



Manual and User Guide for

OFFICE MATE

DATABASE
REPORT GENERATOR
HOME ACCOUNTS
GRAPH PLOT

AMSTRAD CPC 464/664/6128

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DATABASE

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General System Overview

The Gemini Database management system for the Amstrad CPC 464/664/6128 microcomputer is designed for a hardware system consisting of:

- i) Amstrad CPC 464/664/6128 microcomputer with either cassette or disk data storage.
- ii) Optional 80 column printer.

The database allows the user to store and access records on a completely definable card, much like a standard card index system. The card format and records are stored on a data file on cassette which is saved and loaded through the database. The program may be used to store as many different types of card as you wish. Approximately 14000 characters of information may be stored (13000 on disk versions) and the number of cards that may be held depends entirely on the size of the record card designed. The program includes the following features:

- user definable card using either 80 or 40 column screen.
- calculations enabling use of any legal Locomotive BASIC expressions.
- fast 'heap' sort enabling both numeric and string comparisons plus upper/lower case non-discrimination and surname sort capability.
- extensive search capabilities allowing all valid Locomotive BASIC logical expressions plus 'wild cards'.
- fully user-definable field summary.
- comprehensive browse option enabling printing, editing and deleting of records directly while moving up and down through a file.

2 Terminology

It may be useful to explain some of the terms used in this manual, comparing the database to a manual card index.

File — a file is a complete 'box' of cards. The database can store files on tape.

Record — each card is known as a database record.

Field — each card will contain a number of items of information, and they are referred to as fields or headings. **DATABASE** may process up to 20 fields, each of which may be up to 160 characters long.

3 Operating Notes

3.1 INPUT ROUTINES

When the program requests information from you, there are two ways in which the information may be entered.

- i) When you are prompted for an input such as a filename, which requires more than one key press, then it will be necessary to enter your response followed by «ENTER». On these inputs a default answer may also appear — e.g. when asked for a file name, the default name 'DBDATA' will appear — just press «ENTER» for this name.

Throughout the program a specially designed line editor is used to enable the user to edit any data entered into the program. Essentially you are required to type in the data and press «ENTER», but in addition you may use the following keys to perform particular functions:

«COPY» — insert a space at the current cursor position to enable insertion of another character.

«DEL» — delete character to left of current cursor position.

«CLR» — delete character at the current cursor position.

«←» (CRSR LEFT) and «→» (CRSR RIGHT) — move cursor left or right of current cursor position without deleting.

- ii) If the response required is just a single letter, e.g. "Delete current record (Y/N)?", then you are not required to press the «ENTER» key after selecting the appropriate letter.

3.2 ESCAPE

Throughout the running of the program it is usually possible to return to the Main Menu. This is done by pressing «TAB» (the green key positioned below the «ESC» key at the top left hand corner of the keyboard). The «TAB» key may perform certain other functions within each option, for these refer to the options.

3.3 ERRORS

If an error occurs during the execution of either the Search or Calculate options, an error message will be screened, and after pressing space bar, the program will return to the offending option.

When any other Error occurs a message will be displayed at the bottom of the screen. To continue execution of the program press space bar.

ERROR MESSAGE MEANINGS:

NUMBER OF FIELDS CHANGED — If having previously set up a card and added records you decide to reformat the card, this error message would occur after either adding or deleting a field.

NO FIELDS DEFINED — You have attempted to format a card with no fields on it.

FIELD TOO LONG — You have defined a field of over 160 characters.

TOO MANY FIELDS — You have more than 20 fields on your card.

FIELD LENGTH CHANGED — If having previously set up a card and added records you decide to reformat the card, this error message would occur after altering the length of any of the fields.

RECORD FORMAT TOO LARGE — You have defined a card with the total length of each field adding up to over 1000 characters.

SUMMARY TOO LONG — The summary you have defined will take up more room than is possible to display on the screen.

TOO COMPLEX — The definition (calculation, search) is too long.

INCORRECT DEFINITION — The definition you have specified is illogical.

EVALUATION ERROR — While calculating in either the calculate or search routines, an error such as division by zero has occurred.

3.4 FILE INFORMATION

At the top of the screen there are four numbers. These are:

Records Used (RU) — The number of records currently in memory.

Records Found (RF) — The number of records found in the last search.

Current Record (CR) — The record currently being accessed in some way (e.g. viewing in browse mode).

Records Remaining (RR) — The number of records remaining.

3.5 DATA FILES AND SECURITY

It is strongly suggested that you keep at least one backup copy of the data file currently being used.

3.6 PRINTER OUTPUT

Due to the incompatibility of printers, certain characters will not appear on the printer as they do on the screen.

3.7 EVALUATION ERRORS

These can occur in either calculate or search options and can be due to many things such as division by zero but also if a «+», «-» or «.» is placed in a field without a number. This is unfortunately an idiosyncrasy of the Amstrad BASIC.

e.g. ', '+++++++', '-----'

3.8 GETTING FROM BASIC BACK INTO THE PROGRAM

If at any stage you inadvertently exit from the program into BASIC it should be possible to return into the program by typing — GOTO 50 «ENTER».

3.9 STARTING A NEW FILE

To start a new file, after using another, use Option E to exit into BASIC then type — RUN «ENTER».

4 Getting Started

Before loading the program, ensure that the computer is fully reset by switching it briefly off then on again.

TAPE SYSTEMS

Place the cassette in the tape recorder and rewind to the beginning of the correct side. Press «CTRL»«ENTER» (positioned on the numeric key pad) together and then press play on the recorder followed by pressing a key. The program will load and automatically run, presenting you with the Main Menu.

DISK SYSTEMS

Place the disk in the drive and then type:

RUN "DATABASE" «ENTER»

The program will load and automatically run, presenting you with a Main Menu.

SETTING UP A NEW DATA FILE

To set up a new data file use Option H to design the card format and field titles by which the fields will be referred.

5 The Main Menu

This menu lists a total of 14 options. In the following section each will be discussed in turn.

Throughout this section the examples refer to the mailist demonstration file (side 1 of tape).

To load the mailist demonstration file, select Option L (the LOAD FILE option) and press «ENTER» for the default filename of 'DBDATA' followed by starting the tape (if applicable), and pressing the space bar.

OPTION A — ADD RECORDS

The ADD option allows you to add new records to the file.

The extent of each field is indicated with small blocks which will be removed as each record is added. The program will automatically move from one field to the next—type in/edit the field contents and press «ENTER».

To leave this option and cancel the record currently on the screen press «TAB».

OPTION B — BROWSE/AMEND RECORDS

To start browsing from the beginning of the file press «ENTER» in response to the prompt "From which record?" otherwise enter the record number required. The record selected will then be displayed. The information at the top of the screen will now show CR together with the record number and if the record displayed was one found in the last search, the word "FOUND" will be printed in the top left hand corner.

Within the Browse/Amend option certain keys will carry out particular functions as follows:

«↓» Down Cursor — This is used to browse down through the file (1, 2, 3, 4...).

«↑» Up Cursor — This is used to browse up through the file (... 4, 3, 2, 1).

«A» — This is used to amend the record currently on the screen. The way in which it operates is similar to the Add Records option except that you are presented with the record on the screen as the default in each field. Once the last field has been amended you will be returned to browse mode. If you use «TAB» during amend then it will be aborted and you will be returned to the Main Menu.

