

DATABASE

FOR

THE

AMSTRAD CPC 464 MICRO-COMPUTER

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INTRODUCTION

Our Database is really an electronic card index or notebook where each page holds up to ten fields. Any field can be a combination of characters, numbers or words so that your Database can store names, addresses, dates, amounts etc.

The maximum number of pages that can be stored is controlled by the amount of data that you enter on each page. For small records, such as an inventory, you will probably be able to store the maximum 360 pages. When using the program for longer records, such as an address book, a typical figure would be nearer 180 pages. If you require more than ten fields to store a record you can link up to 5 pages together, e.g. you could have 40 fields on up to 90 records.

To help you find the information in the database there are two separate functions:

- A. SEARCH You can search any field on every record to see whether it contains a particular item of data. If the field contains numeric data you can also test for any record that has a value within a preselected numeric range.
- B. BROWSE The program will automatically browse through the "book" and display the same page of every record for a few seconds. The browse function can start on any page of any record, can go either backwards or forwards, and can be stopped at any page.

The program contains a built-in calculator which will allow you to add, subtract, multiply or divide any two fields on every record. This facility is very useful for creating price lists, details of stock, processing statistical data etc.

There are two versions of the program supplied on the cassette, one is for 40 column mode and one for 80 column mode. Please note that you can load 40 column data files into the 80 column program but if you try to load an 80 column file into the 40 column version the data may not fit onto the screen!

A file can be sorted, using any field as the key field. The sort is performed by a machine code routine and is therefore very fast. The program can either sort into numeric order or sort using the ASCII value of each character, so the file will be sorted into ASCII character order.

If a printer is attached to your computer you can print any page of information or a special summary print of every record. This summary will allow you to print up to 20 fields from every record; obviously this facility can be used to produce mailing lists, labels etc.

When you have finished using the database the data can be copied on to a cassette for easy storage.

If you have any comments or questions about the Database program then we would be delighted to hear them, but please put them in writing and send them to us at P.O. Box 1, Mitcheldean, Glos. GL17 OHH.

WHAT IS ON THE PROGRAM CASSETTE?

Each side of the cassette contains a program written in BASIC and a machine code module which contains subroutines for storing and sorting your data.

On side 1 is a 40 column version of the program and on side 2 is an 80 column version. We have included the 40 column version as you may find the 80 column version difficult to read if you are using a colour monitor or television.

HARDWARE REQUIREMENTS

Amstrad CPC 464 Microcomputer.

The Database program will work with or without a printer, so if you do not have a printer but may be getting one in the future you will not have to make any changes. As soon as a suitable printer is correctly connected you may use the print functions.

USING THE DATABASE PROGRAM

To load the Database program:

- a) Insert the Program cassette and check that it is fully rewound.
 - b) While holding down the CTRL key press the small ENTER key.
 - c) Depress the PLAY key on the cassette deck followed by any other key, the basic program and machine code routines will then be loaded into your computer.
 - d) When the program has loaded rewind and remove the program cassette.

You will now be asked questions about the setting up.

- 1. If you have a printer connected to your computer answer Y to the first question.
- You will then be asked if the cassette file is ready. If you are creating a new Data File answer N and read "Creating a new Data File", paragraph 3 on the next page.

If you wish to load an existing Data File, insert and rewind the Data File cassette, then answer Y. Press PLAY on your cassette deck, and space bar, then move on to paragraph 4 on page 10.

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- 3. Creating a new Data File.
 - a) Enter the number of pages required per record.
 - b) If you wish to change the number of pages, answer N to the next question and you will go back to a).
 - c) The first page of the record will be displayed and the field names will be partially filled with full stops. Please look at Appendix A for examples of pages. We are now going to put in our own page name and field names. Put in PN=PAGE NAME and press ENTER. You will see that the page now has a title. We will put in a field name, type in FN=NAME and press the down cursor key, type in FN=ADDRESS and press enter. Now change the page name and field names to whatever you want.

When you have entered the last field name press the down cursor key again and you will go on to the next page.

N.B. The field name on the 40 column version can be up to 9 characters long and on the 80 column version it can be up to 16 characters, again see Appendix A for example. When you have finished press enter to go into VIEW mode and then press M to return to the menu.

4. Changing an existing Data File.

When the program finds a Data File it will ask if you wish to load that file. If it is the correct file press Y and the file will be loaded.

Once the file is loaded the main menu will be displayed:-

MENU

Insert/Amend a Record	1
Delete a Record	2
View a Page	3
Calculator	4
Browse	5
Search	6
Print Labels/Summary	7
Sort File	8
Save Data or End Program	9

Below this FREE MEMORY = X BYTES is displayed. This informs you how much memory you currently have available for storing data.

To choose an option press the numeric key relating to the no. of the option.

There follow some explanatory notes on each of the options.

Option 1. Set Up a Record

- a) Enter either zero or the no. of the record you wish to set up. If you enter zero the program will automatically find the next free record. (Always set up the low numbered records first, as this will keep to a minimum the time taken to save and load the Database.)
- b) The Change/Enter screen will appear.
- c) The top line shows the record no., the page no., and the title of the page.
- d) Each page can contain up to 240 characters of information.

