right-clicking anywhere in the image window and selecting “Save As” from the pop-up menu.



Ctrl + W

Help Point 598 gives an example for the Professional Edition.

Exporting multiple images

There is no simple way of exporting several images at a time, but it is possible to write a macro to do it, giving each image its own filename. This can be useful if you need to transfer a large number of images to another program.

Totalling

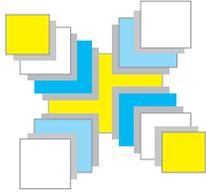
23362	380	66.50
23363	80	14
23364	325.00	56.88
23365	1559	
23365		
23366	1055	184.63
23367	248.75	43.53
23368	80	14
23369	165	28.88
23370	483.75	
23371	527.50	92.31
23372	60	10.50
23373	375	65.63
23374	2970	519.75
23375		
23376	15	2.63
23377	80.85	14.15
23378	462.50	
23379		
23380	205	35.88
23381	152.50	26.69
23382	300	52.50
23383	605	105.88
23384	60	10.50
23385		
23386	530	92.75
23387	80	14

If your records contain numerical information, you may find yourself wanting to calculate totals. To get the total of all numbers in a given field for all records in the current selection:

1. Move the mouse onto the field you want to total
2. Hold down the right mouse button until a menu pops up.
3. From the pop-up menu, select Total.

Cardbox will show you the total for the selected field. You can copy this total to the Clipboard by pressing Copy.





Part Four

Editing

How to add, import, edit and delete records; detailed editing commands; spelling checks and validation; batch editing; scanning and importing images; deduplication.

How to lose all your data in two easy steps

1. Don't back up your files.
2. Wait for your computer to fail.

One day there will be a bang and your computer will suddenly stop working. Or it won't start when you switch it on. Or it will tell you that you have to erase everything and reinstall Windows. Your only protection is to make regular backups. See "Backup and Disaster Recovery", p. 249.

Adding records

For a database to be worth searching, it has to have some records in it. There are two ways of getting records into a Cardbox database: you can type them in, one at a time, or you can import them in bulk from another file, program, or database.

Adding records by hand

Adding a blank record

Edit > New Record creates a new, blank record for you to type into. When you have finished, use File > Save, and the record will become part of the database. The new record will appear at the end of the current selection: if you want to get back to where you were before you added the record, press Ctrl + Z.

As far as Cardbox is concerned, typing into a blank record is just like editing an existing one, except that the record is blank to start with: all the editing commands are the same. For details of how to enter and edit text in a record, see “All about Editing”, p.140.

Adding a record based on an existing one

Some databases are very repetitive and you often find yourself wanting to add a new record that’s almost identical to one that is already there. For example, in a library you may have to index Volume 105 of the Journal of Hellenic Studies when you already have a record for Volume 104; or in a bought ledger application there may be regular payments that happen every month.

To create a new record that resembles an existing one, go to the existing record and use Edit > Duplicate Record. This creates a new record just like Edit > New Record but instead of being blank, the record contains exactly the same data as the current record when you issued the Duplicate command. Now you can make any changes that you need and then use File > Save. The new record will become part of the database, and the original record will be left unchanged.



Edit > New Record
Ctrl + N



File > Save
Ctrl + S



Edit > Duplicate
Ctrl + D

File > Save
Ctrl + S

Edit > Copy Record
Ctrl + Shift + C

Edit > New Record
Ctrl + N

Edit > Paste
Ctrl + V



Edit > Edit Record
Ctrl + E



File > Save As New

An alternative method of duplicating a record

If there are only a few fields that you want to carry over from the original record to the new one, Edit > Duplicate Record can be overkill: whatever time you save by not having to retype the fields, you lose by having to erase all the fields you don't want. In this case, there's an alternative. Before you create the new record, move onto the one whose contents you want, and do Edit > Copy Record. Nothing will appear to happen, but actually the whole of the current record will have been copied into the Windows clipboard.

Now use Edit > New Record to create a blank record, and start filling the record in as usual. Whenever you come to a field that you want to be identical to the original record, use Edit > Paste. When the clipboard was filled using Edit > Copy Record, Paste is little more intelligent than usual: it looks at which field you're in, and pastes the original contents of that particular field. So, for example, if you use Paste in a field called ADDRESS, then you'll get the text from the original ADDRESS field; if you use it in a field called KEYWORDS, you'll get the text from the original KEYWORDS.

The traditional Windows alternative

In Windows, the traditional way of creating a document based on another one has been to edit the document and then to use File > Save As to save your changes in a new file. The same thing applies to images and to other things that you can open and edit in Windows. Accordingly, Cardbox supports this as well: you can edit a record, and then, by using File > Save As New instead of File > Save, you can save the changed record as a new record in the database, leaving the original record untouched.

This works perfectly from the computer's point of view, but we strongly recommend that you don't use it, because you are a human being. If you're anything like us then you won't always remember, when you get to the point of saving a record, whether you're meant to use Save or Save As New; and if your fingers are anything like ours, they'll sometimes type the Save command for you before you have time to think, so that you risk having your original record overwritten instead of creating a new one. To avoid such mistakes, please get into the habit of using Duplicate Record!

File > Import

Adding records from elsewhere

If the data that you want to put into Cardbox already exist somewhere on your computer, it seems rather a waste to have to type them all in by hand, so Cardbox gives you a number of ways of importing records in bulk. Here is a summary of the available methods.

For full details of the available file formats and options, see Help Point 534.

Importing records from a file

Cardbox can import records from files written in several different formats, of which the most useful one is Comma-Separated (CSV). Almost any program that handles data will be able to export files in this format: for example, Microsoft Outlook can export your contact lists and your email folders. The general pattern for data transfer is:

1. Tell the other program to export its data to a file whose name and location you choose.
2. In Cardbox, use File > Import > From File to import the data and create new Cardbox records.

Importing records from a database

For more about importing from ODBC and Excel, see Help Point 535.

Cardbox can import records directly from some other databases without needing anything to be exported: the command is File > Import > From Database. The requirement is that the other database should be accessible through the ODBC or OLE DB interfaces. Microsoft Excel makes its spreadsheets accessible in this form, and so does Microsoft Access.

Importing records from a Cardbox window

Sometimes you may want to copy records from one Cardbox database to another. Here is how to do this:

You can control which fields get transferred: see Help Point 536.

1. Open the database you want to copy from (the “source”) and the database you want to copy to (the “destination”).
2. In the source window, select the records that you want to copy.
3. In the destination window, use the command File > Import > From Cardbox Window.

Editing records



Edit > Edit Record
Ctrl + E

Double-click = Edit

The simplest way to make changes to an existing record is to double-click on it. This not only starts you editing but also gets you to the exact position where you clicked the mouse. But you can also use **Edit > Edit Record** to edit the current record: this starts editing and positions you at the beginning of the first field.

For details of how you can enter and edit text in a record once you've started editing it, see "All about Editing", p.140.



File > Save
Ctrl + S

Saving your changes

File > Save stops editing and saves any changes that you have made.



File > Quit
Ctrl + Q

Not saving your changes

File > Quit Without Saving stops editing and discards any changes that you have made. The toolbar button behaves a little differently from the menu command, because it asks you for confirmation: this is because it's possible to click the wrong toolbar button by mistake, and Cardbox doesn't want to discard all your hard work without being sure that this is what you really want it to do.



File > Save as New

Saving your changes as a new record

This stops editing. It saves the record, with all the changes you have made, as a new record. The original record (the one that you started editing) is left unchanged. The Save As command is the traditional Windows method for creating a modified duplicate, but we strongly recommend that you use **Edit > Duplicate Record** instead: for the reasons, see "The Traditional Windows Alternative", p.134.

Edit > Batch > Edit
Ctrl + B

Editing a batch of records

Very often you will find that you need to make similar changes to a whole batch of records: for example, in a mailing list, you may want to update a “date last sent” field after you’ve sent a mailing. Batch editing is a unique feature of Cardbox that lets you do this sort of thing easily. Once you’ve got used to it, you’ll find batch editing indispensable.

The **Edit > Batch > Edit** command starts you editing the current record; but unlike the ordinary **Edit Record** command, it also starts recording all the editing actions that you take. When you save the record, Cardbox will go to the next record and play back all the actions it’s recorded. A special control pops up that lets you decide how the batch edit works: you can tell Cardbox to pause after each record, so that you can decide when you want it to stop editing; or you can tell Cardbox to go straight ahead and edit the whole of the current selection automatically without pausing.

The editing actions can be as simple or as complicated as you like: you can index a word, or you can erase a field and replace its contents, or you can do some major reshuffling of data. For some examples of what you can do with batch editing, and what you have to bear in mind when planning it, see “Batch Editing”, p.155.

Deleting records

Deleting a single record

Edit > Delete Record

To delete a single record, use the command **Edit > Delete Record**. There are no toolbar buttons or keyboard shortcuts for this command because we don't want to make it easy to delete records by accident.

Most of the time, the deleted record will disappear completely, and if you're viewing a list of records then the other records will move up to compensate. Occasionally it isn't possible for Cardbox to do this and the record will remain on your screen but with the data replaced by shading: this is not an error, and the shaded record won't appear in any printouts. For one example of how this can happen, see Help Point 506.

Intelligence UK	6	3/11/1983
L&C Autos	7	3/11/1983
VAT	8	30/11/1983
Telephone	9	1/12/1983
L&C Autos	10	1/12/1983
Cash	11	26/12/1983
oil	12	6/1/1984
coal	13	9/1/1984
//////		
Barclaycard	16	9/2/1984
Telephone	17	20/2/1984
Access	18	28/2/1984

Deleting many records at once

Edit > Batch > Delete

Start by selecting the records you want to delete. Have a look through the selection to make quite sure that you have really selected the right records. Go back to the first record and do **Edit > Batch > Delete**.

- Cardbox will display a warning to remind you of how many records you are about to delete.
- This command deletes all records from the current record to the end of the selection, so if you're not on the first record when you use it, some records won't be deleted.

If you delete a record by mistake

Edit > Undo Deletion

If you do **Edit > Delete Record** by mistake, do **Edit > Undo Deletion** at once and the record will come back. Cardbox only remembers the most recent deletion, so if you delete two records by mistake, you'll only be able to recover the most recently deleted one.

- Edit > Undo Deletion doesn't work at all if you have deleted a batch of records with Edit > Batch > Delete.
- If you mistakenly delete more than one record, or if you only notice the deletion some time later, then all you can do is enter the record data all over again.

Disaster recovery

For a detailed
example, see Help
Point 508.

If you have made a lot of mistaken deletions, then you can still rescue yourself if you've been good at keeping regular backups and you have a backup copy of your database that contains the missing records. In that case you open the backup and the current database simultaneously, find those records in the backup and copy them from there.

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A huge and tremendous histc

Edit > Index On/Off
Ctrl, or Ctrl + I

All about editing

When you're entering and editing text, Cardbox behaves just like any other Windows program: you see a flashing cursor (a vertical line) and anything you type goes where the cursor is.

You can also select a block of text. Selected text appears highlighted, and if you type something, it will replace the selected text.

Indexing

One thing that makes Cardbox different from other Windows programs is indexing: it lets you mark individual words in a field as needing to be indexed for fast retrieval. You set the indexing mode for each field when you design the database format. Two of the modes affect how you edit: "Manual" allows you to index individual words, and "Auto" indexes everything automatically but lets you remove the indexing from individual words. You can turn indexing on and off like this:

Keyboard: Make sure the cursor is on the word (this is always true while you're typing the word; if you're going back to alter the indexing on a previously typed word, simply move the cursor onto it). Tap the Ctrl key. (Don't hold it down, just press it and release it quickly).

- If Windows has been set up in "Accessibility" mode to allow someone with a disability to use it, you may find that tapping the Ctrl key doesn't do anything (Windows stores the Ctrl keystroke and applies it to the next letter you type). In that case, use Ctrl + I to turn indexing on and off.

Mouse: Right-click on the word. A menu will pop up: select "Indexed" from the menu.



If you have selected a block of text, then the indexing or unindexing will apply to all words in the block.

See "Appearance", p. 33.

Words will look different when you index them, depending on the current appearance. Red is often used to indicate indexing, but you can use any other colour (the example above uses blue). When you design a format for use in printing, you'll probably choose to make indexed words look identical to unindexed ones.

Moving the cursor between fields

The easiest way to move onto a field is to click on it with the mouse. Since you are mostly using the keyboard when you edit text, it may be more convenient to keep your fingers on the keys, so there are several keyboard commands you can use:

Tab	Move to the next field.
Shift + Tab	Move to the previous field.
Ctrl + G	To a specific field (a list of fields will pop up).
F6	To and from the Extra Text field.

“Next field” and “previous field” don’t refer to the physical screen layout, but to the sequence of fields that you defined when you designed the format of the database: see “Sequence of fields”, p.205.

Moving the cursor within a field

Again, clicking with the mouse will always get you where you want to go, but there are many keyboard commands that you can use instead. They are useful for precise positioning and essential when you are setting up a batch edit.

Left or right arrow	One character to the left or right.
Ctrl + Left, Ctrl + Right	One word to the left or right.
Up or down arrow	Up or down one line.
Ctrl + Up, Ctrl + Down	Back or forward one paragraph.
Home	To the beginning of the line.
End	To the end of the line.
Ctrl + Home	To the beginning of the whole field.
Ctrl + End	To the end of the whole field.
Ctrl + F	To specific text: see “Finding Text”, p.145.

Selecting text

If you want to delete or replace a whole block of text, move it, copy it to the Clipboard, or even index or unindex it, you'll need to select it first. Cardbox handles selection in the same way as any other Windows program. It's a simple two-step process:

1. Move to the start of the text you want to select.
2. Hold down the Shift key and move to the end of the text you want to select.

The same rule applies regardless of the way you choose to move the cursor. You can hold down the Shift key and click with the mouse; or you can hold down the Shift key and use the arrow keys to extend or shorten the area of selected text.

Keyboard shortcuts

You can also select a whole field at once with **Edit > Select All**. This is especially useful if you want to replace the entire contents of the field.

Edit > Select All
Ctrl + A

Mouse shortcuts

To select a range of text, move to one end of the range, depress the left mouse button, move to the other end of the range, and release the mouse button. If you don't get the ending point exactly right, you can adjust it by holding down the Shift key and clicking where you really want the end to be.

To select a word, double-click on it.

To select a line, hold down the Ctrl key and click anywhere in the line.

Deselecting text

To cancel a selection, click outside the selected area or press one of the arrow keys.

Lines and paragraphs are only relevant if your field is more than one line high in the format design.

You can see whether you're in Insert or Overwrite mode by looking at the Cardbox status bar.

Typing and editing

Lines and paragraphs

When you are typing an address, press Enter (“the Return key”) at the end of each line, so that the next line starts at the left-hand edge of the field.

When you are typing continuous text, the field behaves like a miniature word-processed document, which means that if you type more text than will fit on one line, it will word-wrap onto the next. When you want to end a paragraph and start a new line at the left-hand edge, press Enter.

Insert mode and Overwrite mode

By default, Cardbox works in Insert mode: this means that when you type a character, it is inserted at the cursor position and anything that was to the right of the cursor moves one place to the right to make room for it. Because most Windows programs behave like this, you will probably find it the natural mode to use. 

If you press the Insert key, Cardbox switches into Overwrite mode. In Overwrite mode, anything you type replaces what is already there instead of pushing it to the right. To get back into Insert mode, just press the Insert key again. 

Deleting errors

Backspace	Deletes the character to the left of the cursor (usually this is the last character you typed).
Ctrl + Backspace	Deletes the whole word to the left of the cursor.
Delete	Deletes the character to the right of the cursor.
Ctrl + Delete	Deletes the word to the right of the cursor.

Undoing changes

Edit > Undo undoes the last change you made.

Edit > Undo All undoes all changes in the current field and restores it to the state it was in when you started editing.

File > Quit Without Saving undoes all changes in the whole record and cancels the edit.



Edit > Undo
Ctrl + Z



Edit > Undo All
Ctrl + Shift + Z
File > Quit
Ctrl + Q

Edit > Paste
Ctrl + V

Pasting and importing text

Edit > Paste inserts text that you have previously copied to the Clipboard from Cardbox or another program. The Paste command also appears in the menu that you get when you right-click on your field.

- If you copied text to the Clipboard using Cardbox's command Edit > Copy Record (Ctrl + Shift + C), then the Paste command will paste only the text that came from the same field as the field you're currently in.

Edit > Insert Object

To insert text from a text file, use Edit > Insert Object. The text can be in plain text (.TXT) or Rich Text (.RTF) format.

Pick lists



Pick lists are designed when you set up a format. See "Pick Lists", p.209.

If the mouse pointer has some small parallel lines in its top right-hand corner, then this means that there is a pick list defined for the current field. A pick list lets you insert words by clicking the mouse and selecting them from a list instead of typing them. To use a pick list, right-click in the field that contains the pick list, and select the item you want from the menu that pops up. If the list is long and you can't see the item you want, select "Pick..." from the bottom of the menu, and you'll get a scrollable list of all available items. If you want to cancel the whole operation, just click somewhere else on the screen.

Keyboard: Pop up the pick list by pressing F4, then use the up and down arrow keys to select the item you want, and press Enter (Return) to insert it. To cancel the operation without inserting a word, press Esc.

Moving and copying text

You can move text within a field, or into a different field or record, or even into a different Windows program.

First, select the text that you want to move or copy: see "Selecting Text", p.142.

Using the Clipboard

Edit > Copy
Ctrl + C

To copy the selected text to the Clipboard, use Edit > Copy, or right-click in the selected area and choose Copy from the menu that pops up.

Edit > Cut
Ctrl + X

To copy the selected text to the Clipboard and delete it from its original position, use Edit > Cut, or right-click in the selected area and choose Cut from the pop-up menu.

Now move to where you want the copied text to go, and use Edit > Paste. See "Pasting and Importing Text", p.144.

Using drag-and-drop

Dragging and dropping is a more direct way of moving or copying text, but it demands precision with the mouse, and if you are trying to move text from one program to another, you may find that not all programs support drag-and-drop properly.

To move a block of text from one place to another:

1. Move the mouse into the selected block of text.
2. Depress the left mouse button and hold it down.
3. Move (drag) the mouse to where you want the text to go.
4. Release the left mouse button.

If the mouse pointer appears as a circle with a bar through it, the mouse is on something that won't accept dragged and dropped text.

To copy a block of text from one place to another – that is, to put text in the new position but leave the original text intact – do exactly what you would do when moving it, but hold down the Ctrl key throughout.

Finding text

To search for a piece of text, use the command Edit > Find:

Edit > Find
Ctrl + F

This command has many options and features. For full details of what they all do, press F1 when the command is open.



The Find command finds the text that you specify, or tells you that it can't be found. It can look in the current field or in all fields. It selects (highlights) the text that it finds, so that you can replace it simply by typing, if that is what you want to do. If you don't want to replace the text, deselect it by clicking somewhere else or pressing the left or right arrow key.

Edit > Find Next
F3

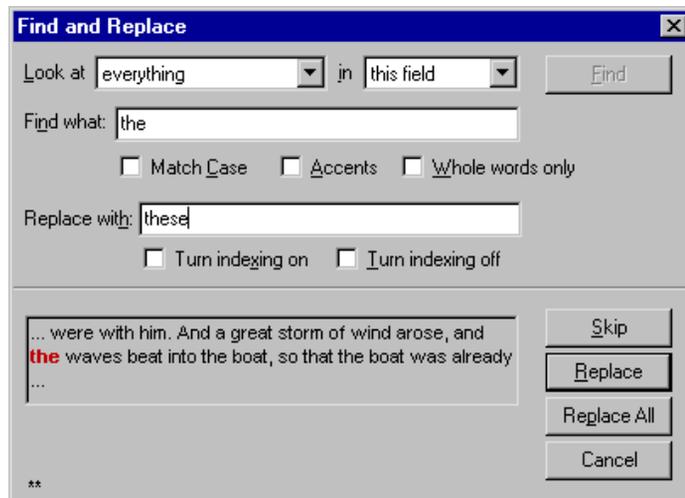
To search for another occurrence of the text, press F3. When the search gets to the end of the field (or of the record) it'll start again from the beginning: the field name on the status bar will flash to tell you that this has happened.

Edit > Replace
Ctrl + H

This command has many options and features. For full details of what they all do, press F1 when the command is open.

Finding and replacing text

To search for and replace a piece of text, use the command Edit > Replace:



To replace all occurrences of a word or fragment of text, fill in “Find What” and “Replace With” and then press Replace All.

To look at each occurrence and decide if you want to replace it, press Find instead of Replace All. Cardbox will then show you what it has found and let you decide whether to ignore this occurrence (Skip) or replace it (Replace).

Spelling checker

Cardbox has a built-in spelling checker. You can ask it to check the spelling of a particular field, or you can activate it so that it watches what you type and highlights possible spelling mistakes as they happen.

- You can control what dictionaries Cardbox should use for checking your spelling, and where it should store your own private “user dictionary”. See “Spelling and Spelling Dictionaries” (p.149).

Automatic spelling check

When you design your format, you can make Cardbox check the spelling of certain fields automatically: see “Automatic Spelling Check”, p.204. Even if you haven’t done this, you can turn on the automatic spelling check with Tools > Highlight Dubious Spellings (you can use the same command to turn off the automatic spelling check if you find it distracting). The Cardbox status bar will show you whether the automatic spelling check is turned on: look for a vertical red zigzag next to the field name.



Tools > Highlight
Dubious Spellings
Shift + F7

The problem

When the automatic spelling check is on, Cardbox will put a red zigzag under any words that seem doubtful: you can see an example on the left. You can then correct the spelling yourself, or you can right-click to pop up a menu (shown on the right). This will try to offer you replacement spellings and it will also let you ignore the word on this occasion, ignore the word for the rest of the Cardbox session, or add the word to your private spelling dictionary so that it will always be considered as correct. Sometimes the menu has good suggestions, sometimes not: it depends on the word and on the misspelling.

NA Name

Indexed	Ctrl
→	problem
→	probable
→	problems
	Ignore
	Ignore All
	Add to Dictionary

Manual spelling check

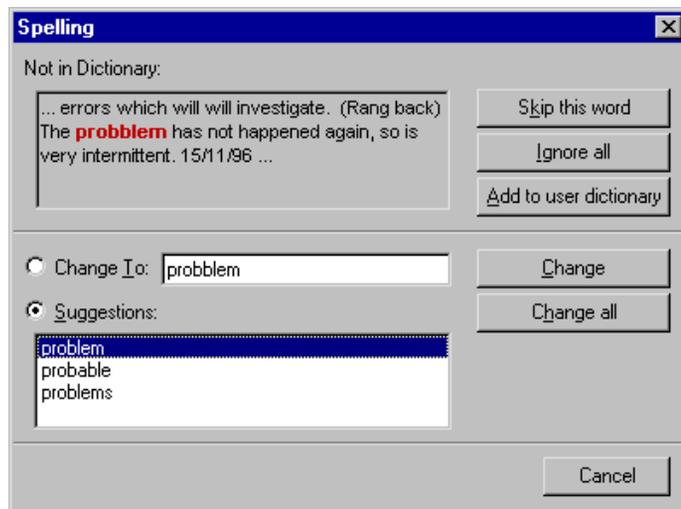
You can also make Cardbox check spelling on request, with the command Tools > Check Spelling. If you have selected some text, Cardbox checks the selected text. If you haven’t selected any text, Cardbox checks from the cursor to the end of the field (unless you’re already at the end of the field, in which case it checks the whole field).



Tools > Check Spelling
F7

If there are no spelling mistakes, Cardbox displays a tick to tell you that the spelling check has finished. The tick fades away after a couple of seconds, but you don't have to wait for it to disappear: if you move the mouse or press a key, the tick will vanish at once. ✓

If there are some possible spelling mistakes, Cardbox will report them:



At the top, you can see the word in question, with some of the text on either side of it to give you an idea of the context. Lower down, you will see a list of suggested replacements. How good the suggestions are depends very much on the word and how it was misspelt.

To ignore this word

If you know that the word is correct, you can press Skip to look for the next spelling error.

If you press Ignore All, Cardbox will store the word in its "Ignore All" list. This means that the word will never be flagged as a dubious spelling again until you close Cardbox and re-start it.

To add this word to the user dictionary

If you press **Add to Dictionary**, Cardbox will add the word to your user dictionary so that it will always be considered correct in the future. If you make a mistake and add a word to the dictionary that turns out not to be correct, you can always use the command **Tools, Edit Spelling Dictionary** to remove the word from the dictionary.

To correct this word

If you can see the correct spelling in the list of suggestions, simply double-click on it; or click once and then press **Change**.

If you press **Change All** instead of **Change**, Cardbox will change all occurrences of the current misspelling, not just the one that it was currently showing you.

If you can't see the correct spelling in the list, type it into the "Change To" box and then press **Change** or **Change All**.

Spelling and spelling dictionaries

We haven't written Cardbox's spelling checker ourselves. Instead, we are using the Sentry Spelling Checker from Wintertree Software, which has a good reputation and is used by many other software products. Many language dictionaries are available for this spelling checker. At the time this manual was written, only the English dictionary was supplied with Cardbox.

Main dictionary

Use **Tools > Options » Spelling** to tell Cardbox which main language dictionary to use. If you want to override this choice for a particular database, edit the native format and do **Edit > Format Properties » Spelling**.

Quality of dictionaries

Nothing in computing is perfect, and this applies particularly to spelling dictionaries. If you find words are being accepted that should not be accepted (in English, this applies especially to words that are spelt differently on different sides of the Atlantic), please let us know so that we can correct the dictionary in later releases of Cardbox.

For the latest
information about
dictionary availability,
see [Help Point 507](#).

User dictionary

When the spelling checker comes across a word it doesn't recognise, you may decide that this is a valid word and press **Add To Dictionary** to add it to your own user dictionary: this will make Cardbox treat the word as being correctly spelt from now on.