«D» — This is used to delete the record currently on the screen. (You will be asked to confirm deletion.)

«P» — This may be used, if you have a printer, to print out the record currently displayed. (Do not use this if a printer is not connected.)

«TAB» — This enables you to return to the Main Menu.

OPTION C — CALCULATIONS

There are two types of calculation that may be performed.

i) Total

Nominate any field, and the program will give you the total and average value for the contents of that field for a given range of records on the file.

ii) Update

Using this facility, you can perform calculations on any of the fields in a record, and place the result in any given field. First of all nominate the range of records for which the calculation is to be carried out (the first and last record inclusive). Next press «U» to update. Now press the space bar and type in the calculation, e.g. $F6 = F4 * F5$ will place the result of the contents of field 4 multiplied by the contents of field 5 into field 6. You may use «+», «-», «*», «/» (add, subtract, multiply, and divide respectively), or any other of the Amstrad's built-in functions (e.g. SIN, ↑, LOG, etc.).

After entering the formula you will be asked whether you require the result to be right justified, this will place the result to the right of the destination field e.g. the numbers 100, 10 and 8475 will be displayed as:

```
  100
   10
 8475
```

and not:

```
100
 10
8475
```

The last prompt is whether you require a numeric or string calculation. — the calculations so far mentioned have been numeric, but string calculations are also possible. To use this facility to its full you will need to have a certain knowledge of BASIC. However, there are some functions which may be carried out without any knowledge of BASIC. You may append two fields together by simply entering the calculation and specifying that you wish to carry out a string calculation. E.g. `f3 = f1 + " " + f2` where field one contains 'Smith' and field 2 contains 'John', then the result in field 3 would be 'John Smith'. (BASIC string handling functions include `left$`, `right$`, `mid$`, `instr`, etc.)

NOTE — If the result of a calculation takes up more room than is available in the destination field then an overflow will be indicated by «↑» being placed throughout that field.

OPTION D — DELETE RECORDS

Use this option to remove selected records from the file. After entering the start and finish records, (e.g. `10,15` «ENTER») you will be prompted to confirm deletion. Note that deleting records will cause the numbers of certain records on the file to change. E.g. if you delete record 1 then records 2 upwards will move down one record.

OPTION E — EXIT PROGRAM

This enables you to exit the program into BASIC.

OPTION F — FIND RECORDS

Use this option to search for particular records and position them at the beginning of the file.

Firstly, the fields are listed, and you are asked to enter the Start and finish record (e.g. `5,10` «ENTER»). Next press the space bar and enter the search definition. The easiest way to understand the definition format is by a simple example:

e.g. `F6 = "SD7 3ED" OR F6 = "EX8 2JK "`

— this means to search for all the SD7 3EDs and EX8 2JKs; the postcode being in field 6.

The ways of defining how to search are as follows:

AND — to define two criteria, both of which must be satisfied.

OR — to define two criteria, either of which must be satisfied.

= — 'equals'

< — 'less than'

> — 'greater than'

<> — 'not equal to'

<= — 'less than or equal to'

>= — 'greater than or equal to'

You may either place the text to be searched for in quotes, e.g. **F1 < "C"**, for which in this particular case the program will look for names which are alphabetically before C, or you may omit the quotes and enter a number as the search data, e.g. **F7 < 300000** — this will search for telephone numbers less than 300000.

The method of looking for particular text in a field may not be entirely satisfactory, for example you may wish to search for a record which has the name Brown in field 1, but the actual field contents are Mrs Brown. In this case you may use an asterisk within the quotes — the definition **F1 = "*Brown"** would mean search for all records in which the text Brown appears anywhere within field 1, regardless of anything else within the field.

Some examples of other search definitions are:

F4 > "M" AND F1 = "*BROWN"

F4 = "SIDMOUTH" OR F2 = "*ROAD"

F6 = "*7HG" AND F4 > "A" AND F2 = "*CLOSE"

After entering the search definition you are prompted with "Numeric or string search (N/S)?" . If you press «N» each field will be evaluated before doing the comparison. This means that "fred" = "bert" would be true if evaluated because they both have the value of zero. Also **1000.00 = "+1000"** would be true because upon evaluation they both have the value of one thousand.

The search will then be carried out and afterwards the number of records found will be displayed at the top of the screen alongside the letters **RF**.

NOTE — There is no discrimination between upper and lower case, so for instance 'BrOwN' is the same as 'brown'.

OPTION G — PRINT RECORDS

This option enables any number of records to be output to the printer. When choosing this option you will be prompted to enter the first and last records to be printed, e.g. 1,6. If at any stage during printing you wish to return to the Main Menu hold down the «TAB» key for a few seconds.

NOTE — If the records printed were found in the last search "(FOUND)" will be printed alongside the record number.

OPTION H — REFORMAT/SETUP CARD

Use this option when setting up or reformatting a card. If you have not loaded an existing file, you will be required to select 40 or 80 column mode. Once selected you will be presented with a blank card. Anything that you type in will be entered on the card at the current cursor position (indicated by the flashing square). The cursor keys (arrow keys at the top right hand corner of the keyboard) may be used to move around the card.

In this way you can set up any text, graphics, etc., that you wish to have on the card. This text will be displayed on every record. The individual record data will be stored in the fields.

To define a field, position the cursor where you require the field to begin and then use «COPY» to type small blocks to show the extent of the field. A field can be up to 160 characters in length and you may have up to 20 fields.

Other special function keys are:

«ENTER» — move cursor to beginning of next line.

«DEL» — move cursor left one and delete character.

When you have finished defining the card, press the «TAB» key. The program will scan the card, looking for fields. For each one that it finds, it will ask you to give the field title, i.e. what you wish to call the field.

If an error is detected in the card set up then a message will be printed and after pressing a key you will be returned to setting up the card.

If all is correct, the fields will be listed with their titles and maximum lengths. Press «Y» or «N» to the prompt "Field titles correct (Y/N)?" . If

no, you will be returned to the card set up procedure to alter it as necessary.

A special feature of this option is that at any stage during the use of a file you can alter the card design (but fields cannot be shortened). If however you wish to shorten, lengthen, add or delete a field then it will be necessary to go through the following procedure (this is unnecessary if there are no records in memory):

- i) Save all the records.
- ii) Delete all the records.
- iii) Reformat the card as required.
- iv) Append the records into memory.

NOTE — Remember to use Option J to save the card even if you do not add any records.

OPTION I — SORT RECORDS

This option enables you to sort selected records in various ways.

When selected you will be prompted to enter the field number on which the sort is to be executed and the last record to be included within the sort (e.g. if you enter 10 then the routine will sort records 1,10). You will then be prompted with "Numeric or string sort (N/S)?". This is asking whether you wish the sort to make string or numeric comparisons (refer to find records option). If you choose to do a numeric sort then the sort will commence otherwise you will be prompted further. "Surname sort (Y/N)?". This enables you to sort names by surname if the names are for example John Smith, Mr John Smith, Mr J. A. Smith, Mr John Andrew Smith, Mr J.A.Smith, etc. Lastly you will be prompted with "Case discrimination (Y/N)?" — this enables you, by pressing «Y», to sort a string field regardless of capitals as if all the characters are in one case (e.g. 'Robert Smith' would be the same as 'robert smith').

Once the sort is completed you will be returned to the Main Menu.