(N.B. This screen is also used when changing data.)

Key in the data on the first line: when you have finished the line do NOT press ENTER but use the down cursor key to move to the next line.

When you have finished the page you can either press the key marked TAB which will take you to the first field on the next page or press ENTER and you can then use all the Page Functions (see Option 3).

If you have made a mistake and wish to go back to a field you have just entered use the up cursor.

(N.B. When you get to the top or bottom of a page pressing the cursor keys will take you to the next page.)

Option 2. Delete a Record

Just enter the no. of the record you wish to delete and the program will delete all the data on that record.

It is good practice to sort the file after deleting a record as it will move the deleted entry to the end of the file and it will then be ignored.

Option 3. View a Page

Enter the record no. and the page no., the program will then display the page for you. When a page is displayed there are 10 functions available.

- "F" Forward a Page. Key F and the next page will be displayed. If there are no more pages then the first page of the next record will be displayed.
- "B" Back a Page. Key B and the preceding page will be displayed.
- "S" Summary. If a printer is connected pressing S will produce a printed summary of the record currently displayed.
- "P" Print a Page. If a printer is connected pressing P will produce a printed copy of the page.
- "L" Lock Printer On. By keying L, and either P or S, you lock the printer on to (P)rint, which prints the current page, or (S)um mary which prints a sum mary of the page. If you go (B)ack or (F)orward a page the new page or sum mary will also be printed.

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- "H" Halt. Key H to reset the Printer Lock.
- "G" Go. Press G to start the browse.
- "R" Reverse. This reverses the direction of the browse.
- "M" Menu. Pressing M will take you back to the Menu.
- "C" The Change/Enter screen will be displayed, for convenience the data entry block is positioned in the middle of the page. Just move it up or down to the field you wish to change. You may change field or page names by simply entering FN= etc.

Option 4. Calculator

- 4.1 There are six calculator options.
 - 4.1.1 Add field A on page X to field B on page Y then placing the result in field C on page Z.
 - 4.1.2 Subtracting field B on page Y from field A on page X and placing the result in field C on page Z.
 - 4.1.3 Multiplying field A on page X by field B on page Y and placing the result in field C on page Z.
 - 4.1.4 Dividing field A on page X by field B on page Y and placing the result in field C on page Z.

- 4.1.5 Multiplying field A on page X by a constant, placing the result in field C on page Z.
- 4.1.6 Sum the contents of field A on page X for every record and display the total on the screen.
- 4.1.7 Return to main menu.
- 4.2 You select which option you require by pressing the relevant number key. If you press a key greater than 6 the menu will be redisplayed.
- 4.3 If your database contains more than 1 page per record you will be asked to enter the no. of the page that field A is on. If you key a number greater than the no. of pages per record an "invalid number" message will be displayed, then the question will be redisplayed.
- 4.4 You have to enter the actual field no. (1-10) of field A. If you enter a no. greater than 10 an "invalid number" message will be displayed, then the question will be redisplayed.
- 4.5 For option 1 through 4 then 4.3 and 4.4 will be repeated for field B and C. For option 5 you will be asked to enter the value of the constant, any negative or positive value is acceptable, then 4.3 and 4.4 will be repeated for field C.

4.6 When all the details have been entered the program will perform the chosen calculation on every record in the database. If any field does not contain numeric data then the program will assume that field has a numeric value of zero. (N.B. This means that the calculator will not work on a field containing the £ sign.)

Remember whatever is in field C before you start your calculation will be overwritten by the product of the calculation, so care should be taken when selecting each field!

Option 5. Browse

You can start browsing on any page of any record. Enter the record no. then the page no. The program will display the selected page for a few seconds, then the same page of the next record will be displayed. The F, B, P & L functions are available, the (H)alt function will halt the browse, it can be restarted by keying (G)o. The browse can be reversed by keying (R)everse.

The speed of the browse is variable. It is set to speed 5 to begin with but can be altered by pressing numeric keys 0 to 9, where 0 is fast and 9 is slow.

Pressing any other key will abandon the browse and redisplay the menu. Whilst you are using the browse, the word "BROWSE" will appear at the bottom of the screen to remind you of what is happening!

Option 6. Search

- 6.1 The program can either search for a piece of data or if a field contains numeric data then it can search for a range of numbers.
- 6.2 First you are asked whether you wish to search for a range of numbers. If you answer Y you will be asked to enter the upper and lower limits of the range. If a field being searched contains non-numeric data then the program presumes that field has a value of zero.
 (N.B. + .0 1 2 3 4 5 6 7 8 9 are valid characters £ \$, are NOT valid).
- 6.3 When searching for a range of numbers you have to specify which field you wish to look at. This is done by entering a field no. of 1 10.
 (N.B. The numeric range search is in BASIC and is therefore much slower than the normal search.)
- 6.4 If you are not searching for a range of numbers you can search on either a single field or all the fields. If you wish to search on all the fields enter 0 as the field no. then enter the data you are looking for, it does not have to be a complete field or even a complete word.

When searching for text you can use an asterisk (*) as a wild card. For example, if you enter J**n the search will find John, Joan, Jean etc.