Help Point 558 tells you how to specify the location of the user dictionary.

You can control the location of the user dictionary. It can be associated with a specific database or a group of databases, or it can be stored on your computer and applied to every database you use.

Editing the user dictionary

To make changes to the spelling dictionary, use **Tools > Edit Spelling Dictionary**.



You'll see a list of the words that are in the dictionary, and also a list of the words for which you chose **Ignore All** during a spelling check., because you may want to copy some of these into the dictionary.

To copy a word from Ignore All to the dictionary – click on it and then press **Store**; or just double-click.

To add a new word to the dictionary – type it in the **User Dictionary** box and then press **Add**.

To edit a word in the dictionary – click on it and press **Edit**; or double-click. The word will appear in the **User Dictionary** box and you can then edit it. When you have finished editing, press **Save**.

To remove a word from the dictionary – click on it and press **Delete**. If you have several words to remove, you can make things quicker by highlighting them all and then pressing **Delete**.

Capitalisation

If a word in the user dictionary is in lower-case, like “toggo”, then Cardbox will treat any capitalisation as being correct (so it will accept “Toggo” as well).

If a word in the user dictionary starts with a capital letter, like “Sion”, then Cardbox will only accept that word with a capital letter (so it will report “sion” as a wrong spelling).

Only the Professional Edition of Cardbox is able to set up validators: see page 206. Once they've been set up, any edition can use them.



Edit > Show Errors
F2

Edit > Validate All
Shift + F2



Using validators

Validators watch over the data you enter. They are set up as part of the design of the database format. Validators can:

- Check what you have entered.
- Make changes to what you enter.
- Enter text automatically.

The Advanced Features manual which comes with the Professional Edition of Cardbox gives full details of the available kinds of validators and how to set them up. Here we concentrate on telling you how validators affect the way you edit records.

Validators that check the text you enter

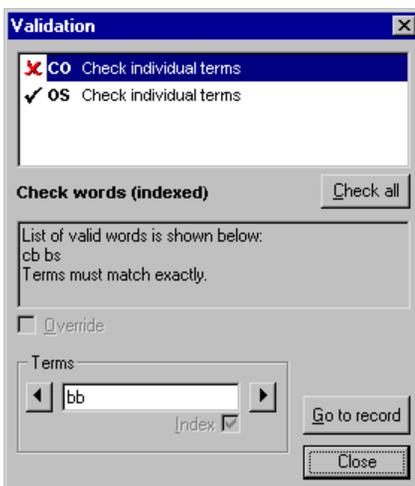
Most validators exist to check the validity of what you put into a field. Typically, they do nothing until you have moved out of a field and then they check it, but you can ask for a validation to happen at any time by doing **Edit > Show Errors**. When you save a record, Cardbox validates all changed fields for you.

You can validate all fields, whether or not they have been changed, by using **Edit > Validate All**.

The error warning

If Cardbox has found something wrong in the field you've just left, the validation toolbar button changes colour and flashes. You can ignore this and carry on typing, or you can press the button to ask Cardbox to display the validation error box.

When you come to save, Cardbox will check your record and it will display the validation error box if it has found anything wrong.



The validation error box

The validation error box is where Cardbox lists all your validators and any errors they have found. At the top you will see a list of the validators, with a symbol next to each one to tell you its status. In the picture, the validator for field CO has reported an error and the validator for field OS hasn't.

- ✓ This validator has no errors to report..
- ✗ This validator is reporting an error: you are not allowed to override it.
- ? This validator is reporting an error: you are allowed to override it.
- ✓ This validator reported an error but you have overridden it.
 - This validator has not been used because you have not made any changes to the field. If you want to check all fields, press Check All.

To see why a validator is complaining, click on its entry in the list. You'll see a description of what the validator is looking for, and below that, under "Terms", you will see the term the validator is complaining about. The arrows on either side of "Terms" let you go back and forward through the field.

Overriding an error

Some validators can be overridden. A good example is a validator that has a list of valid words and checks your field against its list. It may warn you that a word you have entered is not in the list but you may know that that particular word is actually correct and isn't really a misprint at all: in that case, just turn on the Override check box underneath the validator description.

You decide which validators can be overridden and which ones can't when you design the format for your database. If the validator was designed not to be overridden, the Override check box will be disabled.

When you are saving a record, the error box will have one more button, marked "Save Record". You can use this to make Cardbox save the record at once: it's effectively the same as saying Override for every validator.

Correcting an error

If you can easily see what was wrong with the term your validator is complaining about, you can edit it directly in the Terms box. If you want to index or unindex the term, use the Index checkbox just beneath it.

If you prefer to edit your record directly, press Go To Record or Close, and you'll be taken to the place in the record where the error has been detected. The difference between the two buttons is that Go To Record leaves the error box visible on the screen and Close closes it.

Validators that change the text you have entered

Validators can be set up to unindex certain words ("stoplists") or to index them (keyword lists). Either way, the process is completely automatic and you don't need to do anything about it: it happens when you move out of a field you've been editing or when you save a record.

Validators can also be set up to put dates into a standard format. There are many variants of this, but to take one example, you might find that when you type "4/5/6" a validator will turn it into "04/05/2006". Just like the indexing validators, these validators only work when you move out of an edited field.

Validators that enter text automatically

These validators fill in fields for you. Depending on how they have been set up, they may automatically fill in a field or they may wait for you to move into the field and out of it again before they do anything. They may replace any text that you have entered, or they may confine themselves to filling in fields that you have left blank. The text that these validators "type" into your fields can be fixed text or it can include things like your identity (your user name or your initials) or the date and time.

You don't need to do anything about validators of this kind – just don't be surprised if something about your record changes automatically.

Batch editing

Batch editing is ordinary editing, done automatically. Cardbox watches you edit a record, and then repeats exactly what you did, step by step, on subsequent records. This is a powerful feature, and as far as we know it's unique to Cardbox: so when you find yourself with several records to edit, take a moment to think whether batch editing will make your task faster.

Setting up a batch edit

First, select the records that you want to edit and make sure you're on the first of them. Then use the command **Edit > Batch > Edit** to start the batch edit.

Edit > Batch > Edit
Ctrl + B

Now you can edit the first record. There are a couple of things to remember while you are doing this.

- When it gets to the later records in your selection, Cardbox will repeat all your keystrokes exactly, and all your commands.
- You can't use the mouse, except to move to the start of a field (or to select a command from the menu or the toolbar).

Check boxes and radio buttons

If you have fields that are displayed as check boxes, radio buttons, or drop-down lists, then you can use the mouse on them even when you're setting up a batch edit.

Moving the cursor within a field

When you aren't batch editing, you can use any method you like to move within a field. When you're setting up a batch edit, you have to use the keyboard. In addition, you also have to give some thought to strategy so that whatever you do with the first record will do the right thing in the other records too.

Here's an example. The record on the left is the one that you can see when you are setting up the batch edit; the record on the right is one that appears later on in the selection.

<p>Security: The customer to provide a personal guarantee, with a second charge on his property.</p>	<p>Security: The advance is to be guaranteed jointly and severally by Mr F G Smith and Mr J T Brown, with a second charge on Mr Smith's property.</p>
---	--

Suppose that you want to add the note "Approved by RPB 14/4/92." to the end of the existing text: that is, you want the records to end up looking like this:

<p>Security: The customer to provide a personal guarantee, with a second charge on his property. Approved by RPB 14/4/92.</p>	<p>Security: The advance is to be guaranteed jointly and severally by Mr F G Smith and Mr J T Brown, with a second charge on Mr Smith's property. Approved by RPB 14/4/92.</p>
--	---

Here is the right way to do this:

1. Move the cursor into the field.
2. Use Ctrl + End to move the cursor to the end of the field.
3. Type a space, followed by the note.

If you're not very familiar with the keystrokes for moving the cursor, you might be tempted to use the arrow keys because they're easy to remember. Suppose that you pressed the Down arrow 3 times and the Right arrow 9 times. In the first record, that would get you exactly where you wanted to be, but look at the second record:

<p>Security: The customer to provide a personal guarantee, with a second charge on his property. Approved by RPB 14/4/92.</p> <p style="text-align: center;">▲</p>	<p>Security: The advance is to be guaranteed jointly and severally by Mr F G Smith and Mr J T Brown, wi Approved by RPB 14/4/92, th a second charge on Mr Smith's property.</p> <p style="text-align: center;">▲</p>
---	---

You can find a list of
cursor movement
keys on page 141.

You told Cardbox to move down 3 lines and across by 9 characters, and this was exactly what it did. The first field didn't have much text, so your cursor movements got you to the end; but in the longer field, the same movements didn't take you far enough. In this case the solution is to use Ctrl + End to move to the end of the field.

Try to imagine, as you edit the first record, what effect your keystrokes would have on a record that looks different from it. If you're in any doubt, get Cardbox to do the first few records one at a time, so that you can see if the result looks reasonable.

Replacing field contents

Here's another pitfall. You have selected records for a mailing, and you have done the mailing, and now you want to fill a "Date mailed" field with the date. You start the batch edit, you see that "Date mailed" is empty, so you just type 29/2/2004. You let the batch edit go ahead, but because some of the later records in the selection already had a date in them, they end up with things like 29/2/20047/1/2004 in the "Date mailed" field.

The moral of the story is that you should never assume that a field will always be empty. In this case it is easy enough to arm yourself against non-blank fields: just press Ctrl + A before typing the new text: this will select the entire contents of the field (if there are any), and so the text you type will replace the selected text and you won't get these strange-looking hybrid dates.

Indexing

When you're editing a record, the command you usually use for indexing is Ctrl (or Ctrl + I), and this toggles the state of indexing: if a word wasn't indexed, it is indexed; if it was indexed, it is unindexed. If that is what you want, fine; but it's not a very common thing to need: usually what you really want to do is to ensure that something definitely is indexed. The problem with using Ctrl in a batch edit is that if a word is already indexed in one of the later records that you can't see, Ctrl will have the unfortunate effect of unindexing the indexed word: not what you want at all!

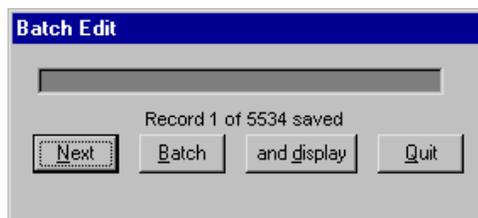
Edit > Index On
Ctrl + Shift + I

This is why the Edit menu contains the command Edit > Index On. This command is superfluous when you're editing by hand, but when you're setting up a batch edit it's a lifesaver. If a word isn't indexed, the command will index it; if a word is already indexed, the command will do nothing.

And if you want to make sure that something's definitely unindexed? That's easy too: use Edit > Index On to make sure that it's indexed, and then Ctrl to unindex it.

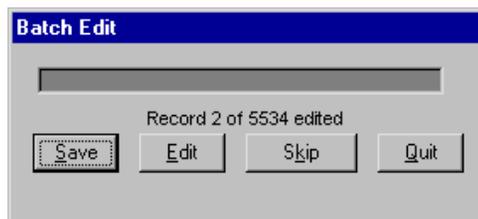
Performing the batch edit

When you've edited your first record, use File > Save or Ctrl + S to save it.



Press Batch (or type B) to edit the whole of the rest of the selection using the same keystrokes that Cardbox has just recorded. Display (or D) does the same thing except that it displays each record after it has been edited.

If you're feeling cautious, you can go more slowly. Press Next (or type N). Cardbox will edit the record and present you with another message:



Have a look at the edited record. If you like what you see, press Save (or type S) and Cardbox will save the record and offer you the choice of "Next / Batch / Display / Quit" again. You can alternate Save and Next until you're sure that the editing is working the way you want it, and then press Batch to let Cardbox edit the rest of the selection fast.

If you realise that some more editing needs to be done, press Edit (or type E): any editing you do now will be added to the keystrokes that Cardbox has already memorised.

If you want to leave this record untouched and go on to the next one, press Skip (or type K). Cardbox will abandon the changes it has made to this record and move forward to edit the next record in the selection.

If you want to abandon the batch edit altogether, press Quit (or type Q). Cardbox will abandon the changes it has made to this record and stop the batch edit.

Batch editing a handful of records

The official use of batch editing is to edit the whole of a selection, or the whole of it starting from a certain point. Officially, if you want to edit a few records in the middle of a selection, you should select them and then batch edit the whole of that smaller selection.

For small selections, there is a good and lazy alternative using step-by-step batch editing. Suppose you want to edit four consecutive records in an identical way. Move onto the first one and set up the batch edit. Save the record, then type N for Next, S for Save, N, S, N, S (you'll now have edited four records and Cardbox will be asking you if you want to move on to the fifth), and then Q for Quit to terminate the batch edit. Once you get the hang of it, this is simple and very fast, and the only danger is that your fingers could run away with themselves and repeat the "N, S" sequence too many times.

To store images you need to create an image field: see “Format Design”, page 189.

Adding images

When you’re adding a new record that has an image field, or editing an existing one, you can add new images to it. There are three steps involved:

1. Get the image into Cardbox.
2. Tell Cardbox how to preprocess it – for instance, by rotating or resizing it. This step is optional.
3. Tell Cardbox whether the image is a picture or a document and how you want it to be compressed. This step is often automatic.

Getting the image into Cardbox

To start with, you have to be editing a record: – either an existing record or a newly created one.

Importing from an existing image file

- You may have some image files that have been saved by other programs or sent to you as attachments.
- Many fax-to-email gateways send you your faxes as files attached to an email.
- Some photographic processors give you your pictures as files on a CDROM as well as giving you prints.
- Some digital cameras store pictures in removable memory that you can then plug into your computer, and when you plug the memory card or stick into your computer, it appears to Windows as a folder, with each photograph being a separate file.

While editing a record, you can read an image from a file by selecting the image field and using **Edit > Insert Object**, or by right-clicking on it and selecting “Load From File” from the pop-up menu.

While you are in the image window, you can read an image from a file by clicking on the toolbar button, or pressing **Ctrl + R**, or right-clicking anywhere in the image window and selecting “Load From File” from the pop-up menu.

You’ll see a conventional Windows “Open File” box. Navigate to the file you want, and either double-click on it or select it and then press the Open button. Cardbox can read files in JPEG, GIF, TIFF, BMP, and Kodak PhotoCD formats.



Pasting an image from the Clipboard

While editing a record, you can paste an image from the Clipboard by selecting the image field and using Edit > Paste, or by right-clicking on it and selecting “Paste” from the pop-up menu.



While you are in the image window, you can paste an image from the Clipboard by clicking on the toolbar button, or pressing Ctrl + V, or right-clicking anywhere in the image window and selecting “Paste” from the pop-up menu.

The Paste command is enabled only when there is an image in the Clipboard.

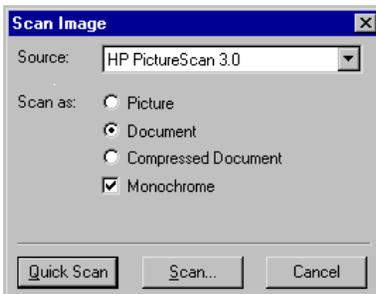
Using a scanner

Cardbox can receive images from any scanner that uses the industry-standard TWAIN interface.

While editing a record, you can scan an image by right-clicking on the image field and selecting “Scan” from the pop-up menu.



While you are in the image window, you can scan an image by clicking on the toolbar button, or pressing Ctrl + N, or right-clicking anywhere in the image window and selecting “Scan” from the pop-up menu.



Source	If you have more than one TWAIN device (for example, a scanner and a camera), then choose which one you want to use.
Scan As	This option helps Cardbox to negotiate the correct scanning mode and resolution with the scanner. Picture is a continuous-tone image such as a photograph. Document is a printed or handwritten document, or a line drawing. Compressed Document tells Cardbox that this document will be stored in Compressed format (see p.140). If Cardbox knows this at the time that the document is scanned, it can choose the most appropriate settings.
Monochrome	Set this option if you want the scanner to ignore any colour when scanning the image.

Using a scanner: Quick Scan

If you press the Quick Scan button, the scanner will start at once. It will scan one page, and then you will be returned to the Scan Image window. You can then change the paper and press Quick Scan again, or you can press Close to return to Cardbox.

With Quick Scan, Cardbox sets scanning resolutions of 200dpi for documents and 150dpi for images. These settings are sufficient for normal purposes. If you want to use a different resolution, use Scan instead of Quick Scan; or you can change Cardbox's built-in Quick Scan settings by holding down the Shift key as you press the Quick Scan button.

Using a scanner: Scan

The Scan button gives you access to the full facilities of your scanner. When you press it, the scanner's own dialog box pops up. Typically this will let you set a wide range of options, such as the following:

- Size and location of the scan area.
- Resolution.
- Sharpness.
- Colour adjustment.
- Automatic sheet feeding.

We can't show you what the scanner's dialog box will look like because it varies from one model of scanner to the next, and we can't even tell you what features it will include. You will have to read the scanner's documentation, or just try it and see.

If you use the Scan button, then scanners with automatic document feed will scan a whole batch of documents before returning you to Cardbox (but this, too, depends on exactly how the scanner's manufacturers have written their TWAIN software).

Using a camera

If your camera has removable storage in the form of a card or other device, you may be able to take the storage unit out of your camera and plug it into your computer. In this case, it will appear to Windows as a folder containing files, and you can import images from those files just as if they were on your hard disk.

The commonest alternative is that you can connect your camera to your computer through a USB or FireWire connection, and that you'll have a TWAIN interface for the camera. In that case, follow the instructions for using a scanner. Quick Scan

will often take a photograph there and then, while Scan is likelier to allow the importing of photographs that the camera has already taken. There are some exceptions, though. One very early Kodak camera responds to TWAIN and shows you the pictures the camera has taken but it doesn't allow you to send them to your program through TWAIN: instead, you have to save them to your computer's hard disk and then import them from there. We suspect that Kodak, and camera manufacturers generally, have learnt more about user interfaces since then.

Preprocessing the image

Two of the menu options, **Override Resolution** and **Override Size**, are very specialised: see Help Point 554.

Preprocessing is entirely optional and most of the time you won't need it. To preprocess an image, first get it into Cardbox, then right-click on it in the image window and select "Preprocess" from the pop-up menu.

Rotate

Most scanners assume that everything they scan is in portrait format – that is, taller than it is wide – so that if you scan a document that's in landscape format, it'll appear sideways on the screen. The same sort of thing can happen with cameras, but the other way round: they naturally take photographs in landscape format, so if you turn your camera sideways to do portrait format, the picture will appear sideways when it gets into your computer.

Sideways images are tiring to look at, so Cardbox lets you rotate an image after it has received it but before storing it in your database. That way you can make sure that everything is upright when it's stored.

If you use the same rotation setting often, you can tell Cardbox to save it as a default: that setting will then be applied to all images of the same type unless you override it. To save the rotation setting, select "Save These Settings" from the Preprocess popup menu.

Compressing and storing the image

To keep your database a reasonable size, Cardbox has to compress the images it contains. Cardbox uses different strategies when storing pictures and documents.

Pictures are continuous-tone images. For these, the most appropriate compression method is JPEG.

Documents are images with lines, or with large areas of solid colour. Cardbox uses its own compression method, which yields very good quality.

In many cases, Cardbox can decide automatically whether a particular image is a picture or a document. For example, a JPEG file is always a picture and a GIF file can always be compressed as a document. You can also tell Cardbox the image type by right-clicking on the image window and selecting Picture or Document from the pop-up menu. You don't have to do this very often, because Cardbox remembers the last Picture or Document setting separately for each file type and for each source of scanned images.

Checking your options

The image window shows the effect of the options you have set: this is because it shows the image after processing, not before. At the right-hand edge of the status bar you'll see the storage size needed by the current image. So it's easy to experiment with different settings and see how they affect quality and storage requirements.

If you say Picture for a document or Document for a photograph, it's not the end of the world. The image quality may be less good, or the image may take more storage, but that is all: and you can check these things by looking at the image window. Altogether, disasters are unlikely!

The Store Compressed option

In the pop-up menu that you get when you right-click on the image window, you'll see an option saying "Store Compressed". For pictures, this simply reduces the storage requirement by reducing the quality of the JPEG compression.

For documents, Store Compressed is more radical. The image quality will be reduced, but for normal typescript the result will still be readable and the storage can be really tiny (we've found around 26KB for a sheet of typed A4). Store Compressed for documents isn't a setting to use if you want the result to look beautiful, but for archival purposes it can be entirely adequate.

Do try out Store Compressed before you decide on a policy of using it. Look out for very thin lines, which can sometimes disappear. Store Compressed works differently for colour and monochrome scanned documents, so if you find it too radical when you try it on monochrome documents, try a colour scan instead, in case that looks better.

Deconstructing Figaro – Lecture**17 May, 5.30 - 7.00 pm – Gresham College****5.30 – 7.00 pm**

Following our very successful *Zaide* event at Gresham College last year, we have been invited to return in May. Ian Page - conductor and Artistic Director of the Classical Opera Company - will be giving an informal talk, illustrated by two of our singers, exploring the opening scene of *The Marriage of Figaro*. This event is open to the public and free of charge.

Mozart in Italy recital**6 July – Estorick Collection of Modern Italian Art (Canonbury Square)****6.30 pm drinks, concert at 7.30 pm**

We shall be giving an hour-long recital, illustrating Mozart's stay in Italy, with singers and piano at the Estorick Collection in Islington. The event will be open to the public and tickets can be purchased through our office at £25 each (which includes wine).

Mitridate, Re Di Ponto – concert performance**21 July - St John's Smith Square****7.00 pm**

Mitridate, Re di Ponto was the first of the three Mozart's operas commissioned for Italy and it was premiered at the Teatro Regio Ducale, Milan in 1770. No other Mozart opera has so many different versions, sketches and variants of the individual numbers – as the singers were initially distrustful of the young composer, and believed their experience to be greater than his, they insisted on numerous re-writes! The original manuscript has not survived and it is impossible to identify an absolutely 'original' version, but we shall be reinstating several of Mozart's original settings, including a stunningly beautiful duet at the close of Act 2. Two of the arias are being completed by the renowned scholar and leading Mozart expert **Stanley Sadie**. Cast includes **Tom Randle, Cora Burggraaf** and **Rebecca Bottone**

Monochrome Document scans, actual size.

Above left, with Store Compressed; above right, without Store Compressed. In this case, the whole A4 document (of which only a part can be seen here) took 50KB with Store Compressed and 100KB without it. Below right, an enlarged detail showing the difference in quality.



Note: you can always get higher quality scans if you need them, just by increasing the resolution in dots per inch.

Rearranging and deleting images

Rearranging images

If you've got several images attached to a record, you can rearrange the order they come in if you open the Thumbnail view (see "Thumbnails", p.72). Click on the thumbnail that you want to move, and drag it to where you want it to go. A small arrow will show you where the image is going to end up: when the arrow is in the right place, release the mouse button.

Deleting images

While editing a record, you can delete an image by right-clicking on the image field and selecting "Delete" from the pop-up menu.

While you are in the image window, you can delete an image by clicking on the toolbar button, or pressing the Delete key, or right-clicking anywhere in the image window and selecting "Delete" from the pop-up menu.

When you've deleted an image, it appears as a big red cross until you save the record. You can undelete an image before you save the record, by repeating exactly the same instructions as for deletion. Once you've saved a record, any images that you deleted in it are lost forever.

Editing images

Cardbox doesn't allow you to edit images directly. To edit an image, you have to export it to a file, edit the file using an image editing program such as Microsoft Paint or Adobe Photoshop, and then import the edited file; or you could achieve the same sort of transfer by copying and pasting via the Clipboard.

For more guidance, see
Help Point 514.



Deduplication

Only the Professional Edition of Cardbox can do deduplication.

If you are running something like a mailing list it is easy to end up with duplicate records, especially if several people are contributing to the list or parts of it have come from different sources. This irritates the recipient (you have probably been on the receiving end of this yourself) and it wastes resources whenever you do a mailing.

Tools > Deduplicate allows you to identify real or potential duplicates so that you can then go through those records, inspect them, and remove any that you do not want.

What the Deduplicate command does

For more about black and red tags, see “Tags and Tagging”, p.93.

Cardbox goes through your current selection of records and tries to see if any records appear similar. For each group of similar records that it finds, Cardbox tags every record in the group with a red tag, and it tags all records except the first with a black tag as well. This gives you a choice: you can use red tags to select all groups of similar records, or you can use black tags to select all potential duplicates and delete them.

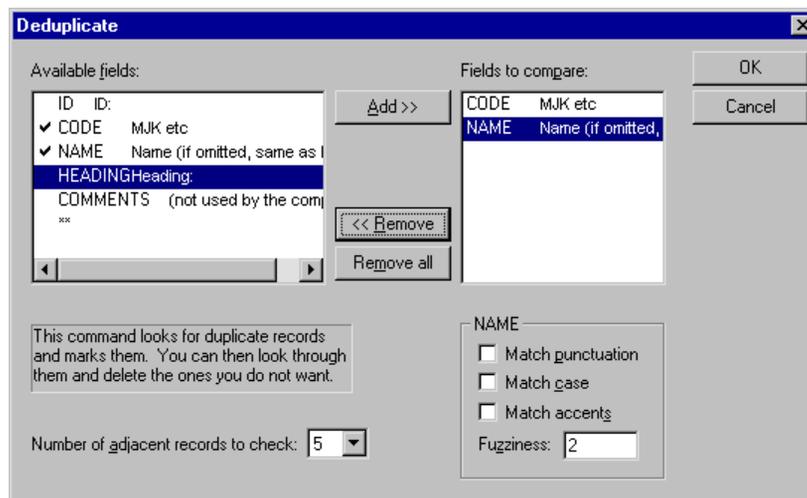
Cardbox cannot compare every record to every other, because that would take too long (on a 45,000-record database, it would mean over a thousand million comparisons). Instead, it looks at records that are close to one another in the current sequence. For this reason, you would normally sort records into sequence before you try to deduplicate them.