OPTION J — SAVE FILE

This saves the card format, the field summary definition and selected records onto tape/disk. Enter the first and last records required to be saved followed by a filename. Once you have pressed «ENTER» you will be prompted to start the tape (if applicable) and press the space bar—then saving will commence. If an error occurs you will be returned to the first prompt. Remember to press play and record together to save on tape.

OPTION K — APPEND RECORDS

This option adds a file to the records currently in memory. When chosen you will be prompted for the filename — press «ENTER» for the default or enter the filename as required and press «ENTER».

Note that any previously saved file can be appended regardless of its format, but records loaded will be adjusted to the format of the current file in memory. Also if the file you wish to append has more records than are currently available then the program will append as many as possible.

OPTION L — LOAD FILE

This clears out any data currently in memory and loads a file including card, field summary definition and record data. When chosen you will be prompted for the filename — press «ENTER» for the default of 'DBDATA' or type in the file name and press «ENTER».

OPTION M — FIELD SUMMARY

This is the option used to obtain a printed or screened summary in columns of certain fields. Before using this option it is necessary to use Option N to format the field summary. When chosen you will be prompted for the following:

- i) Enter records (start, finish) — type first record then press «,» and last record «ENTER».
- ii) To screen or printer (S/P)? — press «S» for screen output or press «P» for printer output.

The summary will then be printed or screened. If at any stage you wish to stop press «TAB» and you will be returned to the Main Menu.

OPTION N — FORMAT FIELD SUMMARY

This option is used to define the field summary. You will first be asked whether you require a 40/80 column screen. For each column in the summary you will be prompted for the field required and the length you require to be displayed. This may be shorter or longer than the field but no more than 160 characters. You may specify up to 20 fields — if you require less, press «TAB» when prompted for the field number.

Note that an error message "SUMMARY TOO LONG" may occur because the computer would not be able to fit such a summary on the screen. If this occurs press space bar and you may then re-enter the summary format.

Once this option has been used, every time you select Option M — field summary, the summary will appear as specified. Reselect this Option N to change the summary if required.

6 Appendices

APPENDIX I — PRESET FORMATS

There are two preset formats supplied. One a Mailing list format, positioned after the program on side 1 which doubles as a demonstration file. Another, a Record collection format positioned on the reverse side of the program cassette. Both have the default filename of 'DBDATA'. To load them up use Option L. On the disk versions these formats are on one side of the disk and are named 'DBDATA' and 'DBDATA2' respectively. These formats can be used in the same way as any other format you create and can be reformatted as required.

APPENDIX II — PRINTOUT SAMPLES

RECORD 1

Name Mrs Brown

Address 24 The Green
Littleham

Town Exmouth

County Devon.

Post Code EX8 2JK

Telephone 265743

Reference MFED

Rec Name	Address	Town	Telephone
1 Mrs Brown	24 The Green	Exmouth	265743
2 Mr Potts	68 Cedar Close	Sidmouth	45739
3 Mr Andrews	3 Queen Street	Colaton Raleigh	873402
4 Ms Bridge	5 Low Street	Newton Popple.	647282
5 Mr Bailey	10 Cornfield Road	Harpford	65857
6 Miss Ackland	26 Long Street	Sidbury	876585
7 Mrs Chesney	5 Mills Street	Newton Popple.	87653
8 Ms Town	129 Carlton Road	Sidmouth	76878
9 Mr Prince	65 Portland Road	Sidford	76327

REPORT GENERATOR

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1 General System Overview

The Gemini report generator for the Amstrad CPC 464/664/6128 microcomputer is designed to be run in conjunction with the Gemini Amstrad Database. The program may be used to produce a variety of printed reports, using the data that is set up and maintained by Database.

The reports that may be obtained are as follows:

- i) Fully definable record printout format.
- ii) Mailing label printout (up to three labels across the printer).
- iii) Document generator for the entering of a standard letter, with automatic merging of database field data.
- iv) Field summary with totals of each field printed if required.

The document, record and label formats are stored as a file on tape, and you may therefore design and use as many different reports as you require.

2 Operating Notes

2.1 INPUT ROUTINES

When the program requests information from you, there are two ways in which the information may be entered.

- i) When you are prompted for an input such as a filename, which requires more than one key press, then it will be necessary to enter your response followed by «ENTER». On these inputs a default answer may also appear — e.g. when asked for a file name, the default name "DBDATA" will appear — just press «ENTER» for this name.

At all times when entering data into the program, with the exclusion of when setting up or modifying the record printout format or document, a specially designed line editor is used to enable the user to edit the input line. Essentially you are required to type in the data and press «ENTER», but in addition you may use the following keys to perform particular functions:-

«COPY» — insert characters at the current cursor position.

«DEL» — delete character to left of current cursor position.

«CLR» — delete character at the current cursor position.

«←» and «→» — move cursor left or right of current cursor position without deleting.

- ii) If the response required is just a single letter, e.g. "Are you sure (Y/N)?", then you are not required to press the «ENTER» key after selecting the appropriate letter.
- iii) When any of the printer record options are selected the user will be required to enter the range of records to be printed — the lower record number and higher record number should be separated using a comma e.g.:-
«1,10» will print the records in the range of 1 to 10 inclusive.

2.2 ESCAPE

Throughout the running of the program it is usually possible to return to the last MENU. This is done by pressing «TAB» (the green key positioned below the «ESC» key at the top left hand corner of the keyboard).

2.3 FILE INFORMATION

At the top of the screen there are two numbers, these are:-

Records Used (RU) — the number of database records currently in memory.

Records Found (RF) — the number of records found in the last database search.

2.4 DATA FILES AND SECURITY

It is strongly suggested that you keep at least one backup copy of any data files currently being used.

2.5 PRINTER OUTPUT

Due to the incompatibility of the character codes used by certain printers, you may find that some characters do not print out exactly as displayed on the screen.

2.6 GETTING FROM BASIC BACK INTO THE PROGRAM

If at any time you find that you have been returned to BASIC it should be possible to return into the program by typing — GOTO 30 «ENTER».

3 Getting Started

Before loading the program, it is advisable to fully reset your computer by switching it off and then on again.

Place the cassette in the recorder and fully rewind the tape. Press «CTRL»«ENTER» positioned on the numeric key pad together and then press play on the recorder followed by pressing a key. If you have a disk version type RUN'REPGEN'. The program will load and automatically run, presenting you with the Main Menu.

Options 1 (Record Printout), 2 (Mailing labels) and 4 (Field Summary) cannot be used until a data file, which has originated from the Database program, has been loaded.

If you wish to load the demonstration files provided, use Option 5 to load one of the database files. The report generator demonstration file may be used in conjunction with the mailing list file stored after the Database program.

To load the demo file select Option 6 and press «ENTER» to select the default filename of 'DBDATA'.

4 The Main Menu

This menu lists a total of 8 options — in the following sections each will be discussed in turn.

4.1 MAIN MENU OPTION 1 — RECORD PRINTOUT

This option may only be used after you have loaded a data file which has originated from the Database program.

The following choice of options will then be displayed:-

1. Format Printout;
2. Print Records;
3. Return to Main Menu

4.1.1 Format Printout — the sub-menu detailed in Section 5 of this manual will appear for entry/editing of the record format.

Firstly enter the format (Option 1), by typing in any further text you require to be added to that which is currently screened. A single block, achieved by pressing the «COPY» key once followed by the field number will insert a field into the text. You may also use the «ENTER» and «DEL» keys.