- 6.5 Every time the program finds a field that matches the required search conditions it will display the page that field is on. The P and L functions are available, H will halt the search, G will restart it and A will abandon the search.
- 6.6 When the search is finished or abandoned the last valid page will be redisplayed.

Option 7. Print Labels - Summary

As well as being able to print any page you can also print a sum mary of each record. The sum mary can consist of 1-20 fields and each sum mary can be separated by blank lines. This facility has been included so that you can print labels of various sizes. The program is initially set so that it will print the first 5 fields of the first page of every record.

First you will be asked if you wish to change the sum mary print. If you key N the program will then ask you the number of the first record that the sum mary is to be printed for, and the number of copies of each sum mary you require, (this facility is primarily used for producing multiple copies of labels). After you have entered the number the program will start printing. To abandon the print press the A key.

If you have opted to change the sum mary print you will first be asked the number of fields to be printed. This can be between 1 and 20. If you have more than 1 page per record you wil be asked to enter the page that the first field is on; you will then be asked to enter the field number. These questions are repeated until you have selected all the summary fields specified in the first questions. (Note: it is possible to repeat fields.) Finally you will be asked for the number of blank lines which are to be printed between each summary. If you have changed the summary print you are asked the number of the first record.

The questions displayed on the screen have been kept to a minimum to save memory space.

Option 8. Sort File

The program can sort the file using any field on any page as the key. You will be asked to select the page and field that is to be used as the key. If the key field contains numbers they can be sorted into numeric order, (N.B. the sort cannot cope with numbers containing exponentials such as 1357E12).

The program will ask you if you wish to sort on numeric values, if you reply N the sort is performed using the ASCII value of the data; this means that numeric fields will not be sorted into numeric order but character order.

Enter the page the key field is on and then the number of the key field.

When the sort has finished, the Menu will be displayed.

Option 9. Save Data or End Program

First you will be asked if you wish to update the cassette file. If you key N to this question you will be asked if you wish to end the program.

If you do not wish to end the program then the menu will be redisplayed. If you have opted to save data on to a cassette you will be asked the number of the first record to be saved. This should normally be 1, but if you wish to split the file into one or more files then, of course, you can enter any number you like.

Next you will be asked to enter the number of the last record, the program will automatically display this number for you; again if you wish to split the record this can be any number you like as long as it is greater than the number of the first record. Finally you will be asked if the cassette is ready.

Make sure that the cassette leader tape is wound on until you can just see the brown oxide tape then answer Y. Now press RECORD and PLAY followed by any other key. All the data will be written on to the cassette; this may take several minutes and when is it finished you will be asked if you wish to end the program. If you answer N, you will return to the main menu.

IMPORTANT

Never save the data on to the same cassette from which you loaded it. Always use at least 2 or 3 cassettes on a rota basis; this will ensure that if a cassette is lost or chewed by the dog, you will not have lost all your data!

HELP

If, when using the calculator, you have an E in the middle of some numbers (i.e. 12E456F1) the program thinks this is an exponential number of 12 followed by 456 zeros!! This number is too large for the BASIC to cope with so the program will crash. There is a simple rescue procedure:-

1. Clear the screen by typing CLS and pressing ENTER.

2. Type GOTO 2000 then press ENTER.

This will take you back to the menu; using the search or browse functions remove the offending item of data and try the calculator again.

HINTS

It is not advisable to fill up every byte in the database, you should have at least 20 bytes free. If you do fill up every byte of the database when you reload the file the last record may be lost.

When you wish to load another database file end the program by taking option 9 and re-run the program by simply typing in RUN and pressing ENTER.

APPENDIX A

40 COLUMN

R =1 P =1 SALES FILE

1.	CO. NAME	A. N. OTHER LTD
2.	ADDR1	UNIT 123
3.	ADDR2	STATION RD.
4.	ADDR3	ANYTOWN INDUSTRIAL ESTATE
5.	ADDR4	BRISTOL
6.	POSTCODE	BS1 AAA
7.	TEL. NO.	0272-123456
8.	CONTACT	MR J.H. SMITH
9.	NOTES 1	THE NAMES ON THE LEFT ARE
10	NOTES 2	ONLY EXAMPLES.

APPENDIX A

80 COLUMN

R =1 P =1	NAME AND ADDRESS
1. TITLE 2. SURNAME 3. INITIALS 4. ADD-1 5. ADD-2 6. ADD-3 7. ADD-4 8. POSTCODE 9. TEL. NO. 10.STD CODE	MR JONES A.R. 12 THE HIGH STREET GREENFIELDS ANYTOWN LONDON TX5 5RR 221694 0066
R =1 P =2	MEMBERSHIP DETAILS
1. MEMBERSHIP NO 2. DATE OF JOINING 3. MEMBERSHIP TYPE 4. ADULT OR JNR 5. DATE OF BIRTH 6. MEMBERSHIP FEE 7. OTHER DETAILS 8 9 10	123456 12/6/84 SPORTS AND HOUSE ADULT 16/4/51 42.90 SQUASH CLUB CAPTAIN TREASURER

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