How to deduplicate a database

1. Decide what fields you will use to define whether two records are duplicates of each other. For example, in a contacts database, you might decide to use the person's name but not the date of last contact.
2. Use View > Sequence to sort the database into order using those fields. The aim of this exercise is to make a sequence in which similar records are close together. If you are sorting on just one field, you will probably get better results if you create a custom sequence using just that field, rather than using a simple single-field sort: this is because the custom sequence will look at every indexed word in the field rather than just the first one.
3. Use Tools > Deduplicate and tell Cardbox which fields to look at.
4. Cardbox will select the records that appear to be duplicates of each other.

5. If you are confident that all the duplicates really are duplicates, just use **Tag > Select** to select the black-tagged records, followed by **Edit > Batch > Delete** to delete them.
6. If you are not quite sure if everything that Cardbox has found really is a duplicate (for example, if you have been comparing records by name, and two different people might genuinely have the same name), then browse through the records and tag or untag them as appropriate before selecting and deleting the tagged records.

Specifying the deduplication

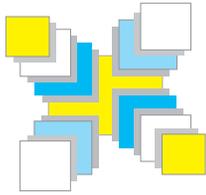


On the right is a list of the fields that Cardbox will use when comparing records. To add a field to the list, select it in **Available Fields** and press **Add**; or just double-click on it. The order in which the fields appear in the list doesn't matter.

For more about fuzziness, see "Fuzzy Matching", p.87.

You can set options that control how Cardbox compares two records according to a particular field. To do this, click on the field in **Fields To Compare**. The **Fuzziness** option says how closely two records have to resemble each other before they are considered identical: 0 means there must be an exact match on this field, while (for example) 2 means that there can be two characters' difference between the text in this field and the records will still be considered identical.

The **Number of Adjacent Records** setting controls how many neighbouring records Cardbox will look at when checking for duplicates. A higher number will make the deduplication slower but will be better at finding duplicate records even if they are far apart in the sorted sequence.



Part Five

Creation

*How to create a new database; what formats contain;
how to create and edit formats.*

BASIC NAME, ADDRESS INFORMATION				MACROS				GIFTS AND GOALS (Sub F7 transfer)				TIME & TALENTS			
<p>Dr & Mrs [Name] [Address] [Postcode]</p> <p>Home: 0114 988 3383 Mobile: 07978 000000 Work: 0114 435 0000</p> <p>Children: [Name], [Name]</p>				<p>After entering basic information please use the following macros:</p> <p>Without house name: [Macro]</p> <p>With house name: [Macro]</p> <p>Without house name: [Macro]</p> <p>With house name: [Macro]</p>				<p>Age: [Age] Occupation: [Occupation] Previous occupation: [Previous occupation]</p> <p>Activities Involved in: [Activities]</p> <p>Activities Interested in: [Activities]</p>				<p>Date of update: 27/11/2008</p> <p>Position: [Position]</p> <p>Offers: [Offers]</p> <p>Role in Church: [Role]</p>			
<p>Dr & Mrs [Name] [Address] [Postcode]</p> <p>Home: [Address] Work: [Address]</p> <p>Children: [Name], [Name]</p>				<p>Parish List: [List]</p> <p>Left Church: [List]</p> <p>Moved: [List]</p> <p>Widowed: [List]</p> <p>Funeral: [List]</p>				<p>Christian Names: [Names] Dates: [Dates]</p> <p>Personnel: [Personnel]</p> <p>Finances' Title: [Title] Surname: [Surname] Initials: [Initials] Tel: [Tel] Mobile: [Mobile]</p>				<p>RED ZONE: PLEASE DO NOT MAKE ENTRY HERE</p> <p>Address at time of Baptism: [Address]</p> <p>GROOM'S ADDRESS AT TIME OF WEDDING: [Address]</p> <p>RED ZONE: DO NOT ENTER HERE</p> <p>Next of Kin's Address at Funeral: [Address]</p>			
<p>OTHER INFORMATION (BAPTISM, CONFIRMATION, PCC, HGS, ER, & STEWARDSHIP)</p> <p>Post-Infant Baptisms: [List]</p> <p>Confirmed as an adult: [List]</p> <p>Membership: [List]</p>				<p>Change of Address: [List]</p> <p>With house name: [List]</p> <p>Without house name: [List]</p>				<p>Funeral: [List]</p> <p>Next of Kin: [List]</p> <p>Deceased: [List]</p>				<p>RED ZONE: DO NOT ENTER HERE</p> <p>Scattering of Ashes: [List]</p> <p>Burial of Ashes: [List]</p>			
<p>PASTORAL INFORMATION</p> <p>Visits: [List]</p> <p>Bury: [List]</p> <p>Housebound, Clergy Visit: [List]</p>				<p>Funerals: [List]</p> <p>Burial or Burial/Scattering Ashes: [List]</p>				<p>RED ZONE: DO NOT ENTER HERE</p> <p>Year: [Year] Month: [Month] Day: [Day]</p>				<p>RED ZONE: DO NOT ENTER HERE</p> <p>Year: [Year] Month: [Month] Day: [Day]</p>			
<p>EXTRA INFORMATION</p> <p>Church Affiliation Title: [List]</p> <p>Special Name: [List] Title: [List]</p> <p>Age: A, 16-21; B, 21-30; C, 31-50; D, 51-60; E, 61 +; J, 12-15; Ch, S-12; EXTRA e-mail: [List]</p>				<p>Under-taker: [List] Paid by under-taker: [List]</p> <p>Letter re bereavement service (Y): [List] Cash: [List]</p> <p>Bereavement: [List] Visitor: [List] Cheque: [List]</p>				<p>RED ZONE: DO NOT ENTER HERE</p> <p>Year: [Year] Month: [Month] Day: [Day]</p>				<p>RED ZONE: DO NOT ENTER HERE</p> <p>Year: [Year] Month: [Month] Day: [Day]</p>			
<p>MISSION</p> <p>Date: [Date]</p> <p>Name of Mission: [List]</p> <p>Christian Name: [List]</p> <p>Title: [List]</p> <p>Initials: [List]</p> <p>Response: [List]</p> <p>Commitment: [List]</p> <p>Assurance: [List]</p> <p>Rededication: [List]</p> <p>Interested: [List]</p> <p>Special Needs: [List]</p> <p>Clergy Reference: [List]</p> <p>Bridge Builder: [List]</p>				<p>RED ZONE: DO NOT ENTER HERE</p> <p>Year: [Year] Month: [Month] Day: [Day]</p>				<p>RED ZONE: DO NOT ENTER HERE</p> <p>Year: [Year] Month: [Month] Day: [Day]</p>				<p>RED ZONE: DO NOT ENTER HERE</p> <p>Year: [Year] Month: [Month] Day: [Day]</p>			

Ecclesall Parish Church uses Cardbox extensively. This database follows parishioners through birth, marriage and death, it notes who needs help and who can offer support. This is its native format. Colour coding indicates the fields that only certain people are allowed to modify. Extensive use is made of macros to make operations easier. Scrolling allows you to move to different parts of the format, and alternative formats exist to give more restricted, compact views, as well as for a very wide range of standard letters. Using macros, the database has also been adapted to store and calculate financial information relating to giving, recoverable tax, etc.

How to create a database

Now that you know how to use a Cardbox database, the only remaining thing is to explain how to create one.

To create a database, you have to do three things:

Create an empty database file – you have to decide what it should be called and where it should be stored.

Define the native format – this will tell Cardbox what fields exist and how to lay them out on the screen. Format definition is covered in detail starting on page 177.

Enter the data – type records in by hand, or read them in bulk from a file or from another database.

Sometimes you may want to create a database that is identical in layout to one you already have. In that case, you can copy the native format, or copy all formats, without having to design them all over again by hand: see page 175.

Creating an empty database file

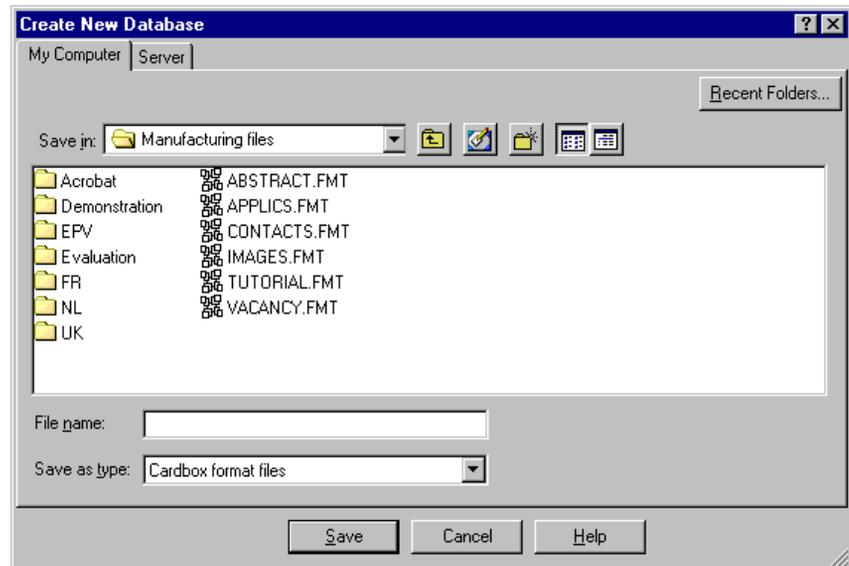
You can create a database on your own computer, or in a shared location (on your LAN or on the Internet) by using a Cardbox server.

To create a database on your own computer, you need the Home or Professional Edition of Cardbox: the Client Edition can't create databases on your computer.

To create a database on a Cardbox server, any edition of Cardbox will work, but you need the permission of the server's administrator, who may also assign the name of the database for you.

Creating a database on your own computer

Use File > New Database and select the My Computer tab. This looks just like any other Save File box in Windows.



- You start by seeing the folder you used last time you opened a database.
- At the top right-hand corner you'll see a Recent Folders button. This lets you jump directly to folders you have opened databases in recently.
- The list of files that you see is a list of files that already exist, so you should choose a filename that does not already appear on the list.

Choose a filename that will remind you what the database is, and take care to choose an appropriate folder to put it in. How you organize your folders is up to you, but there is nothing more irritating than creating a file and then forgetting where you have put it.

The files used by a Cardbox database

Each Cardbox database lives in two files.

The format file (filetype .FMT) contains the definitions of all the formats that you have created for this database.

The database file (filetype .FIL) contains all the actual data.

If you need to copy a database from one location to another, copy both files. If you need to back it up, back up both files. If you need to rename it, rename both files. If you need to delete it, delete both files.

Creating a database that looks like another database

Sometimes you may want to create a database that has all the same formats as a database you already have, either because you really want it to have an identical structure or because it's easier to modify the existing formats than to design everything from scratch. To do this:

Before copying a format file, make sure the database isn't currently open in Cardbox.

1. Make a copy of the format file. You probably already know how to copy files using Windows Explorer, but in case it isn't something you do very often, we find that the easiest way is to select the file, press Ctrl + C to copy it to the Clipboard, then move to the destination folder and press Ctrl + V to paste the file. The destination folder can be the same as the original folder: in that case, Windows will give the copy a new name: for instance, MyDatabase.FMT could become Copy Of MyDatabase.FMT.
2. Rename the copy if necessary, so that its name will remind you which database this is. Renaming files can be done with Windows Explorer in several different ways. One of the most reliable is to right-click on the file and select Rename from the pop-up menu.
3. In Cardbox, use File > New Database » My Computer, locate the new copy you have just made, and double-click on it (or select it and press the Save button). Cardbox will see that the format file already exists and will create a corresponding database file.

Creating databases on a network

You aren't confined to files on your own computer: if you've got access to shared drives on your network, you can use the My Computer tab to create files on those drives as well. But remember that when you open a database using the My Computer tab you get exclusive access to it and no-one else can open the database as long as you have it open. To create a database so that several people can use it at the same time, you have to use the Server tab.

The Networking and Security manual describes how to set up new databases on a Cardbox server.

Creating a database on a Cardbox server

A database that resides on a Cardbox server can be opened by many people at the same time.

To create a database on a Cardbox server, you need to have the permission of the administrator of that server, and in most cases the administrator will need to choose the name of the database for you. Use the command **File > New Database » Server**, pick the server you want to use, and either pick the appropriate filename from the list on the right or type the filename you have been told to type.

For more details about the process of connecting to a server and picking a file, see “Open command: Server tab” on page 57.

About formats

A format is what gives a Cardbox record its structure. When you see a record on the screen, the record data determine the content of what you see but the format determines its shape. Data without a format are like a body without bones: shapeless and not much use.

The simplest possible database would have just one format that you used equally for data entry, searching, and record display. Sometimes this is all you need. For example, our password database (where we store all the user names and passwords to get us into various web sites) is only ever going to be used in one way, so it only really needs one format. Most databases need more formats than this: a spacious one for data entry, with plenty of prompts to give guidance to whoever is putting the data in; a more austere one for searches; a one-line format for summaries; and formats for creating mailing labels and mail-merged letters. There is no practical limit to how many formats you can have in a database.

The native format

The first format you create for a database is called the native format. It works like any other format, but in addition it defines the structure of the database as a whole: to create a field in the database, you create it in the native format.

The things a format can contain

When you start designing a new format you are faced with a big blank screen. The things you can place on this screen are:

- Fields.
- Merge blocks.
- Fixed text.
- Lines and boxes.
- Graphics.
- Pushbuttons.
- Headings and footings.

Fields (p.189)

A field holds data. It is the fundamental unit of a Cardbox database.

A field can be as big or as small as you like: just one character, or many lines long. The size of a field on the screen does not limit the amount of text that the field can contain, but for most purposes it is better to have some reasonable relationship between the two, because scrolling within a field can be awkward.

To find out what fields exist in a database, Cardbox looks in the native format, so although a field doesn't need to occur in every single format in the database (some formats may not even have any fields at all) every field must always occur in the native format.

Name:		NA
Position:		PO
Org'sation:		ORGANISATION
Address:		
		ADDRESS
County:	CO	Area: AR
Postcode	PC	MailCode: MC
Country:		CY

Name: Anthony **Alcott**
 Position:
 Org'sation: **Alcott Associates**
 Address: 8 Gresham Road
Bexhill-on-Sea

County: **East Sussex** Area: **SS**
 Postcode **TN39 6DT** MailCode: **1**
 Country:

Merge blocks (p.195)

A merge block contains text mixed with field references. When Cardbox comes to display or print a merge block, it fills in the field references with the actual contents of the field and word-wraps the result as if it were a single piece of continuous text. You can put the whole of a standard letter into a single merge block; at the other extreme, you can have a merge block that contains nothing but field references, to join fields together to make a suitable address for a mailing label. Even a merge block containing a single field has its uses, because merge blocks can grow and shrink according to the text they contain while fields have a fixed size and position on the screen.

As well as field references, a merge block can contain several other kinds of data, including the page number, the record number within the current selection, and the date.

This merge block pulls together the text of two fields to display a candidate's name.

Born. 19 DB	{DEAR_STAFF} {SN}
V	AVAILABILITY AV
FN	AV
	LAST CONTACT LD
EXU	LD
EX	COMPUTER SYSTEMS CS

Born. 19 67	Jerry Fisher
V	AVAILABILITY AV
	1 WEEK NOTICE
	LAST CONTACT LD
1/2002 CT	22/03/2004 MJDS
X	COMPUTER SYSTEMS CS

Merge blocks can also control the appearance of the fields they use: here, by adding italics.

{AUTHOR}, {+I}{TITLE}{-I}, ({PUBLISHER}, {WHERE}, {WHEN}).

E. Childers, *War and the Arme Blanche*, (Edward Arnold, London, 1910).

Fixed text (p.199)

Fixed text in a format is just text: it has no meaning as far as Cardbox is concerned. Cardbox displays or prints it in the location you specify, and that's all.

Fixed text is useful for headings, hints and reminders.

Lines and boxes (p.201)

Lines and boxes can make a format easier to read and understand, collecting groups of related items together or acting as separators. Lines and boxes are the same thing as far as Cardbox is concerned: if you draw along a row or a column, you get a line; if you draw diagonally, you get a box.

Fixed text and lines will appear identically in every record. This format is used for data entry. Other formats in this database, used for searches and reports, save space by not including fixed text or lines.

NA		SN:	SN	All:	AL
1	Dirs/cash		9	Light & Heat	
2	Bank	CF	10	HP & Leasing	
3	Car Exp.		11	Cost of Sales	
4	Travel		12	Conf/Pub/Adv	
4.1	Entert		13	Fees	

	SN:46	All:1
1 Dirs/cash		9 Light & Heat
2 Bank flow		10 HP & Leasing
3 Car Exp.		11 Cost of Sales
4 Travel		12 Conf/Pub/Adv
4.1 Entert		13 Fees

Graphics (p.202)

A graphic has no meaning as far as Cardbox is concerned. When Cardbox displays or prints your records, it will include your graphic in the place you drew it in the format. Because they have no function, graphics are never essential; but they are useful:

- To include logos or symbols.
- To reproduce a letterheading.
- To provide a background picture for the format.

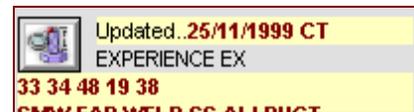
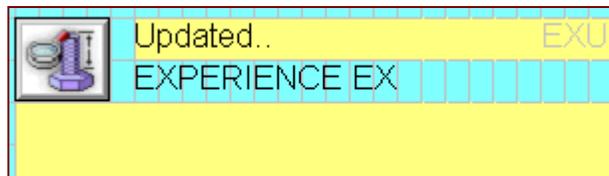
Here is a logo that can be used at the top of a mail-merged letter.



Pushbuttons (p.203)

Pushbuttons perform an action when you click on them with the mouse. The action can be a macro or a separate program command.

The position of this pushbutton makes it clear that clicking on the button will do something to the adjacent fields.



Headings and footings (p.188)

Headings and footings aren't separate items as such, they are simply distinct parts of the format design screen, and they can contain any format element except a field. You can have headings and footings for each page, and you can also have continuation headings and footings that appear only if a record has to be split across pages. Headings and footings normally apply to printed output only, but you can set a format property to make Cardbox show the page heading at the top of your screen display.

Format properties (p.204)

There are various facts about a format that don't correspond exactly to a visual item on the format design screen: Cardbox refers to these as the format properties. They include

- The Extra Text field.
- The order in which fields are visited when you are editing a record and press the Tab key to move to the next field.
- Whether Cardbox should join consecutive records to make the whole page into a ruled form.
- What dictionaries to use for spelling checks, and which fields to check automatically.
- The appearance of the format: see "Appearance", p.107.
- The printer settings: see "Printer Settings", p.115.

How to edit or create a format



Edit > Format > New
Ctrl + Shift + N



File > Save
Ctrl + S

Edit > Format > Duplicate
Ctrl + Shift + D

File > Save
Ctrl + S

For more about
copying formats, see
Help Point 589.



Edit > Format > Edit
Ctrl + Shift + E



File > Save
Ctrl + S



File > Quit
Ctrl + Q

Creating a blank format

Edit > Format > New creates a new, blank format as a basis for your design. When you have finished designing the format, use File > Save to save it: Cardbox will ask you for a name to give to the new format.

Creating a new format based on an existing one

You will often find yourself wanting to create a format that is almost identical to one that's already there, especially if you regularly create standard letters for mail-merging. To create a new format that resembles an existing one, select the existing format with View > Change Format and then do Edit > Format > Duplicate. This creates a new format; but instead of being blank, the format is identical to the one you were just looking at. Now you can make any changes that you need and then use File > Save. Cardbox will ask you for a name to give to the new format, and the original format will be left unchanged.

Copying a format from one database to another

Sometimes people maintain similar but separate databases and they want to copy a format from one database to another. This isn't quite as simple as it sounds because there's no guarantee that the field names you gave to one database are the same as the field names you gave to the other one, but Cardbox can overcome these difficulties.

Editing an existing format

To edit the format that you are currently using to view records, do Edit > Format > Edit.

If you want to edit a different format, use View > Change Format to switch to it before you start editing.

When you've finished editing the format, use File > Save to save your changes.

Cancelling an edit

If you don't like the changes you've made, use File > Quit Without Saving to discard them and leave the original format untouched.

The format design screen

When you start editing a format, Cardbox will display the format design screen. This has a grid on which you can position the various format items, and vertical and horizontal rulers to control the format width, position of headings, etc.

Zooming in and out

Because editing a format involves a lot of precise movement, you may want to zoom in on the display (enlarge it) so you can see and manipulate things more clearly. Conversely, if you have a large format and want to see what it looks like as a whole, you may want to zoom out and get a reduced view that fits on the screen.



View > $\times 1\frac{1}{2}$
View > $\times 2$



View > $\div 2$
View > $\div 1\frac{1}{2}$



View > Actual Size

To zoom in with the keyboard, hold down Ctrl and press + (plus) on the numeric keypad. With a wheel mouse, hold down Ctrl and roll the mouse wheel towards you.

To zoom out with the keyboard, hold down Ctrl and press - (minus) on the numeric keypad. With a wheel mouse, hold down Ctrl and roll the mouse wheel away from you.

To unzoom the format, use View > Actual Size.

Scrolling

If the format design is too large for the window, you'll see scroll bars. You can use the scroll bars to scroll to the area of the design that interests you, but you have a couple of alternatives that may be more convenient:

You can scroll vertically by dragging the vertical ruler up and down. If you have a wheel mouse, you can also scroll vertically by rolling the mouse wheel.

You can scroll horizontally by dragging the horizontal ruler sideways. If you have a wheel mouse, you can also scroll horizontally by holding down Shift and rolling the mouse wheel.

Selecting items

Before you can manipulate a format item you need to select it. The simplest thing is to click on the item you want to select. If you want to select more than one item, there are two ways of doing this:

- Click on the first item you want to select and then hold down the Ctrl key as you click on each of the others. If you select an item by mistake, you can Ctrl + click on it again to deselect it.
- Click on the format background and hold the mouse button down. As you drag the mouse diagonally, a rectangle will appear: when you release the mouse, any format item that is inside the rectangle (or intersects it) will be selected.

If you want to select all items, use **Edit > Select All**.

To deselect all items, click on the format background.

Moving items

To move a selected item (or items), move the mouse onto it, press the mouse button, and keep it pressed as you drag the mouse in the direction you want to go. You'll see the items moving. When you have got to where you want to go, release the mouse button.

For precise control of movement, you can use the keyboard: the arrow keys will move your selected item(s) one row or column at a time.

Resizing items

Select the item you want to resize (you can only resize one item at a time). Move the mouse onto one of the square "sizing handles" at the edge of the item, and drag it in the direction you want.

For precise control, you can use the keyboard: if you hold down the Shift key, the arrow keys will enlarge or shrink the selected item.

You can't resize fixed text, because its size is calculated automatically from the text it contains.

Deleting items

To delete items from your design, select them and then press the Delete key.

What happens when a field is deleted

If you delete a field in an alternative format, the field disappears from that format. If you delete a field in the native format then that effectively deletes the field from the database. This is a dramatic step, so Cardbox maintains the field as a half-alive “ghost” until you definitely decide to purge it for ever. Ghost fields can be re-created with little or no data loss.

For more about the fate of deleted fields, see Help Point 538.

Undoing a change

To undo the last change that you made to the format design, use **Edit > Undo**. Cardbox remembers quite a few changes, so you can use this command several times in a row. If find that you’ve undone too much, use **Edit > Redo** to restore the changes you didn’t mean to undo.



Edit > Undo
Ctrl + Z
Edit > Redo
Ctrl + Y

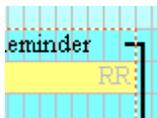
Overlapping items

Format items shouldn’t overlap because Cardbox won’t know which of them to draw: it won’t be a disaster if you include them in your format but the result will look strange. In the format design, overlapping areas are shown by red-and-white diagonal stripes. If you don’t notice the overlap, Cardbox will warn you about it when you save the format.



The printable area

If you are designing a format to be used for printing, it helps to see on the screen how much space you have available. Most paper is narrower than most screens, and mailing labels are of course much smaller than the screen.

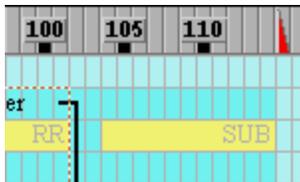


Cardbox shows you how big the printable area is compared to your format design, with a subtle orange-and-white dotted line. This shouldn’t irritate or confuse you while you’re designing your format, but if it does then you can use **View > Printable Area** to turn it off.

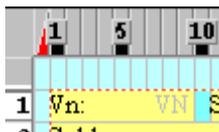
The size of the printable area depends on the fonts you are using and also on your printer settings: see “Appearance” (p.107) and “Printer Settings” (p.115).

Format width

On the horizontal ruler, the red markers show the width of your format design, and in the design screen, the area between those markers is shown in a darker blue. If you put format items outside the current width, Cardbox will automatically increase the width when you save the format, but it won't automatically reduce the width if you delete format items.



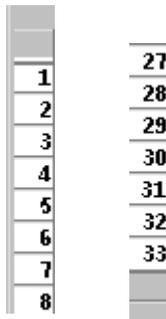
You can widen or narrow a format by dragging the right-hand red marker across (move the mouse onto the marker, let the cursor change shape, then drag). If you're only planning to use a format on the screen then its width isn't very important; but if you're printing, Cardbox will check that the format fits inside the area that's available on the paper. If you're faced with a format that's too wide (and you don't want to do something drastic about it, like reducing the font size or printing in landscape format) then you can use the red marker to make it narrower – of course, you'll have to move any format items that stick out beyond the new position of the marker as well, or Cardbox will just widen the format for you all over again when you save it!