If, after entering the text, you wish to amend certain parts of it, you may select **EDIT FORMAT** (Option 2), this allows you to direct the cursor around the text by the use of the four directional keys, and also gives you the following controls:-

- i) «DEL» Delete the character to the left of the cursor.
- ii) «CTRL»«B» Delete a block of text. When this key is selected you will be required to press the space bar until the cursor moves to the end of the text to be deleted. A block will be shown at the point from which you started the deletion. When you have marked the text to be deleted press «ENTER» and the text will be deleted. When using this option if you move the cursor too far, you may use the «DEL» key to move back.

- iii) «CTRL»«T» Insert a block of text. When this key is selected the user will be prompted for the text to be inserted, which is entered using the line editor, which will appear at the bottom of the screen. If «ENTER» is pressed a carriage return will be entered.
- iv) «ENTER» Overtyping a Carriage Return.
- v) «CTRL»«P» Previews the text.
- vi) «TAB» Return to Menu.

If you have finished with the format and wish to start a new one, select Option 3. You will be asked to confirm this with the prompt "Are You Sure (Y/N)?".

PLEASE NOTE: You will not be able to get the old format back after using this option, so if this is required you should save it using Option 7.

After clearing the current format the program will take you into the enter format routine.

4.1.2 Print records — this will enable you to print records in the current record printout format. Enter the range of records to be printed, e.g. «1,10» for records 1 to 10 inclusive. You will also be asked whether or not you require paging. If you press the «Y» key then the following information will be required.

- i) The header — a title to be printed at the top of each page.
- ii) The footer — a title to be printed at the bottom of each page.
- iii) The page length — the number of line feeds on each printer page (this is usually 66).

4.2 MAIN MENU OPTION 2 — MAILING LABELS

This option may only be used after you have loaded a data file which has originated from the Database program.

The following choice of options will then be displayed:-

- i) Format Printout;
- ii) Print Records;
- iii) Return to Main Menu.

4.2.1 Format Printout — this will allow you to alter the format of the mailing labels. Enter the following information:-

- i) The left hand tab — the number of characters in the left hand margin.
- ii) The number of labels across — maximum of three.
- iii) The horizontal spacing — the number of characters from the left of one label to the left of another label.
- iv) The width of each label — the number of characters of each label from left to right.
- v) The vertical spacing — the number of line feeds from the top of one label to the top of another.
- vi) The depth of each label — the number of fields to be printed on each label.
- vii) The field number to be printed.
- viii) The number of characters to be printed of that particular field.

NOTE: Items (vii) and (viii) will be asked for every field required on the label. Items (iii) and (iv) will only need to be specified if you are printing more than one label across.

4.2.2 Print records — this will enable you to print out any of the records in the mailing label format. You will be prompted to enter the range of records to be printed. E.g. «1,10» for 1 to 10 inclusive.

4.3 MAIN MENU OPTION 3 — DOCUMENT GENERATOR

The document generator may be used to set up a standard letter and enter any database field information into the document. The procedure is to type in the document, and where you wish to enter in the field data, press «COPY» followed by the field number. This will appear on the screen as a small block followed by the number. When printing the records, the appropriate data will be inserted into the document for each record.

Although a word may appear on the screen as being split, when printing the program will automatically ensure that the document is correctly justified (if requested), i.e. that no words are split on to the next line. Also each line will be padded out with spaces as necessary to give a straight right hand margin.

The following options are given:-

1. Format Printout;
2. Print Records;
3. Return to Main Menu.

4.3.1 Format Printout the sub-menu detailed in Section 5 of this manual will appear, allowing you to edit or enter the document that you require.

Enter, Edit and Start New Format, are detailed in the Record Printout Option section 4.1.

4.3.2 Print Records this option works the same as the print records on record printout on Option 1 of the Main Menu although it has the added advantage of automatic justification, if required and word wrap while it is printing. You will be asked whether you wish to have the printout justified. Answer Y or N. If you wish to preview the justified text then use Control P.

NB. The word wrapping will cause an extra line feed to be inserted should a carriage return occur at the end of a line. To correct simply delete the carriage return.

4.4 MAIN MENU OPTION 4 — FIELD SUMMARY

This option may only be used after you have loaded a datafile which has originated from the Database program.

The field summary will allow you to print any of your database fields as columns across the printer exactly as in the database program itself. The following options will be given:

1. Format Printout;
2. Print Records;
3. Return to Main Menu.

4.4.1 Format Printout – this will allow you to alter the format of the field summary. For each field in turn that is to be printed, enter the field number and the number of characters to be displayed. When you have fully defined the field summary, the program will display the enter field number as 0 – press «TAB» to return to menu.

4.4.2 Print Records -- enter the range of records to be printed, e.g. «1,10». Then press «Y» or «N» to the prompt "Do you require totals?". If you press «Y» the program will print the total of any non-zero column, after printing the field summary. If the total does overflow the column length, the total will not be printed.

4.5 MAIN MENU OPTION 5 — LOAD DATABASE FILE

This routine may be used to load in a file of Database records. Enter the name of the Database file to be loaded, insert the correct tape into the recorder, then press any key. If no Record Print Format is in memory, then the screen from the Database file will be loaded, and the fields will be converted to the Report Generator format. The Record printout will be different to Database due to the way Database masks are formatted so you may need to edit the format, using the Format Editor via Option 4.1 (Record Printout).

Please note it may not always be possible to fit all of the database records into memory. If this occurs the computer will display the number of records it can load.

4.6 MAIN MENU OPTION 6 — LOAD FORMAT FILE

This option will load in a file previously saved by the Report Generator. The information in this file will be the formats/text to be used in any of the report printouts that have been specified.

Enter the name of the data file, insert the correct tape, then press any key on the recorder.

4.7 MAIN MENU OPTION 7 — SAVE FORMAT FILE

Use this routine to save the text and format details that are currently in memory this will save tedious retyping. Carefully label the tape that is saved, so that you know to which Database file this relates.

4.8 MAIN MENU OPTION 8 — EXIT PROGRAM

You will be asked to confirm to exit after exit from the program, the memory will be cleared.

5 Sub-menu 2 – Format Printout

This sub-menu is applicable only to options 4.1 (Record Printout) and 4.3 (Document Generator).

When selecting to Format the Printout the options are as follows:-

1. Enter Format;
2. Edit Format;
3. Start New Format;
4. Return to Menu

5.1 Enter Format — this will allow you to add to the format currently displayed on the screen. If no format has previously been set up the entry window will be blank. Press the «TAB» key when you have finished entering the format and you will be returned to the sub-menu.

5.2 Edit Format — this will allow you to edit the format entered.

5.3 Start New Format — use this option to start a completely new record or document format.

5.4 Return to Menu — this option will return the program to the previous menu.

6 Appendix - Printout Examples

Mrs Brown
24 The Green
Littleham
Exmouth
Devon.
EX8 2JK

Mr Potts
68 Cedar Close
Kilroy
Sidmouth
Devon.
SD7 3ED

Mr Andrews
3 Queen Street
The Meadows
Colaton Raleigh
Devon.
CR5 5RF

Name Mrs Brown
Address 24 The Green
Littleham
Town Exmouth
County Devon.
Post Code EX8 2JK
Telephone 265743
Reference MFED

	Name	Address1	Address2	Town	County
1	Mrs Brown	24 The Green	Littleham	Exmouth	Devon.
2	Mr Potts	68 Cedar Close	Kilroy	Sidmouth	Devon.
3	Mr Andrews	3 Queen Street	The Meadows	Colaton Raleigh	Devon.
4	Ms Bridge	5 Low Street	The Pines	Newton Poppie.	Devon.
5	Mr Bailey	10 Cornfield Ro	Lynmoor	Harpford	Devon.
6	Miss Ackland	26 Long Street	Elms	Sidbury	Devon.
7	Mrs Chesney	5 Mills Street	The Mill	Newton Poppie.	Devon.
8	Ms Town	129 Carlton Roa	The Lodge	Sidmouth	Devon.
9	Mr Prince	65 Portland Roa	Beacon	Sidford	Devon.
10	Mrs Rolands	15 Lindon Grove	The Gables	Sidford	Devon.

56 Old Cottage Road,
Exmouth,
Devon.

20th November 1984.

24 The Green,
Littleham,
Exmouth,
Devon.
EX8 2JK.

Dear Mrs Brown,

I thank you for your recent enquiry and have pleasure in enclosing a leaflet giving details of membership to the Exmouth & District Social Club.

You will see that we offer a wide range of facilities including a fully licensed restaurant, tennis and squash courts and an indoor heated swimming pool.

Bar snacks may be obtained from the Club bar at lunch times as well as in the evening. There is also a childrens room with many activities available.

If you would like to have a look around the facilities do not hesitate to contact me between 10am and 5pm.

Yours sincerely

Mr C.Price

Club Manager.

HOME ACCOUNTS

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1 General System Overview

The Gemini Home Accounts system for the Amstrad CPC 464/664/6128 microcomputer is designed for a hardware system consisting of:

- i) Amstrad CPC 464/664/6128 microcomputer with either cassette or disk data storage.
- ii) Optional 80 column printer.

'Home Accounts' is a simple to use suite of two programs offering comprehensive management of home finances.

For ease of use, and in order to fit all the features into the computer's memory, it is spread over two programs. Once the initial account details and budget design has been carried out using Program One, all that is necessary is to enter account transactions into Program Two. (It is only necessary to go back to the first program in order to amend the annual budget or standing orders). All the forecasting and account information (see below) after being automatically compared with the budget can be presented in many different ways according to the details you require. This is not a 'mini business package', but a simple to use and practical program designed for home finances.

MAIN FEATURES

- Computer-aided budget, which may be amended at any time;
- Up to 29 expenditure and two income allocations;
- Financial year can start in any month;
- Up to 325 account transactions of 24 character detail, automatically compared with budget;
- Automatic warning if bank charges likely;
- Forecast of balance, and expenses due for the current month;
- Automatic standing order entry;
- Histograms drawn showing income/expenditure (budget and actual);

- Very powerful search and list routine. Will search for:-
 - date, or range of dates,
 - allocations,
 - transaction details (e.g. specific name),
 - credits,
 - or any user-defined combination of these and then list and total the information;
- Simple to check account totals or running totals against budget at any time;
- All account entries sorted into date order if required;
- Full summary for any allocation, including totals, running totals, budget comparison, remaining budget, etc.;
- Four types of monthly summary;
- Plus more...

2 Operating Notes

2.1 INPUT ROUTINES

When answering yes/no press «Y» for yes and «N» for no (upper or lowercase).

Other than when single entry options are expected (e.g. menu), any information will be requested with a suitable prompt and two arrows: > <. The cursor will be positioned after the first arrow. The position of the second arrow indicates the maximum length allowed for the data. Use the delete key to correct mistakes, and then press «ENTER». If the entry is not valid in some way it will be deleted when you press «ENTER», or an error message will be displayed. (See relevant instructions). Only valid keys will be accepted, e.g. it is not normally possible to use a letter where an amount is required.

2.2 ENTERING DATES

When entering a date, type the day followed by at least the first three letters of the month. Do not enter the year. Spaces or / or - etc. between day and month are optional. Use upper or lowercase. An invalid date will not be accepted. Once a date has been accepted it will always be printed in the following format: 7 Jul 84.

2.3 ENTERING AMOUNTS

The maximum single entry is normally £99,999.99 credit or £9,999.99 debit. Larger amounts may be accepted in some cases, but may not fit on the line on screen or paper, and hence spread on to the next line when listing. In the case of tabulated information this will make it difficult to read. Ten pounds thirty-four pence should be entered as 10.34, and ten pounds should be entered as 10. It is also assumed that the total expenditure for any single allocation will not exceed the limits. (If this should occur the data will not be lost, but will be displayed with a «%» sign in front of it.)

2.4 ENTERING ALLOCATIONS

When asked to enter an allocation in either program (other than when defining them in the first place), it is only necessary to enter the first few characters of the required allocation, and then press «ENTER». The computer will respond by showing the allocation in full (in block capitals). If this is the correct allocation press «ENTER». If not, then press any other key and all allocations can be seen, and then press «ENTER» when the correct one is found. For example, if 'CAR TAX' is required enter 'car'. The first allocation starting with 'car' will be shown, and if it is correct press «ENTER»; if not, any other key.

2.5 PRINTER OUTPUT

All information, other than histograms, can be directed to an 80 column printer. If you do not have a printer answer 'no' when asked at the beginning of the program and then printer options will not be given. Due to the incompatibility of some printers certain characters may not appear on the printout as they do on the screen.

If you answer 'yes' then printer options will be given when appropriate with the prompt: "Press «p» for printed copy". Pressing any key other than «p» will output the data to screen.

Account statements can be aborted by holding down the space bar.

2.6 DATA FILES AND SECURITY

It is strongly suggested that you keep at least one backup of the data file currently being used.

Please note that punctuation marks and spaces should not be used in the filenames. The filename should consist of not more than 8 characters.

3 Getting Started

Before loading the program, ensure that the computer is fully reset by switching it briefly off and then on again.

Program One is on one side of the cassette and Program Two is on the other. Sample data has been recorded after each program and is stored under the file name of 'HADATA'.

TAPE SYSTEMS

Place the cassette in the tape recorder and rewind to the correct side. Press «CTRL» and «ENTER» (positioned on the numeric key pad) together. Press play on the recorder and then press any key. The program will load and automatically run.

DISK SYSTEMS

Place the disc in the drive and then type:

RUN "HA1" « ENTER » for program one, or
RUN "HA2" « ENTER » for program two

The program will load and automatically run, presenting you with the Main Menu.

When changing from one program to the other, save the account data first and then clear the memory and load the next program as above. When saving your data make a careful note of the name used as it will be needed when loading the data later.

4 Program One

This is used for initial setting up and planning, and amendments to the budget if necessary.

After indicating if you have a printer connected you will be given two options:-

- i) Set up new account;
- ii) Amend an existing account.

Option One will take you through a budget planning routine, and then to the Main Menu. Most of the instructions are contained in the program for this option.

Option Two will ask for existing account data to be loaded, and then after a short pause, while it compares the account transactions with budget, will take you to the Main Menu.

4.1 OPTION ONE (SET UP NEW ACCOUNT)

You will be asked to enter the following:-

Name of account.

Account number.

Existing account balance — This is the amount carried forward from the previous year, and is not against any particular allocation for the purposes of budgeting. If you wish this amount to be compared with the budget (i.e. set against a particular allocation), then enter «0» at this stage and make the first entry in the account (Program Two) the amount carried forward. You will then be given the option to make any corrections for which you should press «N». Alternatively press «Y» to continue.