You can also make the format wider by dragging the left-hand red marker instead of the right-hand one. This is sometimes useful, because it moves the edge of the format without moving any format items and therefore has the effect of giving you some blank columns on the left of the format – which can be less work than selecting all the format items and dragging them to the right.

Format height

On the vertical ruler, you'll see numbers counting from 1, showing the height of your current format design and the row number of each row within it. If you click on the numbered area it will turn white: if you then move your mouse to the thick border just above the number 1 or just below the last number, the mouse pointer will change shape, and you can depress the mouse button and drag the thick border up or down in order to change the height of the format. If you drag upwards from the top, you'll get blank lines at the top of the format; if you drag downwards from the bottom, you'll get blank lines at the bottom.



If you have format items sticking out beyond the numbered area, Cardbox will automatically make the format taller when you save it; but it is sometimes useful to set the height yourself, by hand – for instance, if you want to have blank lines before or after your data.

Headings and footings

There are four kinds of headings and footings. The single-letter codes are the way that these areas are identified in the vertical ruler.

- H The page heading appears at the top of each printed page. If you turn on Screen Also Shows Page Headings (in **Edit > Format Properties » General**), then the page heading will also appear at the top of the screen, assuming that the display window is tall enough to accommodate a list of records and not just one record.
- F The page footing appears at the bottom of each printed page.
- f If a record is split between two pages, the continuation footing appears at the bottom of the first page, just above the page footing (if any)...
- h ... and the continuation heading appears at the top of the second page, just below the page heading (if any).

To insert a heading or footing

Use the command **Insert > Headings/Footings** and pick the kind of heading or footing you want to create. You'll see that the vertical ruler now contains a new row, numbered with a prefix letter: for instance, H1 for the page heading.

You can now put format items into the new area. You can use any format item except a field: this is because the headings and footings aren't usually displayed as part of the record, and it would be rather difficult for Cardbox to let you type into something that doesn't exist on the screen! If you really want to include field data in a heading or footing, use a merge block. Merge blocks are also the way that you insert special data such as page numbers.

To resize a heading or footing

Click on the relevant area in the vertical ruler (H for a page heading, F for a page footing, etc) and it will turn white. The thick border at the top or bottom of the white area now works as a resizing border. Move the mouse onto the border and the mouse pointer will change to a double headed arrow. Press the mouse button and drag the border up or down, and the size of the area will change. Drag the borders outwards (top border up or bottom border down) to enlarge the area, inwards to reduce it.





Insert > Field
Ctrl + F

The Extra Text field is created differently, and you don't need to draw it on the screen: see page 204.

For more about deleted fields, see Help Point 538.

Fields

Inserting a field in the native format

Inserting a field into the native format effectively creates it in the database.

1. When you use the Insert > Field command, the mouse cursor turns into a hollow square. Move the mouse to where you want your new field to start, press the mouse button, hold it down, move the mouse to where you want the field to end, and release the mouse button. Most people drag from the top left to the bottom right of the field, but there is no rule about this: as long as you go from one place to another on the screen, Cardbox will draw a rectangle for you and make the field that shape and size.
2. Once you've released the mouse button, the field will appear on the screen and Cardbox will ask you what name you want to give it. Field names appear whenever Cardbox shows you a list of fields (for searching, sorting, etc), and you can type a field name whenever Cardbox asks you for a field – for instance, when you are doing a search. Something short but meaningful is generally a good choice. You can always change the name later if you want.
3. Cardbox then takes you straight to the Item Properties command so that you can set up other attributes of the field such as its indexing mode and its description.

If you have previously deleted some fields, Cardbox reacts slightly differently when you ask it to insert a new field: it lists the deleted fields, so that you can choose to reinstate one of them or to create an entirely new field.

Inserting a field in an alternative (non-native) format

You can only insert fields into an alternative format if they already exist in the native format. When you use Insert > Field, Cardbox shows you a list of fields that you're not already using in this alternative format, and you can choose which one you want to insert. Drawing the field on the screen is then the same as in the native format.

Setting field properties

If you want to set or change the properties of a field, double-click on it. Alternatively, select it and then use Edit > Item Properties (or press Enter).

Name and description (native format only)

The field name is the name you use when referring to the field, for example when searching and sorting. The description appears next to the name whenever Cardbox shows you a list of fields, so you can use it to make the field more understandable or give a short explanation of what it should contain. It's perfectly

See Help Point 540 for why we have to allow you to change the field type after creation.

For more about deleted fields, see Help Point 538.

For how to re-index existing records, see Help Point 541.

safe to change either of them even after you've put data into your database: Cardbox won't get confused and all commands and all formats will refer to the field under its new name.

Field type (native format only)

Most fields are text fields, but you can also have one image field in your database and as many object fields as you like (object fields can only be created by the Professional Edition). You should only set the type when you are first creating a field. Cardbox does permit you to change the field type after creation, but this is something you should never do in practice.

If you find that you are not allowed to set the field type to Image, this is because an image field already exists in the database. If you can't see it around, the image field may have been deleted but still be hanging around in a ghostly form.

Indexing mode (native format only)

Cardbox can index any number of words, numbers or dates in any field (we'll use "term" as an abbreviation for "word, number or date"). Cardbox has four ways of deciding what terms are to be indexed in a given field:

All – Cardbox indexes everything.

None – Cardbox indexes nothing.

Manual – Cardbox doesn't index anything to start with, but you can manually tell it to index any term you want: see "Indexing" in the Editing section (p.140).

Automatic – Cardbox indexes everything to start with, but you can manually tell it not to index certain terms.

You can change the indexing mode even after you've started putting data into your database, but the changes won't automatically affect your existing records.

If you have Manual or Automatic indexing, you can also use validators to do some intelligent indexing for you: for instance, you can set up a validator to index all dates but leave words and numbers alone. See "Validators" (p.206).

Caption

Most fields need some sort of explanation or you won't know what they mean when you look at the screen or at a printout. Captions are one way of providing this explanation. A field caption appears as part of the field, and if you redraw a field or move it around, the caption goes with it.

There are a few cases where a field caption is not a good idea and fixed text is better: see "Fixed Text" (p.199) for an explanation.

Highlight dubious spellings

Cardbox has a spelling checker which can underline words that seem not to be correctly spelt. You can turn this on and off while you're editing a record, but if you know that you're always going to want this feature in a particular field, set the Highlight Dubious Spellings option. This saves you constantly having to press Shift + F7 to turn the underlining on.

View

The normal way of viewing a field is as text: what you type is what you see. For some fields that represent restricted options, there are more graphical approaches that may be easier to use. The View option lets you choose between radio buttons, check boxes, and drop-down lists. Once you've chosen one of these views, the Set button will let you specify what options should be available. See "Alternate Field Views" (p.192).

Appearance

You can give a field its own appearance independently of the appearance of the format as a whole. For appearances and how to alter them, see "Appearance" (p.107). If you give an appearance to an individual field, it won't change if you later change the appearance of the format as a whole (it will remain unchanged unless you edit the format and change it explicitly). Also, if you give a field a font much larger than the font for the format as a whole, the format's grid layout won't be altered, but the field may end up taking up more than one row of the grid.

Validation

Validators can do a number of useful things:

- Enter default data automatically.
- Check your data for validity.
- Automatically index or unindex certain terms.
- Reformat dates so that they all use the same standard format.

For full details, see "Validators" (p.206).

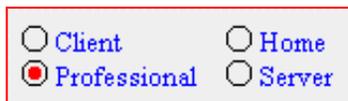
Only the Professional Edition of Cardbox can set up validators, but all editions can use them once they have been set up.

Alternate field views

As well as displaying fields on the screen as text, you can display them as radio buttons, check boxes, and drop-down lists. These views are appropriate if there are relatively few possible values for a field, and they can save space and help with data validation by restricting what a user can enter into the field.

Underneath the alternate view, the field is still a perfectly ordinary Cardbox text field. The view reflects the contents of the field, and when you select an option using the view, Cardbox changes the field text to correspond with your change. The advantage of doing things in this way is that you can use different views in different formats. You might find, for instance, that radio buttons are best for data entry but would waste a lot of space in a printed report.

Radio buttons



Client Home
 Professional Server

Radio buttons are used when there are relatively few options and only one of them should be chosen. When you click on a radio button, Cardbox erases the text of the underlying field completely and replaces it with the text that belongs to the radio button.

Check boxes



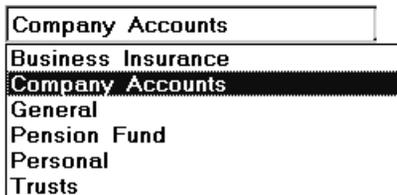
3.1 95 98 ME NT 2000 XP

Check boxes let you choose one option, or more than one, or none at all. For example, a recruitment database could use check boxes for applicants' principal language skills.

Cardbox's behaviour with check boxes is more sophisticated than with radio buttons. When you turn a check box on, its corresponding text is added to the field; when you turn it off, the text belonging to the check box is removed but everything else is left untouched.

Drop-down lists

Drop-down lists are logically just the same as radio buttons, but they save screen space because only the chosen option is visible until you click on the drop-down list. The choice between radio buttons and drop-down lists is a matter of taste: radio buttons show every option all the time but they need more room; drop-down lists don't show every option until you open the list, but they are more compact.



Company Accounts
 Business Insurance
 Company Accounts
 General
 Pension Fund
 Personal
 Trusts

Specifying the available options

Before it can display radio buttons, check boxes, or a drop-down list, Cardbox needs to know what the available options are. You set the options by pressing the Set button in the Field Properties window (Edit > Item Properties » General).

The simplest choice is to type a list of the possible options:

English French Spanish Latin Italian Greek

English French
 Spanish Latin
 Italian Greek

With a definition like this, when you click on a check box labelled “English” to turn it on, Cardbox will put `English` into the field (or, if you are turning off the check box, Cardbox will find `English` in the field and remove it).

- The sequence in which the options appear in your specification controls the sequence in which they will appear on the screen. It has no other meaning, so you can change the sequence later on without affecting your existing data.

Sometimes you may want your field to contain text that isn’t exactly the same as what appears on the screen. For example, suppose you have radio buttons defined like this:

Cheque Bank transfer
 Credit card Standing order

`C=Cheque B=Bank_transfer CC=Credit_card S=Standing_order`

Now, if you click on the radio button marked “Bank transfer”, the contents of the field will be replaced with the letter B. This kind of approach is very useful if you want to have some formats in which the field appears as pure text (summary reports, for example) where a code will take up much less room than a descriptive phrase.

- You will see that there is an underline character between `Bank` and `transfer`. This is so that Cardbox knows that this is a single phrase, and that “transfer” is not intended to be a separate item.
- This technique is also useful if you change your mind about the name of an option. You can preserve your original data intact and just change the way the option is labelled on the screen.

You can use the same technique to create different formats for speakers of different languages. If your list says something like

`Spanish=español English=inglés French=français`

then the check boxes will appear in Spanish (and with the Spanish language listed first) but the actual text in the fields will still be in English.

Layout of radio buttons and check boxes

When you tell Cardbox what options to use for radio buttons and check boxes, you can also tell it how to lay them out on the screen.

<p>Packed layout fits as many items as possible into each line.</p>	<input type="checkbox"/> English <input checked="" type="checkbox"/> French <input type="checkbox"/> Latin <input type="checkbox"/> Provençal <input checked="" type="checkbox"/> Spanish <input type="checkbox"/> German
<p>Table layout arranges the items so that they line up neatly in columns. This is more readable but can take up more space.</p>	<input type="checkbox"/> English <input checked="" type="checkbox"/> French <input type="checkbox"/> Latin <input type="checkbox"/> Provençal <input checked="" type="checkbox"/> Spanish <input type="checkbox"/> German
<p>List layout puts one item on each line.</p>	<input type="checkbox"/> English <input checked="" type="checkbox"/> French <input type="checkbox"/> Latin <input type="checkbox"/> Provençal <input checked="" type="checkbox"/> Spanish <input type="checkbox"/> German

Adding and removing options

You can add or reshuffle options at any time without affecting the data you have already entered. Deleting an option when you are already using it in records is a little more complicated, but essentially nothing will happen to your existing data until you edit and save a record that contains that option. Help Point 501 tells you what will happen in that case.

Adding and removing alternate field views

You can remove an alternate field view at any time, and the field will thereafter appear as plain text. You can add an alternate field view whenever you like: for the effect that this will have on existing data, see Help Point 502.



Insert > Merge Block
Ctrl + M

Exactly the same
technique can be
used to edit fixed text.
Fixed text in formats
is described on
page 199.

Merge blocks

Inserting a merge block

1. The mouse cursor turns into a hollow square. Move the mouse to where you want the merge block to start, press the mouse button, hold it down, move the mouse to where you want the merge block to end, and release the mouse button. Cardbox will draw a rectangle for you and make the merge block that shape and size.
2. Once you've released the mouse button, the merge block will appear on the screen and Cardbox will take you straight to the Item Properties command so that you can set up other attributes of the merge block, including the text it contains.

Editing the text of a merge block

The easiest way of editing the text of a merge block is to do it in Item Properties (see below), but you can also edit the text directly within the format design window. To do this, use one of the following methods:

- Select the merge block and then do **Edit > Edit Text Directly** (Ctrl + E).
- Right-click on it and select **Edit Text Directly** from the menu that pops up.
- Hold down the Alt key and double-click on the merge block.

When you've edited the text, click outside the merge block to confirm the changes; if you don't like what you've done, click outside the merge block and then do **Edit > Undo** (Ctrl + Z) to undo the changes.

Setting merge block properties

To set or change the properties of a merge block, double-click on it. Alternatively, select it and then use **Edit > Item Properties** (or press Enter).

The merge text

The text of a merge block is just ordinary text and it can be as long or as short as you like: a single line (automatically word-wrapped as necessary) or multiple lines or paragraphs. You can add references to fields and other data by pressing the **Insert** button while you are editing the text, and they will appear in the text as special codes:

A field.	{fieldname}
The Extra Text field.	{**}
The page number.	{*Page}
The record number within the current selection.	{*Record}
The number of records in the current selection.	{*Records}
The date or time (Cardbox lets you choose your own format for this).	{*Date}
The print job ID, useful for customising printed reports: see p.112.	{ID}

In addition to these, you can type the following codes yourself:

{+B}	Start bold text.
{-B}	End bold text.
{+I}, {-I}	Start / end italic text.
{+U}, {-U}	Start / end underlined text.
{{}	The open curly bracket "{".
{}}	The closed curly bracket "}".

For HTML and XML output, see Help Point 518.

Finally, you can insert codes to make the merge block present itself in HTML or XML: these are useful if you want Cardbox to create web pages directly.

Align

You can make Cardbox left-justify, right-justify or centre the text in a merge block. You can't mix the different kinds of justification in one merge block but you can have several different merge blocks in a format, each with its own layout.

Automatic height

By its nature, a merge block may have widely varying amounts of text, and so you will often want to let it grow or shrink as necessary to accommodate its contents. If you want to do this, turn on Automatic Height. Cardbox is fairly intelligent when you do this: if you have other items in your format that are located below your Automatic Height merge block, Cardbox will push them down (or pull them up) to fit with the change in the size of the merge block.

If you browse through records with Automatic Height set, you'll notice that they change greatly in shape depending on the data that they contain. This has two consequences for Cardbox: the first is that if a format has an Automatic Height merge block, Cardbox will only ever display one record per screen even if the records are short and you'd expect there to be room for more than one. The other consequence is that because Automatic Height makes the layout so variable, formats with Automatic Height merge blocks don't allow you to edit records: editing something that is constantly changing shape would be confusing for both you and Cardbox.

Automatic width

A merge block is normally as wide as you draw it. If you set Automatic Width, the merge block can grow (if there's nothing in the way) to be as wide as the format or even, when you're printing, as wide as the paper.

Start on new page

If you are printing out a really long format then it may spread over several pages. If you specifically want a new page to start in a particular place, incorporate a merge block with Start On New Page turned on. The merge block can contain text, but it doesn't have to: its presence alone will ensure that a new page is started.

Omit spaces after an empty field

This option controls how the merge block text "closes up" after a field that contains no text. For an illustration, see Help Point 599.

Omit text if all fields are blank

If you turn this option on, and none of the fields mentioned in the merge block have any text in them, Cardbox will omit the merge block altogether. This is useful if you are mail-merging continuous text. For instance, if you were making a standard letter for mail-merging and you had a merge block saying "Please contact {CONTACT} for details of this offer", and the CONTACT field happened to be blank, you wouldn't want the sentence to say "Please contact for details of this offer".

This is useful for multi-page output: for example, an invoice with a covering letter.

Pack multi-line fields into one paragraph

If you turn this option on, a multi-line field (such as an address) has all its new-line markers turned into spaces so that it becomes one long line. If you're producing a summary that contains addresses, this can be a good thing; but note that Cardbox isn't very clever and doesn't insert commas or anything else between the concatenated lines of the address.

View

The normal way of viewing a merge block is as text, but you can also get it displayed as a bar code, using one of a number of standard conventions. Available bar code formats include Code 39, EAN-13, UPC, and the Royal Mail code. For more details, use the online help: select the format you want from the View list, press the Set button to set options, and then press the F1 key.

Appearance

You can give a merge block its own appearance independently of the appearance of the format as a whole. For appearances and how to alter them, see "Appearance" (p.107). For general rules and caveats relating to individual per-item appearances in format design, see page 191.

Fixed text

Fixed text is text that appears identically in every record irrespective of any data the record may contain. It is the equivalent, on the computer, of having a pre-printed form or index card.

Fixed text is useful for headings, reminders, instructions, and it can sometimes be a good substitute for field captions.

Fixed text versus field captions

A field caption is part of the field and if you move the field then the caption moves too. This makes format design easier, but it also has a couple of potential problems. The first problem is that the caption is exactly as long as it needs to be, so that if you have several fields, one below the other, the captions will start in the same place but they won't finish in the same place, so the actual field data will start in different places on each line. This can look messy.

The second problem with field captions being part of the field is that if you have a multi-line field then the caption takes up part of the first line. If the field is a solid mass of text, this doesn't matter too much; but if the field is made of separate lines (like an address) it looks odd to have the first line of the field data pushed to the right by the caption while the remaining lines all start at the left-hand edge.

The remedy for both problems is the same: don't have field captions, but align the fields the way you want and then place separate text items next to them. If you have to move a field later, you'll have to move its text with it; but you may find that the improved appearance is worth the inconvenience.

- Fixed text is only ever one line long: if you want something larger, use a merge block without any field references instead.

Phone: 01234 567890
Fax: 01234 098765
Email: cardbox@cardbox.com

Address: Scriventon House
Speldhurst
Kent TN3 0TU

Address: Scriventon House
Speldhurst
Kent TN3 0TU



Insert > Fixed Text
Ctrl + T

Inserting fixed text

The mouse cursor turns into a hollow square. Move the mouse to where you want the fixed text to start, and click once. Cardbox will take you straight to the Item Properties command so that you can type the text.

You can also edit fixed text directly on the screen: see page 195.

Setting fixed text properties

If you want to set or change the properties of fixed text, double-click on it. Alternatively, select it and then use **Edit > Item Properties** (or press Enter).

Text

Type the text you want. The fixed text item will automatically adjust itself to the size of the text you type.

Align

You can make Cardbox left-justify, right-justify or centre a fixed text item. The effect is fairly subtle, but it means (respectively) that the left-hand edge, the right-hand edge, or the centre of the item will be exactly aligned on a grid column.

Appearance

You can give a fixed text item its own appearance independently of the appearance of the format as a whole. For appearances and how to alter them, see “Appearance” (p.107). For general rules and caveats relating to individual per-item appearances in format design, see page 191.

Lines and boxes

Lines and boxes have no meaning for Cardbox: they are like the rulings on a pre-printed form. You can use boxes to tie related items together, or lines to separate different regions of your format.



Insert > Line / Box
Ctrl + L

Inserting lines and boxes

The mouse cursor turns into a hollow square. Move the mouse to where you want the line or box to start, press the mouse button, hold it down, move the mouse to where you want the line or box to end, and release the mouse button. If you start and end in the same row, you'll get a horizontal line; if you start and end in the same column, you'll get a vertical line. If you start and end in different rows and columns, you'll get a box.

The line or box will appear as soon as you release the mouse buttons. Unlike with other items, Cardbox doesn't automatically open the Item Properties command for you: this is because the properties of lines and boxes are pretty specialised and won't be of interest to most people.

Setting line or box properties

To set or change the properties of a line or box, double-click on it. Alternatively, select it and then use **Edit > Item Properties** (or press Enter).

Extend vertical lines

This is a very specialised property used when you are creating ruled forms: see Help Point 561.

Appearance

You can give a line or box its own colour and line thickness independently of the appearance of the format as a whole. For appearances and how to alter them, see "Appearance" (p.107). For general rules and caveats relating to individual per-item appearances in format design, see page 191.

Graphics

Inserting a graphic



Insert > Graphic
Ctrl + G

1. The mouse cursor turns into a hollow square. Move the mouse to where you want the graphic to start, press the mouse button, hold it down, move the mouse to where you want the graphic to end, and release the mouse button. Cardbox will draw a rectangle for you and make the graphic that shape and size.
2. Once you've released the mouse button, a blank graphic will appear on the screen and Cardbox will take you straight to the Item Properties command so that you can read a graphic image from a file or paste it in from the Clipboard.

Setting graphic item properties

To set or change the properties of a graphic, double-click on it. Alternatively, select it and then use Edit > Item Properties (or press Enter).

To put a new image into this graphic item, press the Read button to import the image from a file, or press the Paste button to paste it in from the Clipboard.

Display mode

Foreground – the graphic is displayed like any other format item. If “Transparent” is also set, the graphic will let any coloured background show through.

Background – the graphic is displayed behind all other format items: any format item that is drawn on top of the graphic will cover part of it up.

Format items normally have a solid background, so that if you put a field on top of a background graphic, the field will appear as a solid rectangle. You can change this if you want, by changing the field's appearance: you will see a checkerboard pattern among the available background colours, and this gives the field a transparent background so that only the text will be visible on top of the graphic.



Image size

The graphic image that you are using will probably not be the same size as the space available for it. This option tells Cardbox what to do about this: keep the original size, or stretch the graphic to fit the space.

Store in compressed format

Leave this option turned on because it makes the format smaller and faster to load. Only turn this option off if you want to keep compatibility with Cardbox 2.0, which doesn't understand compressed graphic items.

Pushbuttons

Inserting a pushbutton



Insert > Pushbutton
Ctrl + B

1. The mouse cursor turns into a hollow square. Move the mouse to where you want the pushbutton to start, press the mouse button, hold it down, move the mouse to where you want the pushbutton to end, and release the mouse button. Cardbox will draw a rectangle for you and make the pushbutton that shape and size.
2. Once you've released the mouse button, a blank pushbutton will appear on the screen and Cardbox will take you straight to the Item Properties command so that you can set the properties of the new item, including what should happen when the button is pressed.

Setting pushbutton properties

To set or change the properties of a pushbutton, double-click on it. Alternatively, select it and then use **Edit > Item Properties** (or press Enter).

To put a new image into this pushbutton, press the Read button to import the image from a file, or press the Paste button to paste it in from the Clipboard.

Enable button when...

You can choose whether the button should be usable when you are viewing records; when you are editing records; or both. This is because some actions only make sense when editing (or when not editing). When you are not editing a record, any editing-only buttons will appear grey and won't work.

Description

Any description you insert here will be displayed if you hold the mouse over the button: Microsoft call these things ToolTips.

Image size, Store in compressed format

These options have the same meaning that they do for graphics.

Action when the button is pressed

The button can play a macro, run a Windows program, or send a DDE command to a program that understands and is waiting for DDE commands. For more information on any of these options, press F1 and see the online help.

Format properties

As well as the various items that you can place within a format layout, there are some properties that apply to the format as a whole. To set these, double-click anywhere where there isn't a format item. Alternatively, use the command **Edit > Format Properties**.

General

Page headings

Normally the page headings or footings you specify will not appear on the screen but only when you print your records. If you turn on **Screen Also Shows Page Headings**, page headings will appear on the screen: this will happen as long as the window is tall enough for more than one record to be displayed. For more about headings and footings, see page 188.

Extra Text field

The Extra Text field is attached to a record but not part of the main record display. Pressing F6 will switch between the main record and the extra text. Extra Text is useful for unstructured text associated with the record, but not everyone needs it: if you can't think of a use for it, ignore its existence.

To make the Extra Text visible, turn on **Format Contains Extra Text**. To make Cardbox automatically show Extra Text just below the main record when you first use this format, turn on **Format Display Starts With Extra Text Visible**.

As with any other field, you can't put Extra Text into a format unless it already exists in the native format. If the native format doesn't contain Extra Text, the Extra Text options will be greyed out and disabled in any alternative format.

Description

Whatever you type into this box will be shown in the **View > Change Format** window when you click on the name of this format. Of course you should try to make the format's function self-evident from its name; but in case it isn't, try to describe its characteristics or purpose briefly here, for the benefit of someone who isn't sure what the format is for. In a few months' time, that someone may be you.

Spelling

You can also set this mode in the **Field Properties** box for each individual field.

This tab lets you choose which fields will automatically underline misspelt words: you can turn this feature on and off by pressing **Shift + F7** while you are editing a record, but it makes life easier if Cardbox starts out in the mode you want.

This tab also lets you choose which dictionaries Cardbox should use when it checks spelling: for details, see "Spelling and Spelling Dictionaries" (p.149).

Field sequence

When you are editing a record, pressing the Tab key takes you to the next field. The Field Sequence tab lets you define the order in which the fields will be visited. To move a field to a different place in the list, select it and then press the up or down arrow buttons below the field list. You can move several fields by selecting them all (with Ctrl + click) before pressing the arrows.

The Field Sequence tab also lists field descriptions, so it can be a convenient way for you to review them all and change any that you don't like: simply select a field and then retype its description in the box below.