Minimum account balance in order to avoid bank charges — The amount entered here can be amended at any time during the year if necessary.

Financial year — This must be in one of the two formats shown. If only one year is entered (e.g. «85») it will be assumed the budget is to begin in January.

Number of the month — This will be asked if you are not starting in January and indicates when the budget is to start (February = 2, March = 3, etc.). The month and year will be shown, and you will be given the option to amend if necessary. Please note that it will not be possible to amend this at a later stage.

Budget expenditure allocations — It is then necessary to enter budget expenditure allocations, e.g. food, car tax, petrol, mortgage, etc. Entering «F» will tell the computer you have finished. Although up to 12 characters may be used for each allocation, it is suggested you keep them as concise as possible. In some cases when summaries are given in 80 column mode, or to printer if connected, only the first seven characters are displayed in order to fit the data on screen or paper.

If a «\$» sign is placed in front of the allocation (e.g. «\$LOAN») then the computer will assume the amounts entered in the budget to be standing orders, and will automatically make an account entry when the standing order is due. You will be asked for the day in the month when the order is due. Please note that if you make a monthly S/O for the 31st of the month the computer will amend it to the 30th or 28th when appropriate. The standing orders for any month will be inserted if an entry for that month has been made and when you select one of the summaries in Program Two. If you prefer to enter them manually then omit the «\$» sign and you will be reminded when they are due by referring to the expenditure forecast.

Allocations can be amended, added or deleted at any time, but not if account transactions have been made against it. (Other than amendments to the budgeted amount. See Main Menu Option 5.)

When you have finished (enter «F») the allocations you have chosen will be shown at the top of the screen with the following sub menu. You will notice that 'INCOME 1' and 'INCOME 2' have been added to the list. These titles may be changed if you wish, but they may only be used for income.

1. **Amend allocations (Title only)** — Please note that if this option is chosen on an existing account the computer will check that no account entries exist under that allocation. If they do, a warning will be given, and it will not be possible to amend.

2. **Delete allocations** — It is not possible to delete either of the income allocations or an existing account which contains entries.
3. **Add allocations** — (see above).
4. **Amend S/O day number** — (see above).
5. **Continue** (if setting up) or **Menu** (if amending existing account).

If you have a printer connected you will be asked if you would like a form printed to help plan your budget. This will show the months and allocations and may be used for working out your annual budget. It will then be possible to amend, delete, or add any allocations as necessary. Press «M» for more copies of the form or «C» to continue. The next stage is to input all budget amounts.

Every allocation in turn, starting with 'INCOME', will be shown at the top of the screen. The budgeted amount can be entered either:-

Annually — Enter the total for whole year, or

Monthly — Each month will be shown. Enter the amount separately for each month.

Please note: If an annual amount is chosen (say £1,300) the computer will divide it by 12 and spread the amount over the year. If it cannot divide equally by 12 it will offer the nearest alternative. (In the case of £1,300 it will offer £1299.96.) If this is OK it will allocate $\frac{1}{12}$ of that amount (£108.33) to each month. If it is not OK you may start again.

Budgeted amounts may be amended later if necessary. It is suggested that you use Option 2 from the Main Menu to see if your budgeted surplus or deficit is acceptable!

4.2 OPTION 2 (AMEND AN EXISTING ACCOUNT)

This option will take you directly to the Main Menu.

5 Program One

Main Menu

The Main Menu gives a total of eight options:-

5.1 BUDGET OR ACCOUNT SUMMARY

This will take you to a sub menu with four options:-

- i) Budget total – this will give a monthly total for each allocation exactly as entered in the budget, to the nearest pound.
- ii) Budget running total – Similar to above, but in this case the previous month's amount is carried forward, so giving the budgeted amounts up to and including each month.
- iii) Account total – As in (i), but this shows actual account expenditure.
- iv) Account running total – As in (ii), but this shows actual account expenditure.
- v) Main Menu – for return to the Main Menu.

5.2 COMPLETE SUMMARY

This gives similar information to Option 1 but is the total for ALL allocations including income. The budgeted surplus or deficit is also shown, and is useful to refer to when planning the budget.

5.3 AMEND MINIMUM BALANCE

This is the minimum balance required in order to avoid bank charges. The existing amount is shown in brackets and may be amended by entering the new amount.

5.4 AMEND, ADD OR DELETE ALLOCATIONS

The allocations will be shown at the top of the screen and you will be given the following options as previously detailed:-

1. Amend allocations (title only).
2. Delete allocations.
3. Add allocations.

4. Amend S/O day number.
5. Menu.

5.5 AMEND BUDGETED AMOUNTS

All allocations, as existing, will be shown on screen. Select «1» to amend, or «2» to return to Main Menu. Enter the required allocation.

The existing budgeted amount will be shown on the left hand side of the screen, and the cursor will be positioned ready for you to enter the new amount for each month. Press «R» «ENTER» if you do not want to amend the amount. For all allocations, other than **INCOME**, the minus sign will be shown on the screen next to the cursor. The cursor will move onto the next line when a valid entry has been made. After completing amendments it is suggested you choose Option 2 from the Main Menu to see how your total budgeted expenditure has been affected.

5.6 HISTOGRAMS

A sub menu with three options will be given. For all histograms the account and budget information are displayed at the same time for easy comparison. (This will obviously not apply when setting up a new account). Account details are shaded. Also in every case the option of showing totals or running totals is given.

- i) Complete summary — This is the same data as given in the Main Menu Option 2.
- ii) Budget or account summary — This is the same data as given in the Main Menu Option 1. It will be necessary to indicate which allocation you wish to see.
- iii) Main Menu — for return to the Main Menu.

5.7 NEW ACCOUNT

This gives the option of deleting **ALL** data and starting again! Use with caution.

5.8 SAVE DATA

It is important to have a blank tape/formatted disk ready to save the account data. If you decide not to proceed you may return to the Main Menu by pressing the «TAB» key. After entering the name of the file, if using a cassette, you will be required to select whether you wish to save data at a fast or slow rate. The slow rate will be more reliable but will also use more cassette tape and consequently take longer to load. Press «REC» and «PLAY» together followed by any key and the data will commence saving. You will have the option of saving more than one copy.

6 Program Two

This is the main account and budgeting program used for entering account data, listing, forecasting, checking expenditure etc.

Load the program as indicated in 'Getting Started' and then load account data as indicated on the screen. If you have a printer connected you will be asked for today's date. This will be shown on all printed copies.

Many of the options are much easier to use than explain, and for this reason it is suggested you load the sample data supplied, (follows immediately after the program on tape), and use this to become familiar with the program. If a new account is loaded (i.e. there are no transactions), the only valid option is 1 until at least one entry has been made.

THE MAIN MENU

The Main Menu gives a total of 9 options:-

6.1 NEW ENTRY

- i) The next spare entry number will be shown at the top of screen, and then a prompt asks for the date of the transaction. (See 'Entering dates'.)
- ii) Details. Enter details of the transaction, including the type of transaction. The computer will be able to scan the details when using the 'List or amend option' and produce a summary. In order to make best use of available space it is suggested you use a symbol to show the type of transaction. For example:-
 - * = cheque
 - \$ = standing order
 - # = transfer
 - £ = credit card payment
 - % = interest
 - ! = direct debit

You can of course use the words in full, or any other method that suits your circumstances best. The important thing is that

having decided to show the type of transaction in a particular way, you should stick to it! You may find it perfectly adequate simply to show a name. A typical entry might be:-

*259 Mr Smith (carpet)

This shows cheque number 259 paid to Mr Smith for a carpet. When using the 'List or amend option' it would be easy to track down this entry even if you can only remember 'carpet'. Furthermore it is a simple job for the computer to list all cheques by searching for a «*». The full advantage of this flexible system will become clear when you use the 'List or amend option'. (Please see 'Memory Limitations', Appendix I.)

- iii) Enter the amount of the transaction, press «ENTER», and then «C» for credit or «D» for debit.
- iv) Enter allocation. (See 'Entering allocations'.)
- v) If the account balance falls within 50 pounds of incurring bank charges then a warning will be given.
- vi) Four options will be given:-
 - 1. Delete — Will delete entry shown on screen.
 - 2. Amend — For amending any information shown on screen.
 - 3. More entries.
 - 4. Menu.

If you need to allocate a transaction to more than one allocation, (for example when drawing out cash to spend on several items), then it will be necessary to make more than one entry for that transaction. You may find it helpful to show this by including a comment in the details, e.g. '1 of 2'.

6.2. LIST OR AMEND ENTRIES

Options 1-5 are used to define the type of entries you wish to list. All five may be selected if you wish before listing.

- i) Allocation — Enter the allocation.
- ii) Date — Enter the first date, and then the last date you wish to see listed.
- iii) Details — Enter the symbol, name or phrase you wish the computer to search for in the account details. Although only entries that match exactly will be listed, it is unimportant whether you use upper or lowercase. For example, if you request 'smith' then the computer will also find all entries with 'SMITH'.

- iv) Credits — If this option is selected only credit transactions will be listed.
- v) Entry numbers — Enter the first entry number to be listed, and then the last.
- vi) Main Menu — return to Main Menu.

If no options are selected then all account entries will be listed.

If you have a printer connected you will be given the option of a printed copy. After pressing «P» enter the page number of the first page. The listing can be aborted by holding down the space bar. Printed listings will be tabulated.

The next prompt will be "80 column display?". Pressing «Y» will cause the transactions to be listed 20 at a time in tabular form (as with the printer). Hold down space bar to abort listing. Pressing «N» will enable the 40 column mode and list one transaction at a time, each one giving the following options:-

- i) Insert — This is used to insert a new entry with the same entry number as the entry listed on screen. If selected, the entry on screen, and all subsequent entries, will be re-numbered.
- ii) Delete — This will delete the entry shown on screen.
- iii) Amend — This will take you to another sub-menu and give the option of amending any of the information shown.
- iv) Menu — This will abort the listing and take you back to the menu.

If any entries are altered in any way all other summaries, forecasts, account totals, etc., will automatically be up-dated.

Pressing any other key will continue to list the entries. When all entries asked for have been listed a summary will be given before returning to the menu.

6.3 SORT IN DATE ORDER

Selecting this option will sort all account entries into date order. You will be asked to confirm by pressing «Y» before the sort will commence. It is assumed that most of the account is more or less in date order, and this will be used mainly to insert one or two new entries into the correct place. Although it could be used to sort several hundred random entries into date order, this would take a very long time.

6.4 SAVE DATA

Please see instructions with Program One on page 14

6.5 BUDGET OR ACCOUNT SUMMARY

Please see instructions with Program One on page 13

6.6 COMPLETE SUMMARY

Please see instructions with Program One on page 13

6.7 ALLOCATION SUMMARY

The information given relates mainly to the current month. This is worked out by the computer by scanning all account entries, and it is assumed that the highest date since the start of your financial year is the current month. This will be shown at the top of the screen.

The columns listed are explained as follows:-

Annual budget — Total amount expected to be spent (or received) in 12 months.

Budget total — The amount you expected to spend this month.

Budget running total — The total amount you expected to be spent up to and including this month.

Account total — The amount you have actually spent so far this month.

Account running total — The amount you have actually spent up to and including this month.

Variation from budget — This is the difference between what you expected to spend up to and including this month and what you have actually spent. If you are below budget it will be shown as a minus.

Remaining budget — This is the amount you still have left to spend for the remainder of the year assuming you keep to budget.

If any allocation is more than 20% below budget it will be marked «*».

6.8 EXPENDITURE FORECAST

This relates to the current month. All allocations where expenditure is still due will be listed at the top of the screen, with the amount. Suppose, for example, you expected to spend 20 pounds on 'clothes'

this month, and have already spent 15 pounds, "clothes 5.00" will be shown on the screen. This can be a very useful reminder of bills due shortly.

All the amounts listed will be totalled, and shown as "Budgeted expenses due". The next item is 'income'. If no income has yet been received this month then an estimate will be given based on the budget. After this will be the existing account balance. All this information is used to estimate the balance in the account at the end of the month. If this estimate shows the balance is low enough to incur bank charges then a warning will be given, and hopefully this will give you time to do something about it!

Please bear in mind that once **ANY** amount has been allocated to income for the current month then the computer will use this for the forecast. If your income is received monthly this will be no problem, but if it is received weekly then do make sure you take into account any further income you know will be received when considering the forecasted end of month balance.

You will now be asked "See next month?". Pressing "Y" will show next month's expenses and income based on the budget, but the existing account balance will not be shown.

6.9 HISTOGRAMS

Please see instructions with Program One.

7 Appendices

APPENDIX I — MEMORY LIMITATIONS

The program has been designed to take up to 325 account entries allowing a maximum of 24 characters for 'details'. However, the average must not exceed 19. If it does, the computer will automatically reduce the number of characters allowed down to 18 (by bringing the prompt arrows closer together) until such time that the average is acceptable. In normal use this is very unlikely to happen.

Also, when the memory is quite full, or if a lot of amendments are made, the computer will occasionally need to re-arrange the stored data in order to make best use of available space. If this happens then the information on screen will 'freeze' for several seconds, and any processing will temporarily cease. No warning is given.

APPENDIX II — PRINTOUT EXAMPLES

William Smith NO. 12-345-6789 FROM Apr 84 Today: 26 Jun 84
Page 1

No.	Date	Details	Allocation	Amount	Balance
1	1 Apr 84	Salary	INCOME 1	200.00	200.00
2	1 Apr 84	Savings interest	INCOME 2	10.00	210.00
3	4 Apr 84	*178 Sava Centre	FOOD	-19.42	190.58
4	14 Apr 84	*180 Self	FOOD	-20.00	170.58
5	14 Apr 84	*180 Mr King (Paint)	HOUSE	-10.00	160.58
6	15 Apr 84	\$ Standing Order	\$LOAN	-50.00	110.58
7	30 Apr 84	\$ Standing Order	\$RENT	-50.00	60.58
8	3 May 84	Salary	INCOME 1	187.45	248.03
9	5 May 84	*189 Sava centre	FOOD	-22.67	225.36
10	15 May 84	*192 Cheap insurance co.	INSURANCE	-86.22	139.14
11	31 May 84	\$ Standing Order	\$RENT	-50.00	89.14
12	4 Jun 84	Salary	INCOME 1	192.33	281.47
13	4 Jun 84	*195 Sava centre	FOOD	-18.99	262.48
14	30 Jun 84	\$ Standing Order	\$RENT	-50.00	212.48