Overlapping boxes

This tab controls a specialised feature that is used for producing ruled forms. For full information, see Help Point 561.

Appearance

This tab controls the appearance of the format as a whole. See "Appearance", on page 107.

Validators can only be set up by the Professional Edition of Cardbox.

Validators

Validators are things you attach to fields when you design the native format. When someone adds or edits a record and changes the contents of a field, its validators wake up and look at the changed text. There are various kinds of validators: some check the field to make sure it is correct (in other words, they validate it); others make modifications to it (indexing, unindexing, or reformatting dates); and there are even validators that replace the field text altogether, which is useful for things like timestamping.

Validators typically wake up when the user moves off a field or saves the record, but it is also possible to activate them manually: see “Using Validators”, p.152.

How to add and modify validators

You must already be editing the native format. Double-click on a field, or select it and then use **Edit > Item Properties**.

Then select the Validation tab.

To add a validator – press **Add** and select the validator you want from the menu that pops up. The new validator will appear in the list, and the bottom half of the Validation tab will let you edit it.

To modify an existing validator – select it from the list, and use the bottom half of the Validation tab to make the changes you want.

To delete a validator – select it from the list and press **Delete** (this is the Delete button in the Validation tab, not the Delete key on the keyboard).

Moving validators around in the list

You don't often have more than one validator attached to a field, and if you do, it usually doesn't matter which order they come in. But if you have several validators making changes to a field, then the order they are in may make a difference. To change the position of a validator in the list, select it and then use the up and down arrow buttons (just below the list) to move the validator up and down in the list.

Reformat a date

Format:

d/m/y m-d-y y.m.d

Year

2 digits (76) 4 digits (1976)

Default century: = 1990 - 2089

Month/Day

No leading zero (4) Leading zero (04)

This can look at indexed words only, or unindexed words only, or all words.

Editing a validator

The bottom half of the Validation tab lets you set all the options for the currently selected validator. Every type of validator has its own options.

Cardbox also displays a confirmation of what you have specified, in a panel next to the Validation tab. This is how the validator will look to the user if it pops up because an error has been detected.

Check words

List of valid words is shown below:
uk ab eu
Terms must match exactly.

Getting more information about validators

The list below tells you about all the available validators and gives you a brief description of each one. For more detailed information on a particular validator or on the validation process in general, press the F1 key to see the online help. This will tell you how each validator works and exactly what all the options mean.

Validators that check what is in a field

If one of these validators detects something wrong, it pops up a warning when the user tries to save the record. When you design the validator, you can choose whether it is possible to ignore this warning.

Check words

Any words that occur in the field must match your specification. The specification can be one of the following:

A list of valid words that you type directly into the validator. As well as individual words, this list can contain wildcards (as in searching) and ranges in the form `from:to`.

A separate text file outside Cardbox. Having the list in a separate file may make it easier to change, especially if you are using a separate program to create the list.

Another Cardbox database. The validator looks up each word in the other database and treats it as valid if it is in that database's index (in a field whose name you specify).

Indexed only,
or unindexed only,
or all numbers.

Check numbers

Any numbers that occur in the field must match your specification. The way the specifications work is the same as for words.

Indexed only,
or unindexed only,
or all dates.

Check dates

Any dates that occur in the field must match your specification and conform to a specified format. The way the specifications work is the same as for words.

Indexed only,
or unindexed only,
or all terms.

Disallow specific types

The field must not contain terms of a specified type (word, number, or date).

Unique terms

Any indexed terms in the field must not already exist in the database's index. This is useful for things like serial numbers or reference numbers.

Non-unique terms

Each indexed term in the field must already exist in the database's index. If the field is meant to contain specific codes, this is a quick and informal way of checking for typing mistakes.

Indexed only,
or unindexed only,
or all terms.

Length of terms

Each term entered in the field must be of a certain length, or its length must be within a specified range.

Indexed only,
or unindexed only,
or all terms.

Number of terms

The field must contain a given number of terms, or the number of terms must fall within a range. You can specify separate limits for words, numbers, and dates.

Length of field

The field as a whole must be restricted to a certain length.

Validators that change what is in a field

This can look at
indexed words only,
or unindexed words
only, or all words.

Change case

This validator changes the capitalisation of text: all capitals, all lower-case, or capital letters at the start of words, or capital letters at the start of sentences.

Reformat a date

This validator changes all dates into a format that you specify. For example, you can choose the order in which the day, month and year appear, and two-digit or four-digit years.

Index terms

This validator indexes particular terms. You specify which terms should be indexed in the same way as you do in the Check Words, Check Numbers and Check Dates validators.

Unindex terms

This validator unindexes particular terms. This is often called a "stoplist".

Validators that replace what is in a field

Default entry

This validator overwrites the field with text that you specify. It is useful for a number of purposes. It can fill in a field with a default value (for example, a country code) that the user can then override manually if required. It can insert the user's initials or the date and time, either when the record is created or every time it is changed.

Automatic numbering

This validator puts a unique number into the field when you save it. You can control the format of the number and the starting point of the numbering.

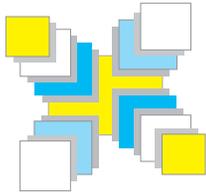
You can use Tools > Automatic Numbering to specify where the numbering should start. Cardbox assigns the number when saving the record: this is to avoid complications on a network if several people start adding records at once. You can prevent this validator from inserting an automatic number simply by typing something into the field before saving the record.

Validators and pick lists

A pick list allows the user to enter words by picking them from a menu or a list instead of typing them. This can save time and it can be less error-prone than typing.

Cardbox automatically creates pick lists from certain validators. The validators it uses are Check Words, Check Numbers, Check Dates and Index Terms. Only individual terms make it into the pick list: wildcards and ranges don't.

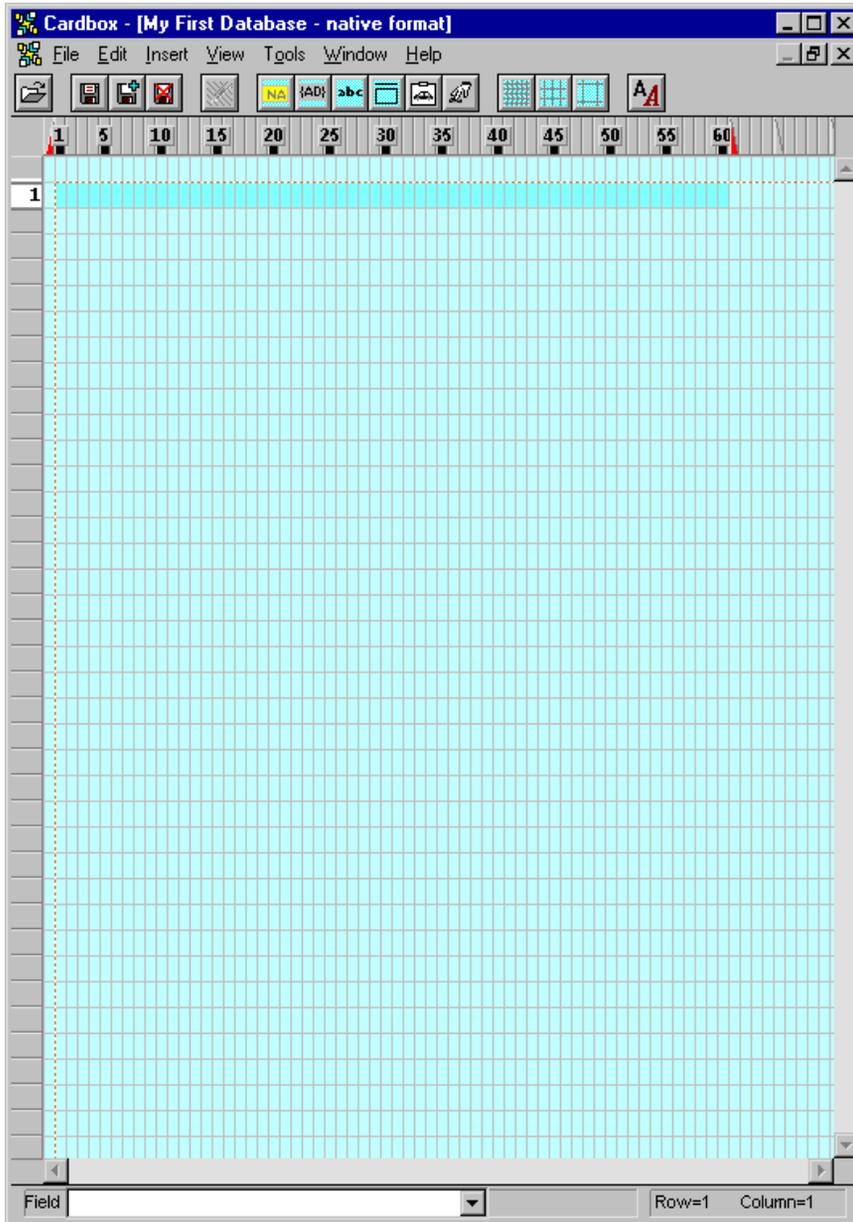
For how pick lists
work while
editing a record,
see "Pick Lists",
p.144.



Part Six

Inspiration

A gallery of Cardbox databases; some exercises to help you get started; things to think of when planning a Cardbox database.



A blank screen waiting for you to design your database.

Planning your database design

Cardbox is powerful and it's quick and easy to learn. By now, you know fairly well how to search Cardbox databases and add records to them, and you even know how to design a database – in theory. But it's one thing knowing how to use a tool and quite another thing to know what to use it for. That's what this chapter is all about.

Gallery – We start with a gallery of examples of what other people are using Cardbox for. Even if you have a pretty good idea of what you want to do with Cardbox, it's worth looking through this section, because you may find yourself getting some new ideas. You don't use your word processor for just one purpose, so why restrict yourself to just one use of Cardbox?

Exercises and samples – These are some databases that you can create for yourself with step-by-step instructions from us (but we also give you the final result, if you really haven't got time for this). The databases themselves can be useful as a basis for your own designs, and in any case they'll give you some solid practice and make it easier for you to make a good design first time.

Strategy – Finally we give you some hints on strategy. These will be especially useful if you've used other databases before, because you may need to unlearn some bad habits.

Growing a database

It's often best to start with a really simple database design and have another look at it when you have been using it for a while – perhaps after you've added 100 records, perhaps after you've been using the database for a few months. When you do that sort of audit you'll find new uses for your data and you'll probably find that you need to add a few new fields to help with those uses. Since Cardbox makes it so easy to add fields when you need to, this isn't at all a difficult process, and your database design will end up gradually growing and evolving to suit your needs.

So if an example seems too simple for you, don't worry: you can always create a design and grow it to fit your needs. And if an example seems unnecessarily complex, don't worry either: in your own design, you can prune away the parts you don't need.

Personal uses of Cardbox

The division between personal and business uses of Cardbox is a bit artificial but it's still useful. We think of a "personal" use as being something that you might use for yourself, while a "business" use is more appropriate for groups of people; but since there's no real distinction between the two, there's no reason for you not to adapt one of our "business" examples for your own personal use or expand a "personal" example to cover a whole company.

Addresses and contacts

This is one of the commonest uses of Cardbox, and we even give you two exercises (with accompanying sample formats) that create address books for you – see pages 234 and 235.

Because you design the format yourself, you can easily include whatever extra information you want. You can slant your database towards being a simple address list that you print out for your own use (it saves the worry of losing an address book if you know you can print it out again) or you can make it more sophisticated, so that it can print mailing labels for a mailshot, or categorize your contacts (for example, "printable" friends who get printed in your paper address list and "reference" contacts who have to be looked up on the computer). Here are a few other ideas:

When you're going on holiday, select the friends you might want to send postcards to and print them out in a very compact, small-print format. Tagging (p.93) is an excellent way to identify exactly the people you want to list.

At Christmas, have a couple of fields to record who you're sending cards to and, just as important, who you **have** sent cards to, so that you know what's happening when you look at the database again next year. You can also design a mailing label format so that you don't have to write the addresses by hand.

If you use a Palm, you can use Cardbox to store your address list but then export it to the Palm Desktop application from where it gets synchronized to your Palm. This can work with other palmtops, of course, whether they're PalmOS-based or PocketPC-based; and it can also work very well if you have a company-wide database, since the address list only has to be maintained once.

You can divide your contacts into "printable" ones, who get printed in your address lists, and "reference" ones who have to be looked up on the computer. That way you save paper but don't lose anyone.

If you have a field for email addresses, you can set it up so that a single click on your friend's address will open a blank email, ready to be sent, in your email program.

Collections and inventories

CD collections

You can keep a straightforward record of each CD you have in your collection classifying information according to title; composer; studio, etc.

125	Composer: Schubert	Title: Piano Trio No. 2 in E_Flat D 929	1990
	Orchestra: soloist: group: Beaux Arts Trio	Philips	
173	Composer: Vivaldi	Title: The Four Seasons	
	Orchestra: soloist: group: Nigel Kennedy; English Chamber Orchestra	EMI	1989
376	Composer: Schumann	Title: Symphony No. 3 op. 97	
	Orchestra: soloist: group: Chicago Symphony Orchestra	Deutsche Grammophon	1977

You can build on this by having a bigger field that holds the track listing for each CD. If you index this, then you will be able to search easily on tracks as well as whole CDs.

One Cardbox user has a large database of tracks that he uses to create playlists for a radio programme. He then archives the playlists, so that it's easy to look up what was played in the past, and he also uses Cardbox to create a Web page with the most recent playlist for everyone to see.

Book collections

This is a classic use of Cardbox: the first ever (8-bit) edition of Cardbox, in 1982, had a Books database as its main sample. Here, in honour of that edition, is the very first record:

Author:Mark Girouard	
Illustrator:	Language:
Title:Life in the English Country House	
Publisher:Yale U.P.	Date:1978
Subjects:Society, architecture, history, England, country-houses.	

Here, from the 21st century, is another example, developed by an historian. You'll note that the price has been included. This is so that if her house burns down, the insurance company can receive a complete list of the books and how much they will cost to replace.

Title:Rising '44	
Author:N. Davies	
Pub:Macmillan	Date:2003
Type:Hard new	Cost:25.00 1550
Class:History, Military	Where:

A logical extension of a database like this would be to add a shelfmark so that you can see where each book is. Of course, this requires quite an investment in time and effort, because the database will have to be edited every time a book is re-shelved: perhaps this would be more suitable for an academic library with a librarian, rather than a personal working library.

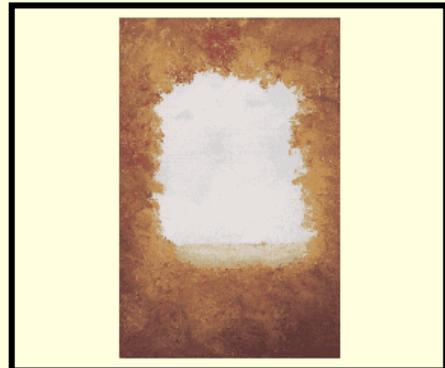
One final visit to books, this time from the point of view of a business. The Electric Chariot is a Web-based motoring bookshop that was active in the early days of the Internet. A customised program built the actual Web pages, but the core of the data was stored in Cardbox:

Author: Upietz	Title: WORLD SPORTSCAR RACING 1994	Price: 34.95
Description: A review of 1994 with the cooperation of Eurosport TV.		2/3/98 88
Code:	Catalogue pages: motorsport_formula_racing	Picture:
Author: Craft	Title: ANATOMY & DEVELOPMENT OF THE STOCK CAR	Price: 17.95
Description: A well illustrated book that describes the history of Stock Car Racing and the development of technology within it. There are detailed		89
Code:	Catalogue pages: technical_competition	Picture:
Author: Hewett/Brown	Title: MONACO GP: PORTRAIT OF A PAGEANT	Price: 14.95
Description: A well produced A4 format book covering the history of the famous race around the streets of the principality.		90
Code:	Catalogue pages: motorsport_formula_racing	Picture:

Insurance inventories

Once you have become convinced of the necessity of giving evidence to insurers, there is no need to stop at printed books. Any artefact is worth recording, and with digital cameras being so cheap, there is no reason not to photograph everything while you're about it:

064 0052654C
 AR:August Strindberg
 OE:The yellow autumn picture
 ME:oil on canvas
 SI:54 x 35 cm
 DA:signed 1901
 TY:landscape



Recipes

When we heard that a prominent Oxford philosopher was a keen user of Cardbox we thought we could dazzle everyone by raising the intellectual tone of this book. However, Oxford philosophers turn out to have human interests too; and he is not the only one. The following example comes from an agricultural institute in Chile whose main “business” databases are bibliographies related to crop management and animal husbandry:

Entrada_de_lechuga_con_camarones_a_la_crema	Entrada - mariscos
<p>6 personas Tiempo de preparación aprox: 20 min</p> <p>1 lechuga grande lavada y cortada en trozos grandes 1/2 kg de colitas de camarones 6 cucharadas colmadas de crema (160g, 3/4 tarro grande) 1 cucharada de whisky o pisco 2 cucharadas colmadas de mayonesa 2 cucharadas de ketchup Sal, pimienta</p> <p>1. Cueza las colitas de camarones en agua hirviendo, 3 a 4 minutos y péleles.</p> <p>2. Mezcle la crema nestle con la mayonesa, el licor y el ketchup. Sazone con sal y pimienta.</p> <p>3. Mezcle la lechuga con los camarones y bañe con la salsa en el momento de servir.</p>	

One of the glories of Cardbox is how infectious it is: you start using it for one main purpose and then you discover others, and still others...

Bibliographies

One of the most irritating tasks that any academic researcher faces is maintaining a list of references. It's irritating because it's a distraction from the main job but it still has to be done right. There is nothing that terrifies a Ph.D student more than finding an absolutely crucial quotation in the finished thesis but having no idea at all where it came from.

W.S. Hamer	The British Army, Civil-Military Relations	Oxford	1970
Ian Hamilton	Listening for the Drums	London	1944
G. McCourt	Remember Butler	London	1967
D. R. Morris	The Washing of the Spears	New York	1965
A. Preston ed.	In Relief of Gordon	London	1967
L. Strachey	Eminent Victorians	London	1918

Cardbox is so flexible that you can create one database of books and articles and divide them into primary and secondary sources and then create an alphabetical list that can then be read into a word processing package and edited further.

Abstracts

Researchers also use Cardbox to keep databases of abstracts. There are two main approaches. One is to store everything in the main record, and have a big field for the abstract with the keywords indexed; the other (shown here) is to have all the reference information in the main record and the abstract itself in the Extra Text field.

Authors: Zulian_M, Bellows_J, DeBoon_G_W.	Source: J-Am-Dent-Assoc 1987 Jan, v 79-80, ISSN: 0002-8177.
Title: Multiple linear ulcers on the dorsum of the tongue in a patient with Waldenstrom's macroglobulinemia	Address: Oral and Maxillofacial Sur Medical Center, Kansas City, MO.
Journal/Book: J_Am_Dent_Assoc	
Year: 1987 Volume: 114 First page: 79 Last page: 80	
Number: 87110257 References: Book: 2010	
Keywords: case_report diagnosis_differential eosinophilia_MJ_pa human macroglobulinemia_MJ_pa male middle_age tongue_diseases_KJ_pa ulcer_pa	
Abstract: author directly	
An unusual clinical presentation of an eosinophilic ulcer of the tongue has been described. This lesion is seen most often in the fourth to sixth decades of life and has been shown to have a strong predilection for males. The etiology is unknown although trauma has been implicated by several investigators. Because of the clinical	

You can view the abstract together with the main record (as here) or in a screen on its own. There is nothing to stop you building on this further: for example, by adding a field that gives your own opinion of the article.

Quite a few researchers download abstracts from online databases such as Medline, because many of them allow the export of data in a form very close to Cardbox's External file transfer format.

Passwords

People who live online rapidly realise that they are accumulating an uncontrollable number of different identities for different sites and services. Unless you use the same user name and password for everything (a very dangerous thing to do from the point of view of security) you end up with total chaos. A simple Cardbox database with just a handful of fields will solve the problem:

http://www.businesslink.co.uk Email used: mike@hotmail.com Other info: Memorable word: Tanzania	User name: Michael Password: X5J9LP
http://www.amazon.co.uk Email used: kate@aol.com Other info:	User name: Katherine Password: VE4asJ7
http://www.northernrock.co.uk Email used: sarahc@hotmail.com Other info: Maiden name: Davies First school: St Mary's	User name: Sarah Password: BYRWKOPS

You'll have to protect your password database, of course. In some cases you may be able to rely on physical security, by controlling access to your computer and taking great care of any backups you make. Otherwise you can encrypt your database if you have the Professional Edition of Cardbox. Failing that, you'll have to see what encryption and security features are built into your copy of Windows.

Photographs

Cardbox is perfect for cataloguing and storing photographs – either direct digital snaps or scans of printed photographs. One Cardbox user (most of whose databases are for trade statistics, journal ordering, library lending, and other serious purposes) also has a personal copy of Cardbox at home, and reports:

“Taking advantage of the beautiful weather we are having today I have been photographing some of the plants in my garden in order to have real live photos in my plant database, trying to eliminate those scanned from the labels that came with the plants...

“As for my own photos, I have a macro that imports them from a Photo CD and another one that automates writing out any combination of photos in the correct order to a folder that already contains Slide Show files. The macro finishes by opening Roxio CD Creator. Now I don't mind when people ask me for copies of my photos and it won't be a chore to load them in the first place. My cousins will be pleased”.

Obviously you need the Professional Edition to use Cardbox macros to do all this work; but it shows what can be done with macros even by someone who is not a professional programmer and has never written a program before.

The exercise on page 238 shows you how to create your own database of photographs using Cardbox.

Daybook

If you have a scanner then you can implement a daybook using Cardbox. A daybook acts as a central file for all the correspondence you receive. You can categorise the letters and give them keywords for indexing and retrieval. The original paper can be stored in a box file somewhere, in case you ever need it as proof of something; but for ordinary use the Cardbox database will be far easier to search in, and you can always print out a copy of anything that you need.

22/9/2003	105	From	William Watkins	Trusts	
Discussion of forthcoming meeting.					
30/6/2003	107	From	John Simler	Accounts	
Covering letter for 2002/03 garden committee annual report.					
22/10/2003	109	From	Vehicle & General	Insurance	
Car insurance acknowledgement					

This is such a useful application of Cardbox that we give you an exercise that creates a simple daybook for you: see page 237. You can store your important legal documents like this as well – leases and share certificates – so that you have a backup copy in case anything is ever lost or destroyed.

Other uses

Here are a few other personal uses of Cardbox that we've heard of. There are sure to be many more:

Bird watching	Trainspotting	Family history	Christmas cards
Concert programmes	Photographs	Videos & DVDs	Newspaper cuttings

Remember that there's no hard-and-fast distinction between personal and business uses of Cardbox, so even if you're an individual who's using Cardbox, carry on reading: there may be something in the Business section that inspires you.

Business uses of Cardbox

There are as many different business uses of Cardbox as there are businesses. There's no way we can illustrate all of the possible applications of Cardbox, so we'll concentrate on some of the commonest ones. If none of them is an absolutely perfect fit, you can easily design your own.

Customer relationship management

At the simplest level, Cardbox can be used to maintain a database of names and addresses. Mailing labels can then be created for mail shots. However, many of our users have built more sophisticated customer relationship management applications using Cardbox. We've heard of databases of almost a million records, with customers categorized by their fields of interest and their assigned sales staff. Here, on a less epic scale, is the sample Contacts database that we distribute with Cardbox:

1 Name: Ms E. Bacon Position: Org'sation: Hopkins Bookshop Address: 37 Lower Market Street Swansea	Date: 13/7/2003 By: ALC Ref: 389
County: West Glamorgan Area: WA Postcode: SA1 0LK MailCode: 1 Country:	Last contact: 3/8/2003 Next contact: 25/10/2003 Sales Rep.: Glenys Jones
Business: Retail: Bookshop	Products of interest: DATABASE
Dear: Ms Bacon	How heard of products: Word Name:
Contacts history:	Tel: 01792 261955 Fax:
	Transferred to: Active 22/7/2003

This database design contains enough information to identify who added the customer; what the customer's interests are; who is responsible for ongoing relationships; when the last contact was and when the next contact should be. The "Contacts History" field can contain a narrative of contacts so far, and because Cardbox lets you index as many words as you like, you can index the date of each successive contact and thus answer, very simply, questions such as "who did Gary talk to in the last week of October"?

Obvious additions to this database include an email address, which can be used for direct contact or (using the Professional Edition) can be used with macros to send bulk emails – just as the fax number can be used to send bulk faxes.

Invoices

Cardbox is not an accountancy package. Nevertheless, it is often used for invoicing and account management, because most of what gets classified as “accountancy” is in fact database management, and Cardbox is such a flexible database.

Date	Invoice	Net	VAT	Total	Paid	Name	VAT	Control
2/4/2003	12345	6529.45	1142.65	7672.10	17/5/2003	ABC Publishing	1/03	Cheque

There are two main ways in which you can use Cardbox for things like invoices. One is to keep all the necessary information in the Cardbox database and then use mail-merging to generate the actual printed invoice. The other way is what we have shown here, where the invoice itself is stored in a separate word-processing file and Cardbox simply does all the indexing and summarising. Here are some of the questions that can be answered by a Cardbox database of this kind:

To calculate a total for all records in the current selection: hold down the right mouse button over your chosen field, and when the menu appears, select “Total”.

- Have we dealt with these people before? What is their payment history?
- When was invoice 99999 issued? What was it for? Has it been paid?
- Which invoices were issued last February?
- Which invoices have not been paid for over 30 days?
- What is our total turnover in the last VAT quarter?
- How much of our revenue has been paid by cheque and how much by credit card? Of the credit card revenue, how much was paid directly and how much through our web site?

You can set up macros that will open the text of an invoice by clicking on a button next to the record; and you can perform processes including the checking of bank statements either manually or by running a suitable macro.

Finally, you can export the data from Cardbox and produce a report suitable for passing to your accountants.

Time-critical situations

Because its search engine is so fast, Cardbox is used for telephone help lines and support centres.

Policy no: 137490	Renewal date: 12/12/2004	Call taken by: FC
Name: Christopher Dawes	Salutation: Mr Dawes	Date: 23/4/2004
Address: CRD Business Publishing Unit 5 Ridgeway Business Park Brighton	Tel: 01273 611182	Time: 10:47 am
Postcode: BN1 2WC	Fax: 01273 611185	Length: 7 (mins)
	email: mailto:c.dawes@crd-bp.com	Go to email screen 
Category of enquiry: <input type="radio"/> New <input type="radio"/> Renewal <input checked="" type="radio"/> Claim		
Type of insurance		
<input type="checkbox"/> Car	<input type="checkbox"/> House	Status <input checked="" type="radio"/> Resolved <input type="radio"/> Referral <input type="radio"/> Waiting for customer <input type="radio"/> Other
<input type="checkbox"/> Contents	<input type="checkbox"/> House & contents	
<input type="checkbox"/> Pet	<input checked="" type="checkbox"/> Business	
<input type="checkbox"/> Employer's liability	<input type="checkbox"/> Professional indemnity	
<input type="checkbox"/> Key person	<input type="checkbox"/> Other	
Enquiry Needs a claim form following a small fire at premises.	Resolution Claim form sent 24/4/2004	

For example, Cardbox is used at a chemical plant: when an accident occurs, Cardbox is used to identify the type of accident, to look up the first measures to control the situation, which people must be contacted, the severity of the alert and the probable risks. The user tells us

“Cardbox is excellent in situations where seconds count”.

A poisons information bureau has used Cardbox to collate poisoning reports from doctors and the general public: collating the resulting information has led to such simple risk-reducing actions as changing the shape of the bottles used for surgical spirit (denatured alcohol) as well as discoveries that can lead to better focused public education: for example, that among teenagers poisoned by plant substances, there are significant sex-linked differences in the type of substance encountered.

Airline safety managers use Cardbox to record and exchange data on safety-related incidents on a confidential and anonymous basis as part of their quality assurance process.

Girls: morning glory seeds.

Boys: magic mushrooms.

Membership databases

The Galpin Society's membership system is an excellent example of several Cardbox databases being used together. The main database lists members and the ways of contacting them, their current membership status and the publications they have received. An auxiliary database identifies all payments on a member's account.

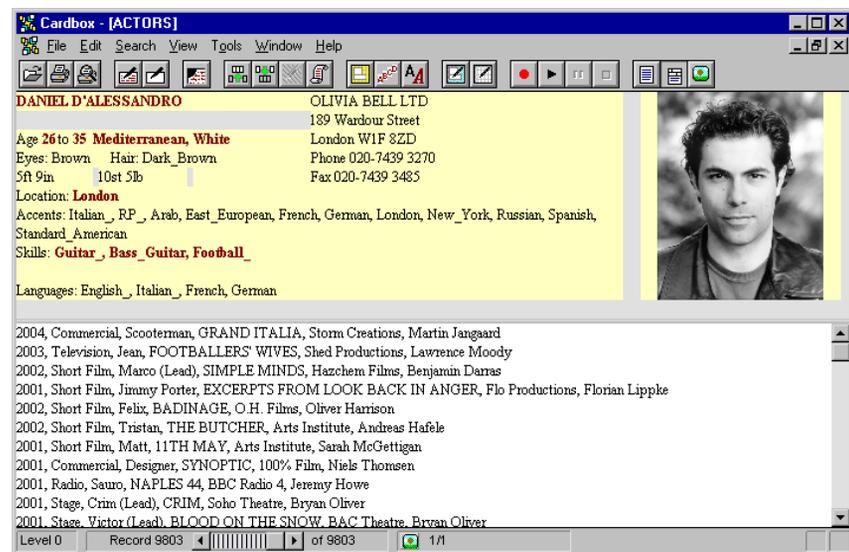


You can read all about
relational linking in
Help Point 500.

This application makes extensive use of relational linking: when you move from one record to the next in the main database, the Payments and Subscription windows update themselves to match the new record.

Actors and casting

A casting director had a problem. He needed to cast actors for a play, but the market leading database of actors was virtually unusable. Not only did it demand that searches be put into a rigid and inflexible search form: it was also then incredibly slow in its searching. (To be fair, we should say that several years have passed and we are sure that the publishers have now greatly improved their offering). So we converted the main Actors database into Cardbox for him.



The 9,800 actors could now be searched instantly (the database, with pictures, was only 97MB), and the user could assess at once how many actors remained and whether he was making his search too vague or too specific. "Contact sheets" of photographs could be printed out so that the production company could compare pictures of 24 actors at a time. Extra Text was used for the CVs, which could vary widely in length.

"Before Cardbox, we were peering through a keyhole and we never knew what we might be missing. With the Cardbox database, we had the whole landscape in front of us and we could select, assess, and compare actors as much as we wanted. For the first time we were in full control of the casting process".

Scientific research

Numerous research agencies use Cardbox. For example, Bangor University undertook some research into Indian crop cultivars.

“We chose Cardbox for its simplicity and user-friendliness and because its use is very intuitive. Development practitioners in KRIBHCO and other organisations who are not information specialists will be involved in keeping the database updated and will answer queries. A day's training programme is usually sufficient to enable users to design new databases and formats, conduct complex searches and print out records. The database is being distributed on CD-ROM with an automatic installation procedure”.

RELEASE DATA AND BACKGROUND INFORMATION		
Variety name adopted or proposed:	Amulya	
All known names of the variety:	Amulya, IET-8989, NC-493	
Sub-species	indica	
Sponsored by:	RRS_CH	
Institution at which developed:	RRS_CH	
Parentage & pedigree:	Pure line selection from a <u>local_tall_indica</u> cultivar (Nagani)	
Varieties it replaces:		
Breeding method:	Pureline selection	
Breeding objective(s):		
Similar varieties		
Nat. cat. no.:	Notification (SO) number	Date of notification
318	915(E)	'06/11/89
Year of release	Status	Date of Denotification
1988 / 1989		

Academics are experts in their own discipline but not usually computer experts. With Cardbox it's easy for them to set up databases that can be searched by other academics who are active in the same field, without having to get any computer departments involved.

Security

Many police forces and defence services worldwide use Cardbox. Department stores have used Cardbox to record details of shoplifters, which are then shared among local shops. Here are some other security applications we've heard about:

Accident investigations	Domestic violence	Research into stop and search policies
Aliens register	Emergency control room	Security passes
Burglar alarms	Evidence gathering	Stolen art and antiques
Child abuse	Fraud investigation	Stolen vehicles
Crime pattern analysis	Keyholders	

Law

Apart from the obvious uses in criminal cases, legal firms also use Cardbox to maintain their case records, libraries, and registers of wills, codicils and deeds.

One of the barristers who use Cardbox maintains a record of work done in relation to every case, indexed by the client's name, a case reference number, and the date any work was done.

“Setting up a record for each case enables me, with minimal effort, to keep an eye on progress with current work, and provides me with easy access to a wealth of information about completed cases. For example, I can easily check how many pieces of work have been done for each client, the expert witnesses I have worked with, the judge I appeared before, and when I last did a case concerning a specific area of law. It also tracks payments for each case, as a cross-check on the central Chambers system.”

Medicine

Apart from the academic uses of Cardbox in medical research, it has wider uses in hospitals and medical practices. Here are some of them:

Clinical audits	Kidney transplant databases
Court cases needing expert witness declarations	Patient records
Drug registration	Publishing health information
	Sexual health

The security features we have built into Cardbox are particularly important in a medical context. One British hospital takes privacy a step further: the Cardbox database used for the psychiatric records of its own staff exists on only one computer, and that computer is kept in a locked room and deliberately not connected to the rest of the hospital's network.

Museums

Acquisitions

Not the least problem facing museums that build massive archives is tracking the source of the items in their collections. Here is the Cardbox solution, which makes it easy to search for particular classes of material, identify what each collection contains, and even contact the original donors if necessary.

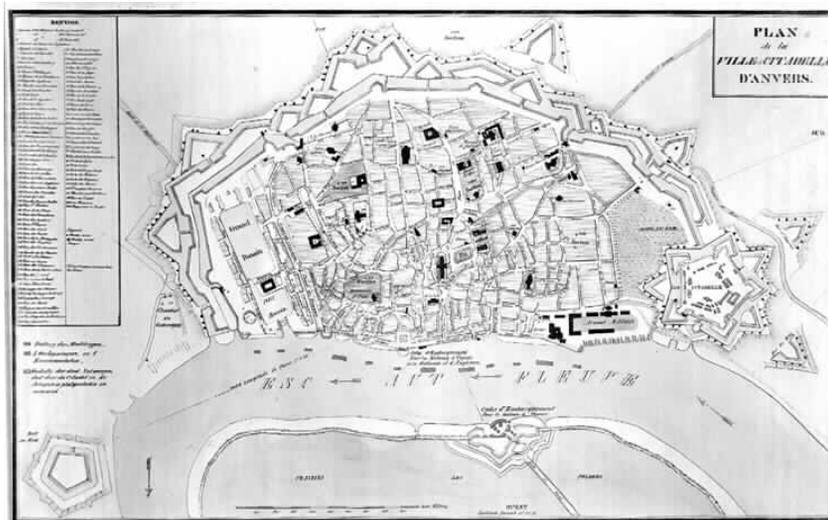
Date	Acc. No	Source	Description
24/06/2002	2002-VI/1	Mrs X X X X o o x 4 X o x o x o x o x X o x X O X O X O X O X o x o x o x o X X 8 3 X O	22 programmes London 1936-61 incl. QH 21/4/1936 (Bustabo), RAH 29/9/1948 (R Strauss) & 2/10/1949 (Gigli)
<input checked="" type="radio"/> Gift <input type="radio"/> Purchase <input type="radio"/> Transfer Acknowledged <input type="checkbox"/>		<input type="checkbox"/> Books <input type="checkbox"/> Cuttings <input type="checkbox"/> Ephemera <input type="checkbox"/> Illustrated Title Pages <input type="checkbox"/> Manuscripts <input type="checkbox"/> Originals <input type="checkbox"/> Periodicals <input type="checkbox"/> Photographs <input type="checkbox"/> Printed Material <input type="checkbox"/> Prints <input checked="" type="checkbox"/> Programmes	
23/08/2002	2002-VIII/2	Mr O x o x o x X o x o x X X o x 7 X o a x X o a x 77 O x o x X o x o x o x X o x X o x o x X 8 O X X	A collection of programmes, cuttings, books and opera periodicals including ROH (6 1870-87, c. 450 modern), QH (17, some fragmentary), St J's H (15, some fragmentary), RAH (3 1895-98), Grosvenor Gallery (28/6/1882), SWT (146), WH (29/3/1938), smoking concerts (30) & much provincial & foreign opera
<input checked="" type="radio"/> Gift <input type="radio"/> Purchase <input type="radio"/> Transfer Acknowledged <input type="checkbox"/>		<input checked="" type="checkbox"/> Books <input checked="" type="checkbox"/> Cuttings <input type="checkbox"/> Ephemera <input type="checkbox"/> Illustrated Title Pages <input type="checkbox"/> Manuscripts <input type="checkbox"/> Originals <input checked="" type="checkbox"/> Periodicals <input type="checkbox"/> Photographs <input type="checkbox"/> Printed Material <input type="checkbox"/> Prints <input checked="" type="checkbox"/> Programmes	
04/08/2002	2002-VIII/1	Mrs X o o x o X o x 20 X o x o x o x o x o X o x X O X X O X X 13 9 X X	Five photographs of Paul Robeson, Mrs PR (1, one as the Emperor Jones) & PR junior all inscribed to Mr & Mrs Hiawatha Coleridge-Taylor, together with a hand-made 'calendar' for 1929 with further photographs of PR (1) and his family (6)
<input checked="" type="radio"/> Gift <input type="radio"/> Purchase <input type="radio"/> Transfer Acknowledged <input type="checkbox"/>		<input type="checkbox"/> Books <input type="checkbox"/> Cuttings <input type="checkbox"/> Ephemera <input type="checkbox"/> Illustrated Title Pages <input type="checkbox"/> Manuscripts <input type="checkbox"/> Originals <input type="checkbox"/> Periodicals <input checked="" type="checkbox"/> Photographs <input type="checkbox"/> Printed Material <input type="checkbox"/> Prints <input type="checkbox"/> Programmes	

Catalogues

Museums are increasingly building online catalogues of their collections, and some of them are already accessible across the Internet using Cardbox.

Help Point 579 lists Cardbox databases that are publicly available across the Internet.

De Atlas Van Stolk ("the Van Stolk Collection") is an important Dutch collection of historical prints and drawings. The collection is housed by the Rotterdam Historical Museum, which maintains several databases including one of political cartoons and one of prints and drawings. These contain full accession details and scanned images of the items in the collection:



www.hmr.rotterdam.nl

The Thackray Medical Museum does the same thing with one of its collections: see page 2 for an illustration.

Administration

The Rotterdam Historical Museum reports that apart from maintaining large image databases, Cardbox is also being used by the librarian for the library catalogue, the secretary to record correspondence, and the curators whenever they are setting up a new exhibition. Once you start using Cardbox there is no reason ever to stop!

Libraries

You've already seen some uses of Cardbox that fit well in libraries – books (p.216) and other collections (p.230) – but of course there is a lot more to libraries than just catalogues. Here are a few of the other things that librarians use Cardbox for:

- Circulation
- Inter-library loans
- Orders and payments
- Photocopies and copyright restriction management
- Periodicals management

Below, you'll see a sample record from a periodicals management database that lets the librarian keep track of subscription status and whether all the required issues of a periodical have arrived. It generates automatic claims for missing issues, which was formerly an onerous part of the librarian's work.

The Cardbox user who sent us this example has also set up other databases and tied them together with a macro that daily checks all databases for late orders, late loans, missing periodical issues etc, and generates for each staff member a list of their outstanding queries.

Abbreviation: RE
Location HQ-L

F6 to go to DISP format

Title [ti]: **RURAL EUROPE: Agri-environment and rural development policy.**

Frequency [fq]: Monthly J

Next due (du): CtrlShift+letter in Freq field 21/6/2004

Number of latest issue received (lis): 14

Volume of latest issue received (lvl):

Date of latest issue (ldt):

Month of latest issue (lmm): 5

Year of latest issue (lyr): 2004

SS-Subscription Newspaper-Supplier
 P-Pembroke C-Complimentary
 CD-Cancelled CD-Ceased

To Save
Periodicals: Ctrl+4 (Number pad)
Statistics: Ctrl+5

F7 to transfer details to extra text

Overdue (lt):

Circulation list (cl): y Date of latest claim (cm): Number of cop

Claimed to date, but not received (cltd):

Ctrl F3 to print circulations lists - will print all 6 lists, and gives an option to halt if less than 5. (CtrlF7 to print single circ list if required out of 1-6 sequence)

1	xxxx xxxxxx, Structural Funds 4C	2		3	
---	----------------------------------	---	--	---	--

Frensham: secondary girls' boarding school catering for 300 girls.

www.frensham.nsw.edu.au

Gib Gate: co-ed primary school catering for about 250 from preschool to year 6.

www.gibgate.nsw.edu.au

Sturt: craft centre educating to tertiary level and including a shop and café.

www.sturt.nsw.au

Cardbox for everything

Once people get Cardbox for one purpose, they find more and more uses for it. Here is an extreme example. Winifred West Schools Ltd is an Australian company that runs three educational facilities in New South Wales. John Huskisson is the Property Manager responsible for all buildings, grounds and related infrastructure. He first came across Cardbox when he used it in the British Army to run the subscriptions database for an in-house newsletter.

Here is a summary of the Cardbox databases that are being used to help run this organisation:

Jobs – property management: a record of all maintenance jobs done since 1996. About 26,000 records.

Indent – an online database of job requests. Accessed by all staff across three campuses: records are then transferred to Jobs and allocated to work teams.

Phonebook – corporate address, phone, email, and Web directory.

Phonecalls – record of all external phone calls made. Downloaded from the exchange as a text file, converted by WordPerfect and then loaded into Cardbox. Calculates cost of calls and prints bills using information from Authority Codes.

Authority Codes – PIN numbers for the phone system and security system. Checks for duplicate PINs, generates issue letters to notify PINs to users.

Stored Calls – archive of all calls made from the exchange (about 500,000 records).

Paint – register of all colours used in all buildings, including paint codes and formulae and where the paint was applied.

Chemicals – register of all chemicals held, with macros to calculate gross holdings.

Keys – register of the current master key system (1,500 records).

Meters – list of all gas, water and electricity meters.

Email – allocates usernames and passwords to all new students and staff, and issues notification letters accordingly.

School Reports – teacher entry formats and final report formats for the primary school.

Trees – register of all trees on the campus: condition, work required, etc.

Work Done Album – photographic records of all work done (eg. underground computer network cabling), linked to Autosketch plans.

Warranties – register of purchases with warranty details and photographs.

Other business uses of Cardbox

Advertisers' details	Housing benefit case management	Project management
Aerial images	Information databases	Property database
Alumni	Inventories	Property management
Architectural references	Job sheets	Purchase ordering system
Artists	Legislation databases	Quality control
Assets registers	Local history records	Questionnaire analysis
Building maintenance records	Local information	References
Burial registers	Local business support databases	Regimental associations
Calibration records	Logging hardware and software faults	Safety checks data
Car pass management	Logistics	Sales control and forecasting
Careers information	Mailing lists	Service records
Catalogues	Maintenance records	Ships information
Civil engineering data	Manufacturing data	Skills database
Classic cars	Map collections	Slides and negatives
Client callouts	Meetings data	Song files
Competitor research	Motorway structures	Sports club player statistics
Computer equipment register	Music	Staff phone directory
Computer maintenance records	Nature conservation information	Statistics
Concert programmes	Newspaper archives	Student registers
Desiderata lists	Object catalogues	Subscription records
Disaster reduction training	Order tracking	Supplier indexes
Drawing records	Passenger lists	Telephone directories
Economic development data	Patent databases	Telephone information for the disabled
Faults reporting	Personnel management	Theses collection
Financial services tracking	Photographs	Trade union membership
Fleet records	Pictures	Train journeys
Glossaries	Planning decisions analysis	Training records
Health and safety data	Plant databases	Translators data
Heirlooms	Population data	Truck specifications
Hire records	Prize winners	Vacancy database
Hotel guest cards	Production analysis records	Vehicle registrations
		Vocabulary database

Exercises and samples

Now that you've seen what Cardbox can do (and perhaps been inspired to use it for more than the original purposes you had in mind), you're practically ready to design databases for yourself.

Designing databases isn't something that most people do very often, and a design, once it's been done, needs to last a long time, so to get you used to this kind of thinking we've created some exercises for you to follow. Each exercise takes a simple and useful database design and takes you through the steps of creating it. We've taken to give you a lot of explanation of exactly why you're doing what you're doing. We hate those so-called manuals that say nothing but "click here, press this button" for page after page without ever telling you what it all means and what it's all for. We don't plan to make the same mistake.

Quite apart from giving you some more expertise, the database designs we've chosen are useful in their own right and you may find that you can build on them to create exactly the design you want.

All these exercises, with their accompanying explanations, are pretty long, so we've put them into Help Points, where you can read them easily or print them out. What we'll do here, on paper, is sell the exercises to you: we'll tell you why each one is useful, what it'll teach you, and what the resulting database will be like.

Help Point 600 tells you how to get the database files for each exercise.

We do recommend that you go through each of these exercises because they give you practical experience of building a new format; but if you really don't have the time, we give you the database files that would result from each exercise, either on the CDROM or as a download.

The instant address book

You can find this exercise at Help Point 610.

At the back of your Filofax (or some other brand of personal organiser) you probably have a large collection of addresses. This is quick and easy to maintain but it's also vulnerable: there are therapists who make a living counselling people who lose their Filofaxes and feel they've lost their lives along with them.

This database is the quickest and simplest address database imaginable. Its sole purpose is to let you look up addresses (and phone numbers, and email addresses) quickly, and to let you print these addresses out onto Filofax-sized paper so you can put them into the back of your personal organiser. The good thing about doing this on a computer is that you can back it up, so that losing your address book or even your whole computer doesn't mean losing your life.

Having the database in electronic form has other advantages, too. You can classify some people as "Reference only", so that you don't waste paper on them but you don't lose touch either. And you can print out selective lists to take with you when you go on holiday.

Here is a sample record in the native format of the database. It has only five fields:

Galahad Threepwood	Class: Ref
Home: 8997 0000, fax 8997 0228	gally@blandings.co.uk
Mobile 07866 194461	12 Atherstone Place NWS 9XZ

X. Xaxaxa & Xa 1533 0067 33 Xaxaxaxa Xaxaxa XXXX
 Xaxax Xaxax 0570 387 0480
 Xaxax Xaxaxaxaxax / Xaxax Xaxaxaxax 080 8366 8370
 XZ 3XX
 Oaxaxax Xaxaxaxaxaxax Xaxax 0086 3 106 3306 Xaxax
 0068 2767 19814, 336 8008
 Oaxaxax Xaxaxaxaxaxax OX xaxaxax 07230 533763 g.
 OX 7 9XX
 Xaxa Xaxaxaxaxaxax 0073 8700 90477-74, xax 8302
 Xaxaxaxaxax Xaxaxaxaxaxaxax Oaxaxaxax
 Oaxax - Xaxaxaxax Xaxaxaxax 0702 4615685, 02757 3
 ax Xaxax 00 4 7XX
 Xaxaxaxaxa Xaxaxaxaxax 2330 4306, xax 0540 66713 14
 XX77 1XX
 Xaxax (Xaxaxaxaxax) 06884 010717
 Xaxaxaxax xaxaxax 0690 652 444 2
 Xaxaxaxax & Xaxaxaxax Xaxaxax (xax Xaxaxaxaxax) Xax
 Xaxaxaxaxax X Xaxaxaxax XXX20 30X
 Xaxax Xaxaxax 05200 468075
 Xaxaxaxa Xaxaxaxaxaxax xaxaxaxax 0078 760 90786
 xaxax ("Xaxaxaxaxax") 0036 28 68 106 05 Xaxaxaxax Oax
 Xaxaxaxax 07401 265060
 Xaxax Xaxaxaxax 7213 3709 / 78 36 6093, xax 08000 3
 0600715326 1 B6 Xaxaxaxaxax Xaxax, X7 6XX
 Xaxax Xaxaxaxaxaxax 2678 0100 4 Xaxaxaxaxaxax Xaxaxax
 Xaxaxaxax Xaxaxaxaxax Xaxaxaxaxax Xaxax 07984 11573
 Xaxaxax 0743 1 862446 B Xaxaxaxaxaxax Xaxaxax XXX 703
 Xaxax & Xaxaxax Xaxaxaxaxaxaxax 855 1541 76 Xaxaxax
 Xaxaxax Xaxaxaxaxaxaxax 01102 77300 0, 1260 7060 ;
 Xaxax Xaxaxax xaxaxax 08526 680663 xaxaxaxax 0
 xaxaxaxax 01742 445061 Xaxaxax, Xaxaxaxax Xaxaxax, Xaxax
 XX74 8XX
 Oaxaxax Xaxax 0066 6028 0942, xax 1072 07145, xax
 005179, xax 8024 004220 Xaxaxaxaxaxaxax 98 3 2904
 Xaxaxax Xaxaxax Xaxax 4 31 8355 Xaxax 17 4 6000 xaxaxax
 Xaxaxaxax Xaxax 9120 5219, xaxaxaxax 01262 363213 B

Name – the person’s name, with the surname indexed. This makes it easy to search for people by name and also makes it possible to sort the records quickly into alphabetical order. If you ever need to search for a first name, you can use a Data search to find it.

Phone numbers – one field containing all the person’s phone numbers. There is no need to have different fields for the different numbers because you’ll never want to see them separately.

Email address – this can be cut-and-pasted into an email application.

Address – this is simply written as continuous text, because this database isn’t designed for creating mailing labels or mail-merged letters.

Class – this can be used for classifying addresses to make selective lists easier. For instance, you can use “Ref” to designate addresses that shouldn’t be printed out, so that your printed address list can be concise and your computer address list can be complete: this is perfect for friends you’re not really interested in contacting but don’t want to lose touch with altogether. You can have as many codes in this field as you like, for different kinds of classification.

As well as the native format, there’s an alternative format that you can use to print out pages ready for insertion into your personal organiser: you can see an example on the left. The print doesn’t have to be this small: it’s something you decide when you design the format.

Help Point 610 takes you through every step of designing this database and describes various enhancements: for instance, you can set up the format so that clicking on the email address will open a new email to the person concerned.

The intelligent address book

You can find this exercise
at Help Point 620.

This database is a bit more work to set up but it does more for you. It is more work because it has more fields, but the reward of having those extra fields is that it can understand your data a little better. As well as viewing records on the screen, you can make mailing labels from them or create standard letters. You can categorize people not just by their names but by their location. This can be the core of a contacts database for personal or business use, and you can expand it with extra fields, to perform more and more sophisticated selections.

Here is a sample record:

<p>Name: The Hon. Galahad Threepwood Address: 12 Atherstone Place London NW8 8XZ</p>
<p>Tel: 020 8999 0000 Fax: 020 8999 0228 Mobile: 09966 194461 mailto:gally@blandings.co.uk http://</p>

Name – the person’s name, with the surname indexed.

Address – the address. We’ve made this four lines long: if you come across an address that’s longer, type it in anyway, because Cardbox doesn’t limit the length of text that you put into a field, and it’ll all be visible when you print things like mailing labels. If you often have long addresses, just make the Address field longer. We’ve chosen to index just the name of the town, since that’s what likeliest to be used for searching, but you can make your own rules.

Tel, Fax, Mobile – these are all separate fields, so you can decide which of them to include in any particular native format. If you have the Professional Edition and the appropriate software, you can also connect the telephone number to a phone dialler or use the fax number to send automated faxes.

Email – this has the special caption “mailto:”. Cardbox recognises this caption and turns it into a clickable item: when you click on it, your email program will open with a blank email to the person concerned.

Web address – here, the caption is “http://”. When you click on this, your web browser will open the person’s web page (if the person has a web page: Galahad doesn’t).

Once you have the data in your database, you can easily display your records as a summary (above left), or as mailing labels (see left), or indeed in any other format you need.

Name	Telephone
M.G. Bodkin	0043 613 223 1200
R.O. Fish	03741 880122
Richard Little	01892 110345
Aileen Peavey	001 212 555 1212
Evangeline Pembury	03741 883742
The Hon. Galahad Threepwood	020 8999 0000

<p>The Hon. Galahad Threepwood 12 Atherstone Place London NW8 8XZ</p>

Adding extra fields to the address book

This supplementary exercise is at Help Point 621.

You can add fields to this design if you want to do more sophisticated things with your data. This exercise gives you one example: adding a couple of fields to control the sending of Christmas cards. We've chosen Christmas cards as an example because they're a chore that most people can relate to; but of course selective mailings are an important part of almost any commercial activity.

Simple document management

You can find this exercise at Help Point 630.

This database stores all your incoming correspondence so that you don't have to wade through piles of paper when you want to find a letter or document. The key to this exercise is that you scan the letters you receive into your Cardbox database, and you use Cardbox fields to assign categories and keywords so that you can find the documents again. You can read the documents on the screen or you can print them out.

Most of the time you won't need to look at the paper originals ever again, but if you do want to keep some of them (they may be official documents that prove something important), that's easy too. You give each document a number when you put it into Cardbox, and then you can put all the pieces of paper you want to keep into a single binder, in numerical order. When the binder gets full you just start another binder.

You can see a picture of this database on page 221. There are six fields apart from the scanned document:

Date – so you can select correspondence by date or sort it into chronological order.

Number – a reference number. If you have the Professional Edition then Cardbox can assign numbers for you automatically. You use the numbers if you need to look up the paper original of something you've scanned.

To/From – whether it's something you've sent or something you've received.

Name – this can be the name of the person or the name of the organisation. If you want to store both pieces of information, you can create an extra field.

Category – this is a drop-down list of possible classifications. Making it a drop-down list saves you having to type the name and also makes certain that you only ever use one of the pre-defined classifications. If you decide you want an extra one, you can easily edit the native format to add it to the list.

Description – we've made this very brief because its only job is to tell you whether it's worthwhile pressing F12 to look at the document. There is nothing to stop you making the field longer, and even indexing to make it quickly searchable.

If you work from multiple locations then you can take this whole project one step further: put the database on a Cardbox Server and make it accessible across the Internet, and you can read all your papers wherever you happen to be. If you have

a personal assistant, you could even get your PA to do all the scanning for you, so that reading the day's letters simply means starting Cardbox and having a look at what's been added to your database.

Even if you haven't got a scanner it's still worth going through this exercise, because Cardbox is still an excellent way of classifying and finding papers even if you have to open a physical file to read the original documents. In this case you'd probably make the Description field longer, so you can be quite sure that the document is the one you want before you dig it out.

A photograph album

You can find this exercise at Help Point 640.

If you have prints, you can use a scanner to scan them in to Cardbox: in that case the image in Cardbox is only a scan of the original print, and you should keep the originals filed away because they will be of better quality. If your photographs are from a digital camera, PDA or mobile phone, you'll be able to import them directly into Cardbox, probably without loss of quality if they are in JPEG format.

You can index your photographs, number the frames, and add keywords and dates.

You can search for and select photographs. You can print individual ones at full size or you can tag the ones you are interested in and print them out as a contact sheet. If you want to have reprints made for your friends, you can administer this easily by having an extra field to hold the friends' initials.

Other visual things can be handled in the same way. You could take photographs of your most treasured possessions so as to be able to give them to the police or your insurers if anything happens.

Date: 30/5/2003 Film/frame: 354.16



Sailing Barge "Juno": climbing the mast.



Bibliographies

You can find this exercise at Help Point 650.

This exercise takes you through the process of creating a simple bibliographical database that can handle both books and articles from journals. You can use this to print search lists that you can take to the library with you; you can add your own comments to each reference; and you can print out bibliographies in the right format for inclusion in a paper or a thesis.

Title: Sir Garnet Wolseley		
Author: H.M. Kochanski		
Publisher: Hambledon Press	Where: London	When: 1999
Journal: Details of article:		
Library: London Library	Shelf mark: H Army. English	
Keywords: Military history; army reform; biography	<input checked="" type="radio"/> Book <input type="radio"/> Article <input type="radio"/> Other	<input type="radio"/> Primary <input checked="" type="radio"/> Secondary

Here is what the various fields are and what they mean:

Title, Author – the title and author of the work.

Publisher, Where, When – the publisher and the place and date of publication.

These fields only apply to books, so we've given them a different background colour to distinguish them from the others. Cardbox lets you give any element in a format a different appearance from the others, and this can be useful to help you navigate through filling in a big form.

Journal, Details – the name of the journal and the exact volume, date and pages involved. These fields don't apply to books, so again we've given them a different colour.

Library, Shelfmark – finding the things you want to read is a time-consuming part of academic research, and these fields help to organise it and make sure that you don't waste time by losing references.

Keywords – how thorough you want to be about developing a set of keywords and applying them consistently depends on the kind of project you are doing and how you are approaching it. We've given you one smallish Keywords field, but of course the size of the field is up to you, and you can add other fields if you like. The keywords don't need to appear on any printed bibliography: they are for your use only.

Book/Article/Other – note that this is just a single Cardbox field, displayed as a set of radio buttons to make it clear what the options are and to make sure you only choose one of them. This field is searchable, so you can search or print out just one kind of material if you choose.

Primary/Secondary – serious research often requires you to distinguish between primary and secondary sources. If you don't need this field then you can leave it out of the design.

Extra text – although we haven't printed it here, this is a good place to use the Extra Text field. You can use it to contain your comments on the contents or even the usefulness of the book or article, and you can view each record on its own or together with its Extra Text.

Alternative formats

Alternative formats come into their own in this database. You have alternative formats for printing out bibliographies of books and of articles; a summary format to take to a library; and a one-line format that is useful when you want to view a lot of records at once while searching. Help Point 650 describes how to create all these and how to use them.

Thinking about fields

As you can see from the examples, a lot of the effort in designing a Cardbox database goes into deciding how to divide a record into fields. Although it's easy to add and delete fields even after you've created a database and started putting records into it, it's better to get things more or less right from the start.

Human fields and computer fields

This is an aspect of field design that you ought to consider when you are setting up your own database. We might call some fields in a database "human" fields, because their function is to tell you something, and as far as the computer is concerned they are just a piece of text to be displayed or printed in the right location. A good example would be the Instant Address Book exercise (p.234) where the address and the phone numbers are both just intended to be looked at or printed out in a list. The addresses aren't in a suitable format for turning into a mailing label and the phone numbers can't be used to make phone calls or send faxes automatically at the press of a button. But then that's not what this database was meant for, and the extreme simplicity of the fields makes it much easier to enter data into them. You don't have to be consistent about the way you type area codes, or whether you always put the name of the town into the address.

On the other hand, the Intelligent Address Book exercise (p.235) arranges the address in lines, so that it will work in a mailing label, and it keeps phone numbers and fax numbers separate, one field for each, so that it's easy for an autodialler or a bulk fax macro to find them. You can think of these fields as "computer" fields. It's more effort filling them in because you have to be more aware of what goes where; but the benefit is that many more automatic processes become possible.

The same sort of thing applies to dates. You can write dates in many different formats, and a human being can understand more of them than a computer can. If a date is just for your own information, you can write it as "25 March" one moment, then as "25/3/2004", then as "25\03\04". But if this is a field you'll want to search or sort on, you should impose a discipline right from the beginning, choosing a date format that the computer can understand, and sticking to it. The trade-off is the same as before: you need to put more work in at the beginning, but the resulting automation saves a lot of work later on.

When to split fields

In a database of contacts, there is nothing to stop you having a single name-and-address field several lines long. It will work: you will be able to search for words and you will be able to print mailing labels and standard letters.

So when should you split a big field into two? There are three main reasons:

Presentation – Suppose that you want to print a summary that just lists people's names. With your big name-and-address field, you can't: it's all or nothing. But if you split the big field into two, one field for the name and one for the address, you can easily include the name in the report and leave out the address.

Searching – If you search for "Kent", are you looking for Clark Kent or for the county of Kent? If they're all in the same field, there's no way for Cardbox to know which is which, and it'll have to deliver you all the Kents and let you sort them out. So there's another reason for separating name and address.

Sorting – If you want to sort the records into alphabetical order, the first question is "alphabetical order of what?". If the name and address are in the same field then Cardbox will always see the name first, and will sort on that. Splitting them means that you can sort on the address if you want. (This is tied up with indexing policy: we assume that you'll be indexing the surname of the person and the name of the town). Moving to an international context, you might need to sort by country first, and then location within the country, and then by name. In that case you'd better have a separate field for the country.

It's never too late

What if you've been building a database with a single big name-and-address field and then decide that you want to split the field into a name and an address?

The easiest way of converting your existing data is to use a Batch Edit. After you've created a separate field for the name, go to the first record you want to convert, do **Edit > Batch > Edit**, and then cut and paste the first line of your big field into the new name field. Cardbox will then repeat the same actions for every record in the current selection.

When not to split fields

The form disease

The form disease is something you catch from filling in too many official forms or using the Web too much. It results in format designs that look like this:

Mr	John	Q.	Public	III
----	------	----	--------	-----

There's hardly ever a good reason for doing this. More primitive databases need to have the surname in a separate field to make it easier to search and sort, but Cardbox lets you index any word you like, so the more sensible solution is to have a single field for the name and then index just the surname.

Sometimes the excuse for using lots of tiny fields is that you're trying to use the data to create a salutation for use at the start of a letter: the idea is that you'd use all fields when you wanted to print the person's full name and just fields 1 and 4 when you wanted to say "Dear Mr Public". This is good in theory but it never really works. Problem names include Sir Percy Blakeney (Sir Percy), Lee Kuan Yew (Mr Lee), and Salvador Dalí Domenech (Mr Dalí). If you really want personal salutations, have one field for the name and one for "Dear", and fill in both fields yourself: a human being can handle the subtleties much better than a computer.

The line disease

The line disease is something you catch from using database programs that can't cope with fields more than one line long. So you get

ADDRESS LINE 1	Chadwick House
ADDRESS LINE 2	Cley-next-the-Sea
ADDRESS LINE 3	near Holt
ADDRESS LINE 4	Norfolk
ADDRESS LINE 5	

instead of having a single field for the whole address. This makes form design more complicated and it makes editing more difficult: if you need to insert an extra line at the beginning of the address, you'll have to move line 4 to line 5, line 3 to line 4, and so on, instead of just typing a new line. Worst of all, it also makes searching more difficult because if you're searching for a word in the address, you won't know which line it's in, and you'll have to search each of the five separate fields.

Make the address into one big multi-line field and you'll save yourself a lot of trouble.

The keyword problem

This is also caught from other database programs. If you need to have keywords for a book or an abstract, and you're using a program that indexes fields but not the words within fields, then you have to create several keyword fields so that an item with multiple keywords can be properly indexed. You have to guess what the maximum likely number of keywords is, and provide that many fields. Once again, this makes searching a nightmare.

Cardbox can index as many words as you like within a single field, so you should create one keyword field and put all your keywords into it.

The check box problem

This is yet another problem that comes from experience from other databases. Suppose that you are running a recruitment database and you want to indicate the skills that each candidate has. With a traditional database the only way to do this searchably is to have a single Boolean (Yes/No) field for every possible skill. This uses up a lot of screen space and a lot of space in the data file, and whenever a new skill needs to be added the database format needs to be redesigned.

If you are used to that kind of database, do not replicate its behaviour in Cardbox! It is far simpler to have a single "Skills" field and to fill it with check boxes. Each check box has a corresponding keyword in the field: for example, you could set it up so that if you clicked on the check box marked "Japanese", the word "Japanese" would be added to or removed from the field, and if you clicked on the check box marked "Latvian", the word "Latvian" would be added or removed. There is no limit on the number of words you can have, and index, in a field, so there is no limit on the number of check boxes either. The word in the field doesn't have to be the same as the word on the check box: some recruitment agencies use numeric codes to indicate skills, while still keeping readable text on the check boxes.

We used skills as an example, but the problem is quite a common one. Whenever you have a number of attributes that either are or are not present, consider combining them all into a single field, where the presence of a keyword indicates that the attribute applies and its absence means that it doesn't.

When to break these rules

If you're regularly transferring data backwards and forwards between Cardbox and a less flexible program, you may feel that you want to adopt the other product's field layout, however irrational it may be. If that's what you need to do, then do it: it isn't the most advantageous way of using Cardbox, but it'll still work. This is the best way of doing things, for example, if you have a central contacts database in Cardbox and want to transfer data into something like the Palm Address Book, whose fields have been decided by Palm and can never be altered.

Help Point 622 gives an example of output to the Palm Address Book.

Help Point 623 describes the splitting and rejoining of fields.

If the only difference between Cardbox and your other programs is the use of multi-line fields such as addresses, you don't have to compromise your Cardbox design. You will almost certainly be using comma-separated (CSV) format to transfer data between the programs, and Cardbox can automatically split a multi-line field into separate CSV "fields" on output from Cardbox to CSV and join them back together on input.

Auxiliary fields

It can be a useful technique in Cardbox to create a field just to help you with data manipulation or sorting. The field will duplicate information that you've already got in your database, but in a subtly different format.

Here's an example:

Most English-speaking telephone directories treat the prefix "Mc" as being the same as "Mac" when sorting names into alphabetical order – so that McHugh comes before Mackenzie, and they both come before Mbeki. Cardbox, like all computer programs, compares words letter by letter, so if you want to have this kind of sorting, how do you get Cardbox to do it?

The answer is to create an extra field (let's call it field S) that contains the surname modified so as to sort in the right order. In this case, you'd copy the surname into field S, then you select all the names beginning with "Mc" and do a batch edit, editing field S to change "Mc" into "Mac" but leaving the original name field unchanged. Thus McHugh would be "McHugh" in the name field but "MacHugh" in field S. If you then tell Cardbox to sort records into sequence using field S, the records will come out in the order you want. Field S would have no other use: you wouldn't use it for searching and you'd never include it in any printed output.

You could extend this principle to handle other lexicographical conventions: if your sorting rules demand that "De Wiat" should come after "Dewey", you could further edit field S to remove all spaces. And rather than rely on batch editing, you could create a macro that was used during data entry (activated by a pushbutton) to read the real surname and turn it into a properly reformatted name in field S.

That was a very specific example, and you may never be involved in that degree of sophistication; but remember that it costs nothing to create a field in Cardbox and the mere existence of an extra field doesn't make the database any bigger, and be aware of auxiliary fields as a possible solution when you're trying to process the same data in several different ways.

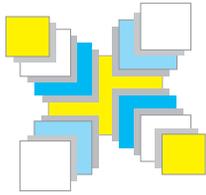
Narrative fields

Often, you'll want to include some history in your fields. A barrister's database can be updated with details of the progress of each case; a recruiter's or negotiator's database may have a narrative of who contacted whom when, and what was said.

Notes: 26/2/1997 moving from UK to NL version. 1/9/1999 upgrade to 3 users. 14/9/1999 from 1.1.01 to 2.0 on CDROM. 6/10/1999 Upgrade from 2.0 to 2.0 CDROM (unserialised). 4/7/2002 from 3 to 4 users 27694. 30/7/2002 from 4 to 5 users 27720. 17/3/2004 from 5 to 6. 11/6/2004 Sent server licence code for 3.0.

Cardbox's indexing makes it easy to do this in a big long field. You can index all the relevant dates, as well as any other words that you might want to search for later on. The example in the picture puts all the notes together in one paragraph, but you can equally well have each entry on a separate line. You can arrange have the entries with the oldest one first (as here), or you can always add new entries at the beginning so that you see the most recent one first.

This field also uses validators to put all dates into a standard format and index them: this saves time and thought during data entry.



Part Seven

Safety and Security

Backup and disaster recovery; passwords and user profiles; encryption.

Backup and disaster recovery

Computer systems are fallible. Sooner or later something will go wrong. Examples of what can go wrong include hardware failures (your hard disk becoming unreadable, your computer crashing, a power failure), software failures (Windows corrupting your files or simply crashing) and operator error (deleting your most important database by mistake).

You should take frequent backup copies of your data so that you can restore your databases if anything does go wrong. If you have recent backups and something catastrophic happens to your computer you can laugh, go out, and buy another computer.

With the cheapness and capacity of modern backup media – you can get ten blank CD-Rs for the cost of a sandwich – there is no excuse for not backing up often. We back up to CD-RW daily and to CD-R twice a week; and we keep the CD-R backups forever. You should plan a similar strategy.

We cannot give you detailed instructions for making a backup because this depends on your system, your hardware, and your software. We can, however, tell you which files need to be backed up and where they are located.

Before you back up

You should make sure that all your copies of Cardbox are closed before you do a backup, or at least that all the copies of Cardbox that use a particular database are closed before you back up that database. If you don't do this, the backup may fail, or it may omit data that are stored in memory but have not yet been written out to the disk.

What files you need to back up

Databases

Each Cardbox database occupies two files. The format file (filetype .fmt) contains all the format definitions for the database; the database file (filetype .fil) contains all your actual data. These files always live together in the same directory or folder. If you're not sure of the location of a particular database, switch to a Cardbox window that contains it and use **Window > Properties** to find out.

Environment and settings

Workspaces, macros and spelling dictionaries are all stored in separate files, and in order to back them up you will need to know where they are.

Workspace files (filetype .cbw) – these store information about your workspaces, including the names of all the databases that are open and the current selection within each one. Losing a workspace file is not disastrous but it is inconvenient. To back up a workspace file you need to know its location: if you're not sure of this, use **File > Workspace** to find out.

Macros (filetype .cbs) – if you use macros, each macro will be stored in a separate file. The location of a macro file depends on the macro's association: General and Workspace macros are stored in fixed locations (use **Tools > Options » Macros**); Related Databases macros are stored in the same directory as the relevant database; and macros specific to a single database are stored in a directory whose name is derived from the database name, so that (for instance) the macros for mydata.fil are stored in a directory called mydata.fil.cbs.

User spelling dictionaries (filetype .tlx) – these files store the words that you have decided should be valid even though they do not exist in Cardbox's standard spelling dictionaries. The user dictionaries have filenames starting with ud. User dictionaries for a database are stored in the same directory as macros for that database; more general user dictionaries are stored in the same directory as general macros, but this can be overridden by **Tools > Options » Spelling**.

Registry settings

Following the requirements of Microsoft Windows, many Cardbox settings are stored in the Windows Registry. If your backup schedule includes regular Registry backups, there is no need to do anything special. However, many backup software packages do not contain provisions for backing up the Registry, and in any case the whole Registry may be inconveniently large.

Tools > Management > Save Cardbox Registry Settings will save all the Registry settings for Cardbox to a file of your choice, which you can then back up. The file will have the filetype .reg, and you will be able to restore your settings simply by double-clicking on the file in Windows Explorer.

Disaster recovery



If a database file becomes corrupted, you may find that your searches don't find the records you expect, or that you get error messages, or that some records are displayed as a pattern of cross-hatching. In this case, if it is not reasonable or possible to go back to a backup copy, use **Tools > Management > Rebuild > Database**. This command will scan the database, identify all the recoverable records, and build a new database containing just those records.

If a format file becomes corrupted, you may find that some formats are not retrievable. If you can't go back to a backup copy, use **Tools > Management > Rebuild > Format File**. This will create a new format file containing just the formats that are retrievable.

If you lose your format file altogether, **Tools > Management > Rebuild > Format File** will scan through the database and create a native format that allows you to see the data in your records. This format will require a lot of editing before it's much use (you will need to give the fields meaningful names and rearrange their layout based on your knowledge of the data) but at least your data will not all have been lost.

Dealing with an old backup

If you don't back up very often, you can be faced with a dilemma if something goes wrong. You may be faced with a week-old or month-old backup file on the one hand, and, on the other hand, a corrupted database file that contains the work that has been done in the past week or month. Help Point 573 tells you how to deal with this situation (it involves a lot of tedious manual work but is better than having to type everything in again), but it is far better to avoid the problem by being rigorous about backups.

Backing up databases on the Cardbox Server

Databases on a Cardbox server can be shared among many users and it isn't always easy to be sure that no-one is going to use a database when you want to back it up. In addition, the server may be storing its files somewhere where you have no direct access to them.

The separate documentation for the Cardbox Server describes how to tell the Server to make a copy of the database file so that it can be backed up; but in some cases you won't have the necessary administrative access to the Server (even though you may own the database), and so Cardbox provides a simple alternative.

The command **Tools > Management > Download** lets you download a copy of a database or format file from a Cardbox server to your computer. Once you have done this, you can back up the file from your computer in the usual way.

After you've downloaded a file and backed up the downloaded copy, leave the downloaded copy on your computer. The next time that you do a download, the Download command will be able to compare your copy of the file with the server's copy and just download the changes: this will make the whole download process a lot faster.

- It is a good idea to give the downloaded copy of your database a different name from the name it has on the server: this will help to protect you from opening the downloaded copy by accident when you meant to open the real database.

Things that don't harm Cardbox databases

If you are using a database on a Cardbox server and not on your own computer, nothing that goes wrong with your computer can affect the database. If your computer crashes, the Cardbox server will simply note that you are not connected any more and will carry on as usual.

If you are using a database on your own computer, and your Cardbox program (cardbox3.exe) crashes, your data will probably be safe as long as Windows doesn't collapse as well and bring your whole computer down with it. This is because all the actual database access is done by the Cardbox Engine `cbox3eng.exe`, which is a separate program that runs invisibly in the background, has no direct contact with you and therefore usually doesn't crash.

Although we cannot exclude the possibility that some bugs remain in Cardbox, the biggest potential cause of database corruption is system crashes and power failures, where some data don't get written safely to the hard disk. If you do suffer a power failure while adding or editing records in a Cardbox database, we recommend that you do **Tools > Management > Rebuild > Database** just to be on the safe side.

Passwords and user profiles

Only the Professional Edition is able to set up user profiles, but any edition of Cardbox can use them once they have been set up.

Normally, if you tell Cardbox to open a database, it opens it.

Most of the time this is perfectly satisfactory because either you are the only one with access to your computer or you trust the other people who also have access to it. But in a corporate environment, and especially if databases are being shared across a network, you may want to set up password protection and you may even want to give different classes of users different degrees of access: for instance, to allow some people to make changes while others can only search the database and not modify it.

Cardbox gives you this kind of access control by means of user profiles. A user profile defines what the user is allowed to do – what fields and formats are visible and what commands are allowed. User profiles are protected by means of passwords, so you can control who has access to your database by controlling who gets which profile name and password. Here are a few sample schemes to give you an idea of how the whole thing works:

Simple password protection – one single profile, permitted to do anything, protected by a password.

Data publishing – two profiles. One, password-protected, is permitted to do anything. The other, without a password, is restricted to read-only access and cannot see certain administrative fields. The second profile can also be made the “default profile”, which means that Cardbox will automatically use it when the database is opened.

For a simpler subscription publishing scheme, see Help Point 585.

Online data publishing with subscriptions – a master profile, password-protected, for use by the publisher. One password-protected profile for each subscriber, specifying what he is allowed to see. If the subscription isn't paid, you delete the relevant user's profile.

Internal corporate database – a profile for administrators, a profile for normal users, a profile for managers, each with its own password and permissions.

If a database has user profiles, then Cardbox will ask each user for a profile name and password on opening the database. There are a couple of exceptions: you can designate one profile as the default profile, which means that Cardbox will choose it automatically; and you can also create profiles that don't have a password. If you have a default profile without a password, Cardbox won't ask the user for anything on opening the database but will go straight in to using the default profile.

See “User Profiles” on page 41 for a full description of how profiles work from the user's point of view.

Once a database is open, the user can change from one profile to another at any time, by using **File > User Profile**.

What a user profile contains

Each user profile has a name and a password. The password is optional. The profile can be visible or invisible: invisible profiles don't appear in the list that Cardbox shows when opening a database or in **File > User Profile**. One profile can be designated as the default profile: Cardbox automatically chooses this when a database is opened for the first time.

For each field, the profile specifies whether the field is read/write (full access), read-only (the user can view the field but not make changes) or invisible (the user can't see the field's contents or do searches on the field).

For each format, the profile specifies whether the format is read/write, read-only, or invisible. It can also specify the default format for the profile: this is the format that will be used when the database is opened using this profile.

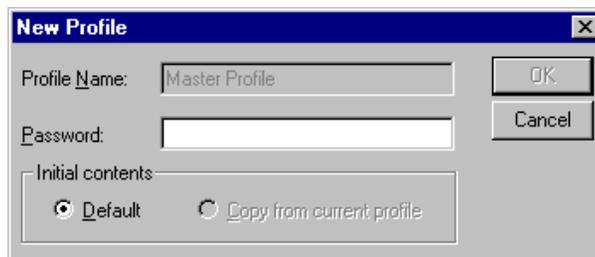
The profile also specifies whether the user is allowed to perform certain actions, including adding records, editing records, deleting records and editing formats. Help Point 516 has a full list of the actions that can be controlled by a user profile.

The very first profile to be created for a database is called the master profile, and we sometimes call its password the master password. The master profile is the only one that can be used for certain highly sensitive operations, such as setting up user profiles or encrypting databases.

How to set up user profiles

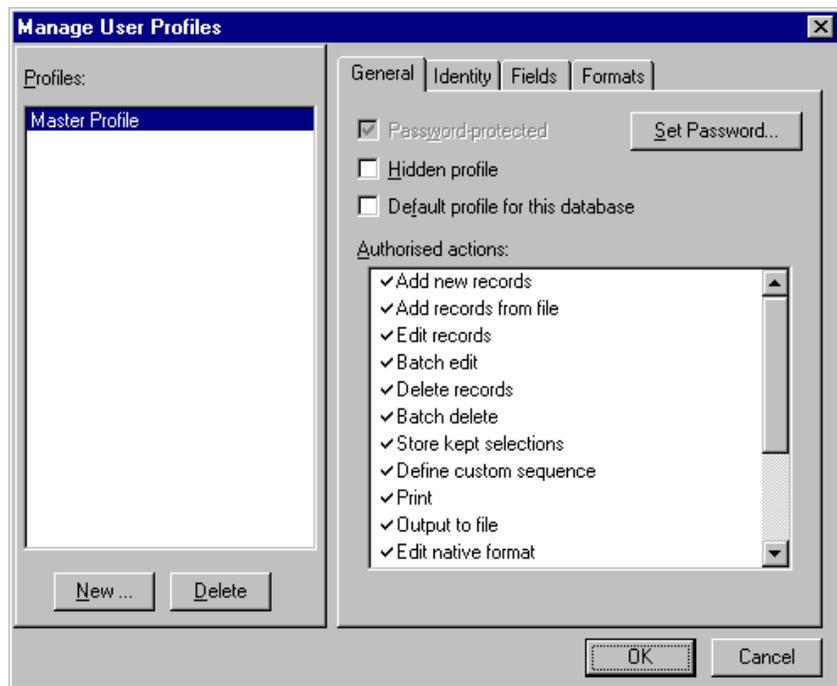
See "Restricted Operations", p. 256.

Tools > Management > User Profiles lets you manage user profiles. If you have already set up user profiles for this database, the command will ask you for the master password; if you haven't, it will ask for the access code for this copy of Cardbox. Cardbox has to be cautious at this point to prevent an unauthorised person from preventing access to your data.



If this is the first time you are setting up user profiles, Cardbox will ask you for the password of the master profile. The master password is important: you should write down a copy of it and keep it in a secure place.

Cardbox asks for the password twice. The first time, you can see the password on the screen as you type it, so that you can make sure that you are typing what you think you are typing. The second time, the password appears as a row of asterisks. If you don't type the password exactly the same way each time, Cardbox will reject the password.



For detailed instructions, press F1 while the Manage User Profiles window is open.

You will see a window with a list of available profiles on the left. If you select one of these profiles, the right-hand side will show you the details of the profile.

To add a new profile – press New.

To delete a profile – select it in the list and press Delete.

To modify a profile – select it in a list and then modify its details on the right-hand side.

When you have finished making changes – press OK.

Security of user profiles

If your databases are only being accessed through Cardbox, user profiles are secure: as secure as the passwords you choose.

If a disk or CD containing your database files is stolen, the thief may conceivably be able to see your data even if they are protected by profiles. This is because a profile-protected database is not encrypted, which means that programming techniques such as taking a hexadecimal dump of a file would reveal readable data. The data would not necessarily have much meaning in that form, but with a certain degree of hacking expertise, a copy of Cardbox for conducting experiments, and quite a lot of patience, a thief might be able to remove the password protection from a database. We have never heard of this being done, but if you want your files to be absolutely secure even if they are stolen, you should encrypt them.

What happens if you lose a password

Profile passwords cannot be recovered if they are lost, but the holder of the master password can use Tools > Management > User Profiles to assign a new password to the profile.

If you lose a master password then we can help. You will have to contact us for the exact details, but normally we will need both your database file and your format file, we will need evidence that you really are the owner of the data, and we will charge you quite a lot of money for resetting the master password.

To avoid all this trouble, write down your master password and keep it in a safe place.

Restricted operations

Setting up user profiles and encrypting a database are powerful tools and in the wrong hands they could be dangerous: imagine if a disgruntled colleague could stop by your computer and password-protect your databases without your permission. Cardbox provides two kinds of protection against this. If user profiles have been set up for the database, then only the owner of the master profile can perform a restricted operation.

If user profiles haven't been set up, then Cardbox asks for an "access code". The access code is a number computed from the serial number of your copy of Cardbox. We give out access codes only to registered users of Cardbox. You can ask for an access code when you register, or you can ask for it later on when you decide that you want to use encryption or user profiles.

Encryption

Only the Professional Edition of Cardbox can set up encryption, but all editions can use encrypted databases.

For complete security, you can encrypt your database. An encrypted database cannot be read by anyone who does not have the key.

What encryption protects you against

If someone steals your backups, or makes a copy of your database files, he will not be able to read your database unless he has somehow also got hold of your encryption key. The database remains permanently encrypted even while you have it open: Cardbox simply decrypts portions of it after it has read them from the disk and before it makes any use of the data it has read. The reverse process happens when Cardbox has to write to your database file: it encrypts the data just before they are written to the disk.

If someone stops by your desk at lunchtime and copies your database files to a hard disk in his pocket, you are safe. If someone steals your backup CDRoms, you are safe.

An attacker with sophisticated technical skills who has direct access to your computer may be able to install a program that subverts its operation and sees the data that you are retrieving: this is not a trivial task and the considerable investment required would only be justified in cases of high-level industrial espionage or criminal investigation. If a forensic expert removes your computer's hard disk for analysis then he may be able to see odd decrypted fragments that Windows has written to temporary work areas on the disk. A complete database cannot be retrieved in this way but it is conceivable that enough fragments might be present to give a clue as to the nature of the data on your computer.

Only the database file is encrypted: the format file is not. The format file contains no data records but it does contain all the formats you are using: so, for example, if you are running an extortion business and use formats to create standard letters to your victims, those will not be encrypted and will be physically readable (although setting up user profiles would offer you limited protection: see page 41).

It is your responsibility to make sure that your actions with Cardbox are legal, and this includes the use of encryption. We cannot give you any advice on the legality of encryption where you are, and you should consult your legal advisers.

Encryption and the law

In some countries it is illegal to encrypt data. Other countries have restrictions on the use of encrypted data. In the United Kingdom it is a criminal offence to fail to reveal an encryption key when ordered to do so, and it is also a crime to reveal that you have been asked for a key.

Key management

When you encrypt a database, you give Cardbox a key. A key is a string of between 8 and 60 characters chosen by you. Cardbox does not store the key, so you will have to enter it every time you open the database.

An encrypted database cannot be read by anyone who does not have the key. If you encrypt your database and then forget the key that you used to encrypt it, it will be unreadable and no-one will be able to get your data back for you.

You should keep the key secret, but you should also keep it safe, because losing the key effectively means losing your data. Write down your encryption key on a piece of paper and put that piece of paper in a safe place – with your lawyers, or at the bank, or with a trusted friend. That way you are protected if you forget the key, and if you suffer an accident then your data will not be lost forever.

Choosing a key

An encryption key should be something that is not easily guessed by someone else. The ideal would be a completely random sequence of letters and numbers. The worst encryption key is a word that occurs in a dictionary, or a common name, or a name that is closely associated with you. Use unorthodox spellings, or strange capitalisations, or combinations of letters and numbers. How paranoid you are about this depends on the risk you are protecting yourself against: if you are worried about someone typing guessed encryption keys into Cardbox, you can be more relaxed about keys than if you are worried about someone taking a copy of your database and running a search program that tests thousands of possible keys every second.

Making Cardbox remember the encryption key

See “Workspaces”, p.61.

If you are using a password-protected Cardbox workspace (File > Workspace can set this up) then whenever Cardbox asks you for an encryption key, it will offer to remember the key for you in the future. Those keys will then be stored in an encrypted state in the workspace file, so security will not be compromised as long as your workspace password isn't easily guessed.

In addition, there is a utility program called keykeep.exe in the same folder as the main Cardbox program file cardbox3.exe. If you put a shortcut to keykeep.exe in your Startup folder, so that it runs every time you run Windows, you will only ever be asked for an encryption key once: the key will then be remembered until you shut down your computer. This means that if you are away from your computer for a moment, someone can come along and open any database that you have already opened today; but if this is not a problem for you then this utility can save you some typing.

How to encrypt a database

See "Restricted Operations", p.256.

The command Tools > Management > Encryption » Encrypt lets you encrypt a database. This command is restricted, and to use it you must have the master password for the database or the access code for your copy of Cardbox. This restriction is because encryption is a potentially destructive operation: if an enemy opened your database, encrypted it and then threw away the key, your data would be lost forever.

The Encryption command asks you twice for the encryption key you want to use. The first time, the key will appear on the screen as you type it, so that you can see that you've typed it right. The second time, the key will appear as a row of asterisks. You have to type the key identically both times or Cardbox will reject it.

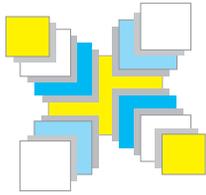
Once you've entered the key twice, Cardbox will encrypt the database. The encryption process is designed to keep your data safe, so if your computer crashes half way through the encryption you will either have a fully encrypted database or one that isn't encrypted at all: either way, you will still be able to read your data.

Changing encryption keys

Some security experts recommend that you change your encryption keys often (others prefer hard-to-guess keys that are kept unchanged for a long time). To re-encrypt your database using a different key, use Tools > Management > Encryption » Change. Cardbox will ask you for the master password or the access code and it will also ask you for the encryption key that is currently in use: this is to prevent a malicious person from changing the key when you are away from your computer.

Decrypting a database

If you decide that you no longer want to keep your data encrypted, use Tools > Management > Encryption » Remove. Cardbox will ask you for the master password or the access code and it will also ask you for the encryption key that is currently in use.



Part Eight

Macros

Macro facilities in different versions of Cardbox; what macros are; playing macros; introduction to programming.

Macro facilities in Cardbox

A macro is a sequence of Cardbox actions that you can store and then execute with a single command. We call this “playing” the macro.

Macros are part of the Professional Edition of Cardbox and they are a large part of what makes that edition so powerful; but if you have the Client or Home Edition, you can still open a database that has had macros set up for it and you can still play the macros it contains.

What macros can do

The simplest kind of macro is nothing but a sequence of recorded actions, and you create it by turning the macro recorder on, doing something with Cardbox, then stopping the macro recorder and saving the result for future use. When you play the macro, it repeats your original actions exactly. This sort of macro can save you time with tasks that you perform often – for instance, sorting records into sequence, switching to a different format, and printing. It can be useful in exactly the opposite situation too: something that you do so rarely that you always forget how to do it from one occasion to the next.

Macros and programming

Cardbox stores its macros in VBScript, a programming language developed by Microsoft. This means that each macro is essentially a “mini-program”, and it can do a lot more than just blindly repeat a sequence of actions that you’ve recorded into it. You can edit your macros to make them more intelligent – they can loop through a collection of records, they can perform calculations, they can pick up text from a field and use it in a command.

Taking this one step further, you don’t need to record a macro at all: you can create it from scratch in Cardbox’s macro editor. Your macros can interact with other programs, not just Cardbox: all major Windows applications have a programming interface that is accessible through VBScript, and so do many parts of Windows itself. Your macros can open web pages, send emails, send faxes, open and modify Word documents... you are limited only by your imagination and by the abilities of the applications that your macros talk to.

Cardbox also lets you do the same thing in reverse: for example, Microsoft Office macros can talk to Cardbox and do searches in its databases – see page 267.



Tools > Play
F5

- Change Format
- Close Cardbox
- Detach
- Display Field
- Display one field
- EditAndSave
- Eudora multiple

How to play a macro

The simplest way of playing a macro is to press the Play button on the toolbar. Cardbox will show you a list of all the available macros and you can pick the one you want. If you're using the Professional Edition, the list will have two pages, called Play and Manage. Choose Play to get the simple, all-in-one list: Manage is more useful when you are editing macros.

To play a macro, double-click on it; or click once and then press the Play button.

If you want to see the text of a macro to make sure it's the right one before you play it, right-click on the macro's name and select View from the menu that pops up.

Toolbar buttons

It's possible to design extra buttons into the Cardbox toolbar, and these buttons can play a designated macro directly. The command for setting up toolbar buttons is Tools > Toolbar, and it's covered in detail in the Macros and Programming manual.



Format buttons

Similarly, macro pushbuttons can be built into a format design. You can put any picture you like into the buttons, and you can put them wherever seems most sensible: next to the field they refer to, or along one edge of the format. You can read more about designing pushbuttons into a format on page 203.

Keystrokes

A macro can be associated with a keystroke, so that pressing the key plays the macro. Most keystrokes can be used, from simple ones like F7 to complicated ones like Ctrl + Shift + T. The command for setting up keystrokes is Tools > Keyboard, and again the Macros and Programming manual gives all the details.

Menu items

There is an extra menu, called Special, that appears on the main Cardbox menu bar between the Tools and Window menus, and you can put menu commands into this to play specific macros. This is a useful place to put macros that aren't used often enough to justify having a pushbutton or a keystroke of their own. The command for setting up the Special menu is Tools > Special Menu.

The Special menu won't appear on the screen unless it has some macros in it.

What happens when you play a macro

The progress bar at the bottom of the screen shows that you're running the macro.



The blue box moves steadily from left to right because Cardbox can't tell in advance how long your macro is going to take. If it's appropriately programmed, a macro can display a more informative status bar (one that grows steadily to indicate how far the macro has got) and it can also display different text in the progress bar.

While a macro is running, you can't do anything else. You can stop the macro by clicking on the red cross next to the progress bar or by pressing the Stop button in the toolbar.



Pausing a macro

You can pause a macro by pressing the Pause button in the toolbar. Once the macro is paused, you can enter Cardbox commands if you want. The Pause button will stay depressed and it will flash to show that the macro is paused.

You can continue a paused macro by pressing the Pause button again, or you can stop it by pressing the Stop button.



Macros that pause themselves

A macro can choose to pause – for example, so that you can tag some records to be used in the next stage of its operations. If the macro just pauses, you'll see this by the flashing of the Pause button; but the macro may also display a message so that you can work out why it's paused.



As well as using the buttons, you can press F5 to continue the macro or Esc to cancel it.

Where macros are stored

There are four places where macros can be stored, depending on what the macros do and when they need to be accessible.

Database macros are stored with the database and they aren't visible when you're in any other database. If a macro contains commands that make sense only in one database, it should be stored as a database macro.

Related Databases macros refer to a group of databases, not just one database. They are quite an advanced feature: see Help Point 571 for an explanation.

Workspace macros are associated with one particular workspace and aren't visible when you use a different workspace.

General macros are visible whenever you use this copy of Cardbox.

Similar classifications apply to the shortcut methods of playing macros – toolbar buttons, keystrokes, and the Special menu – so that the shortcuts can offer only those macros that are actually usable in the current context.

Macros and safety

If you are opening a database that was created by someone else, and using the macros inside it, you have to consider the possibility that the database author was malicious and wrote macros that could harm your computer or reveal sensitive data.

When you open a database on a Cardbox server, you can specify its safety level. This tells Cardbox whether it is allowed to run macros from this database, and what those macros are allowed to do.

The default safety level is Untrusted, which allows macros to run but won't let them read or write your hard disk or do other potentially harmful things. Unless you know that a database contains sophisticated macros that need to be more trusted than this, there's no need to alter this safety level. There is a spectrum of safety levels, from Completely Untrusted to Completely Trusted, and you can set safety levels for individual databases or for the server as a whole, so that (for example) you can make your organisation's corporate server Completely Trusted but leave all other servers Untrusted.

For more about safety levels and trust, see Help Point 526.

Programming Cardbox from the outside

VBScript is the language that Cardbox records macros in, but it is not the only language that you can use to drive Cardbox.

If you are used to some other language, such as Visual Basic, then you can use this to start Cardbox and communicate with it, send it commands, search a database, retrieve or modify records, and so on. You can use any language that can drive programs through an Automation (ActiveX) interface.

VBA (“Visual Basic for Applications”) is closely related to Visual Basic and to VBScript (“Visual Basic Scripting Edition”).

If you use Microsoft Office, you can write Office macros in VBA, and these can also communicate with Cardbox in the same way. Whether you use an Office VBA macro to send commands to Cardbox or a Cardbox VBScript macro to send commands to Office is largely a matter of taste. Do you want the user to start the resulting macro from within Cardbox or Office? Do you prefer the development environment of VBA in Office, which includes a full debugger, or of VBScript in Cardbox, which just lets you edit and play macros?

Windows itself has a scripting interface, accessible through the Windows Scripting Host (“WSH”). Using WSH, you can write a macro in VBScript and give it a filetype .vbs: then double-clicking on the file within Windows will run the macro. typically, this kind of macro would start Cardbox, perform some actions with it, and close Cardbox again. Note, however, that some Windows installations disable WSH because it can control anything in Windows, which makes it a security risk.

Finding out more

The Macros and Programming manual is the main source of information about macros. It explains all the commands used for recording, editing, and managing macros, and how to set up toolbar buttons, keyboard shortcuts, and the Special menu. It also describes all the commands that a macro can use. This manual comes as part of the Professional Edition of Cardbox.

Help > Macros and Programming gives you a large amount of reference information. It assumes a knowledge of VBScript, but also lists some published books that will help you learn the language.

Requirements

Operating system

Microsoft Windows 95 or later (Windows 98, Windows Me).

Microsoft Windows NT 4.0 or later (including Windows 2000, Windows XP,...).

Memory

32MB RAM.

Disk space

12MB for the Cardbox program files.

Capacity

Number of records per database: 16,000,000 (or 10,000 for the Home Edition).

Size of database file: 1TB (1,024GB) unless the operating system imposes a lower limit (for example, Windows 95, 98, Me restrict files to 2GB in size).

Number of fields per record: 4,096.

Size of fields: no practical limit.

Number of images per record: no practical limit.

Compatibility with other programs

Cardbox can import and export data in CSV (comma-separated variables) format.

Cardbox can import data from many databases using the OLE DB interface.

Cardbox can export data in XML.

Cardbox can share data using DDE and COM / ActiveX / Automation.

Compatibility with previous versions of Cardbox

Installing Cardbox 3.0 does not harm an existing installation of Cardbox 2.0 or earlier.

Cardbox 3.0 can directly open databases from all previous versions of Cardbox for Windows, from Cardbox-Plus for DOS (version 3 and above), Personal Cardbox-Plus, and Picture Cardbox. Data from all other members of the Cardbox family can be exported from the original Cardbox program and imported into Cardbox 3.0.

User interface

Some menus have been rearranged: for example, the contents of **File > Utilities** have been moved to **Tools** or **Tools > Management**.

Some keyboard shortcuts have been reassigned to conform to emerging Windows conventions. The most noticeable change is that **F3** for **Extra Text** has been changed to **F6**, but there are others: for example, **Ctrl + A** while editing now selects all the text in a field instead of opening **View > Appearance**.

Macros

The old Cardbox-specific macro language has been superseded by VBScript, and all your existing macros will need to be re-recorded or rewritten.

Networking

Previous versions of Cardbox shared databases by directly opening the database files, with access being synchronized by the **CARDBOX.SHR** control file and by **.LOK** files for each database. Cardbox 3.0 uses the Cardbox Server for multi-user access: this is more efficient and much better for data integrity. Because, in this case, the Cardbox Server requires exclusive access to the database files that it opens, you can't have a mixture of Cardbox 2.0 and Cardbox 3.0 / Cardbox Server users opening the same database at the same time: once you have decided to convert your network users to Cardbox 3.0, you need to convert them all.

An advantage of the use of the Cardbox Server is that it is no longer necessary to give shared read/write access to any control files or data files, which makes network management much easier.

Database files

The database file format is essentially the same. The one exception is with image and object files, where you need to rebuild the database in Cardbox 3.0 (using **Tools > Management > Rebuild**) before you can add or make changes to the image or object content.

If you use Cardbox 3.0 to perform ordinary database operations on a Cardbox 2.0 database (adding, editing, and deleting records), the database will remain compatible with Cardbox 2.0; however, if you rebuild the database using Cardbox 3.0, Cardbox 2.0 will no longer be able to use it.

New features in Cardbox 3.0

Searching

You can enter a complete Boolean search (with "And", "Or" and "Not" functions) in a single command. You can search for whole phrases at once, or for words in a given sequence, or for two words within a certain distance of each other.

Sorting

The "custom sequence" feature (for multi-field sorting) has been expanded. Instead of just one custom sequence, you can have as many as you like.

Document and image processing

Cardbox's image handling has been completely revised to keep track of advances in scanner and display technology, and a new Image window replaces the old "full-screen" image mode. The image compression options have been simplified so that you only have to specify the image type (document or photograph) and whether you want standard or high compression. You can rotate or resize images before storing them. If you have a digital camera or a sheet-fed scanner then you can import multiple images using a single Cardbox command. A zoom control lets you view images at any scale. Images can be moved easily from one database to another, or accessed by external programs.

Spelling checker

A new high-quality spelling checker has been built in to Cardbox. You can hit a key to check spelling in any field, or you can tell Cardbox to underline misspelt words: a simple right-click will offer you alternative spellings.

Drop-down lists

People who display Cardbox fields as radio buttons and check boxes have often asked us if we can do drop-down lists as well. Now we have. In addition, actions on all of these field types can now be recorded as part of a Batch Edit, and searches on them have been simplified.

Workspaces

Workspaces are an evolution of the Sessions feature which we introduced in Cardbox 2.0. You can have as many workspaces as you like, listed in the Windows Start menu, to keep your projects organised but separate. Whenever you open a workspace it remembers what databases you had open last time and the exact state

of your browsing and searches. Unlike Sessions, you can have several workspaces open at a time. Databases are not restricted: if you need to, you can have the same database open in several workspaces.

User interface

When Cardbox for Windows first came out, the Windows boom was just beginning. We have watched how Windows conventions have evolved and we have observed how people actually use Cardbox. Here are some of the results of our research:

Menus have been rearranged to make them more intuitive and renamed to conform to current Windows practices: for example, "Tools, Options" replaces "File, Utilities, Configure Cardbox".

Right-clicking the mouse calls up context-sensitive menus both when searching and when editing.

Carefully designed Wizards take you through inherently complex operations such as file import.

The format design process has been revised and simplified at the same time as making it more powerful.

Keyboard shortcuts have been reassigned to match other Windows programs.

Customisation

You can now customise the toolbar (adding or rearranging buttons) as well as reassigning keystrokes and adding menu items. You can apply customisations to your computer as a whole or to individual projects, databases, and formats, so that (for example) a toolbar button is only visible in the database to which it applies.

Windows integration

Cardbox 3.0 is a fully 32-bit program, which means an end to the bugs that crept in to Windows XP's support for 16-bit programs (especially where long filenames were concerned). Cardbox also uses the Windows Registry for its configuration settings, which also allows system administrators control the extent to which Cardbox users are allowed to reconfigure their program. Cardbox supports Windows Automation, which means that any scripting language that you use to control Windows can control Cardbox as well.

Web and email

Any link with a <http://> prefix is automatically underlined and you can open a web page just by clicking on its link. Any link with a <mailto:> prefix is also underlined and

you can create a blank email by clicking on the link. The underlining does not appear in printed output.

In addition, you can design macros that send an email to a whole batch of recipients or you can pass a list of email addresses to a separate email program such as Outlook.

The Internet

The new client/server model means that Cardbox works just as well across the Internet as it does on a local area network. You can view Cardbox databases that other people have chosen to make public. You can publish your own databases, free of charge or for payment. You can optionally use an Internet connection to allow your users to access their databases when they are travelling.

Security

All network connections are encrypted using the industry standard OpenSSL with Diffie-Hellman key exchange.

Cardbox optionally allows you to encrypt your databases. Cardbox 3.0 uses the new international standard algorithm AES for data encryption.

File import and export

New file import and export wizards make it easy to transfer data into and out of Cardbox, and add the following features:

- Direct import from databases or spreadsheets using OLE DB or ODBC.
- Simplified import from comma-separated (CSV) files.
- Export to HTML to create web pages.
- Import and export using XML, the new standard for data markup and transfer.
- Data conversion using XSLT.

Tools

The new Deduplicate command lets you identify possible duplicate records in your database.

The Repair function has been replaced by a new Rebuild command, which preserves more information (such as kept selections) and in most cases allows other network users to access a database even while it is being rebuilt.

Commands are provided for making backups of a Cardbox database while people are still using it. This is vital in a large network or when 24-hour availability is required.

Macros

The old macro language, which recorded all commands as sequences of keystrokes, has been discarded. In its place comes Microsoft's Visual Basic Scripting Edition (VBScript), a powerful and versatile programming language that can drive not just Cardbox but all other major Windows applications.

Macro organisation has been rethought so that it works seamlessly on a network. Macros can be general (applicable whenever Cardbox is running) or specific to a user, a workspace or a database. The Macro Recorder records your actions as a macro, and you can use the Macro Editor to change details or add advanced features.

Macros can be activated through the Play Macro command or by keystrokes, pushbuttons, special menu entries, or toolbar buttons.

Programming

Cardbox can be driven by any language that uses ActiveX or Windows Automation, including Visual Basic, VBA, C++, Java, and Javascript. For example, a VBA macro within Microsoft Office can send commands to Cardbox to make searches or retrieve data. It is also possible to run Cardbox on a web server and access the data through Active Server Pages.

Unicode

Unicode is a worldwide standard for character encoding. It is essential if you are using anything other than normal Western European characters: Greek, Russian, or unusual accented letters from the Latin alphabet. Cardbox 3.0 handles most left-to-right languages; it does not yet handle languages that are written from right to left.

A page reference in *italics* indicates that the page refers to a Help Point. To read a Help Point, open Cardbox and use the command Help > Help Points.

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