William Smith NO. 12-345-6789 FROM Apr 84 Today: 26 Jun 84

SUMMARY

LIST TOTAL 212.48

William Smith NO. 12-345-6789 FROM Apr 84 Today: 26 Jun 84
 Complete summary

Month:	Budget total:	Budget running total:	Account total:	Account running total:
Apr	70.00	70.00	60.58	60.58
May	5.00	75.00	28.56	89.14
Jun	68.00	143.00	123.34	212.48
Jul	27.00	170.00	0.00	0.00
Aug	-39.00	131.00	0.00	0.00
Sep	60.00	191.00	0.00	0.00
Oct	5.00	196.00	0.00	0.00
Nov	-75.00	121.00	0.00	0.00
Dec	70.00	191.00	0.00	0.00
Jan	20.00	211.00	0.00	0.00
Feb	-100.00	111.00	0.00	0.00
Mar	50.00	161.00	0.00	0.00

Budgeted surplus:- 161.00

William Smith NO. 12-345-6789 FROM Apr 84 Today: 26 Jun 84
 Current Month:- Jun * more than 20% below budget

ALLOCATION	ANNUAL BUDGET	BUDGET TOTAL	BUDGET RUN/TOT	ACCOUNT TOTAL	ACCOUNT RUN/TOT	VARIATION FROM BUDGET	REMAINING BUDGET
INCOME	+2280.00	+190.00	+570.00	+192.33	+579.78	+9.78	-1700.22
INCOME	+40.00	+0.00	+10.00	+0.00	+10.00	+0.00	-30.00
FOOD	-420.00	-30.00	-90.00	-18.99	-81.06	+8.92	+338.92
HOUSE	-614.00	-42.00	-62.00	+0.00	-10.00	+52.00	+604.00
\$RENT	-600.00	-50.00	-150.00	-50.00	-150.00	+0.00	+450.00
\$LOAN	-200.00	+0.00	-50.00	+0.00	-50.00	+0.00	+150.00
INSURAN	-235.00	+0.00	-85.00	+0.00	-86.22	-1.22	+148.78
CAR TAX	-90.00	+0.00	+0.00	+0.00	+0.00	+0.00	+90.00

William Smith NO. 12-345-6789 FROM Apr 84 Today: 26 Jun 84
 EXPENDITURE FORECAST FOR:- Jun

FOOD	11.01	HOUSE	42.00
Total budgeted expenses due			53.01
Income			192.33
Current balance			212.48
End of Jun forecasted balance			159.47

William Smith NO. 12-345-6789 FROM Apr 84 Today: 26 Jun 84												
Monthly Budget running total (to nearest pound)												
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
INCOME	190	380	570	760	950	1140	1330	1520	1710	1900	2090	2280
INCOME	10	10	10	20	20	20	30	30	30	40	40	40
FOOD	-30	-60	-90	-120	-155	-190	-225	-260	-300	-340	-380	-420
HOUSE	0	-20	-62	-105	-149	-194	-254	-294	-324	-364	-564	-614
\$RENT	-50	-100	-150	-200	-250	-300	-350	-400	-450	-500	-550	-600
\$LOAN	-50	-50	-50	-100	-100	-100	-150	-150	-150	-200	-200	-200
INSURAN	0	-85	-85	-85	-185	-185	-185	-235	-235	-235	-235	-235
CAR TAX	0	0	0	0	0	0	0	-90	-90	-90	-90	-90
TOTALS	70	75	143	170	131	191	196	121	191	211	111	161

William Smith NO. 12-345-6789 FROM Apr 84 Today: 26 Jun 84												
Monthly Account total (to nearest pound)												
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
INCOME	200	187	192	0	0	0	0	0	0	0	0	0
INCOME	10	0	0	0	0	0	0	0	0	0	0	0
FOOD	-39	-23	-19	0	0	0	0	0	0	0	0	0
HOUSE	-10	0	0	0	0	0	0	0	0	0	0	0
\$RENT	-50	-50	-50	0	0	0	0	0	0	0	0	0
\$LOAN	-50	0	0	0	0	0	0	0	0	0	0	0
INSURAN	0	-86	0	0	0	0	0	0	0	0	0	0
CAR TAX	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	61	29	123	0	0	0	0	0	0	0	0	0

William Smith NO. 12-345-6789 FROM Apr 84 Today: 26 Jun 84												
Monthly Budget total (to nearest pound)												
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
INCOME	190	190	190	190	190	190	190	190	190	190	190	190
INCOME	10	0	0	10	0	0	10	0	0	10	0	0
FOOD	-30	-30	-30	-30	-35	-35	-35	-35	-40	-40	-40	-40
HOUSE	0	-20	-42	-43	-44	-45	-60	-40	-30	-40	-200	-50
\$RENT	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50	-50
\$LOAN	-50	0	0	-50	0	0	-50	0	0	-50	0	0
INSURAN	0	-85	0	0	-100	0	0	-50	0	0	0	0
CAR TAX	0	0	0	0	0	0	0	-90	0	0	0	0
TOTALS	70	5	68	27	-39	60	5	-75	70	20	-100	50



GRAPH PLOT

A graphics and statistics package for the Amstrad 464/664/6128

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Software - David Merrifield

Manual - Simon Williams

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1 GENERAL SYSTEM OVERVIEW

The Gemini Graph Plot package for the Amstrad CPC464, CPC664 and CPC6128 microcomputers provides comprehensive graph and chart plotting facilities and includes a sophisticated screen editor to speed the entry of rows or columns of figures.

The program also accepts data from Gemini's Database or Cashbook programs for the Amstrad microcomputers.

From this data, it can plot:

- Bar graphs (histograms).
- Scatter graphs.
- Line graphs.
- Pie charts.
- Formula graphs.

All graphs and charts may be plotted in up to four colours, and these colours can be selected from the keyboard.

If you have an 80 column printer, the program can produce copies of the data used in plotting graphs and charts. The graphs and charts themselves may be printed out on an Epson FX80 or compatible printer.

2 OPERATING NOTES

2.1 Key Sequences

Most functions in Graph Plot are called by selecting a number from a menu or by using a 'Control Sequence'. A Control Sequence simply means pressing a letter key while HOLDING DOWN the <CTRL> key. Thus <CTRL>U means 'hold down <CTRL> and press and release U'.

At most points within Graph Plot, you can return to the main menu and abandon the current operation by pressing <TAB>. The <TAB> key is directly below <ESC> on the left of the keyboard.

On disk versions of the program it is possible to save screens to disk by pressing <CTRL> <S>. When this combination of keys is pressed the border will flash until a number from 0 to 9 is pressed, then the screen will be saved under the filename of the key that you pressed and may be loaded from basic by typing the following:-
MODE 1:LOAD
"<FILENAME>",&C000

Please note the <FILENAME> is the number that you pressed when saving the screen.

Throughout this manual, <ENTER> is used to represent the large key marked 'ENTER' on the CPC464 and CPC664 keyboards. On the CPC6128 keyboard the equivalent key is marked 'RETURN', and this key should be used in preference to the smaller key marked 'ENTER'.

The cursor keys are indicated by:-

<uc>	Up Cursor
<dc>	Down Cursor
<lc>	Left Cursor
<rc>	Right Cursor

2.2 Input Routines

When the program asks you to enter information from the keyboard, there are two ways this can be done.

If your entry is a single character, such as in answer to the prompt:

Are you sure (Y/N)?

you should type 'Y' or 'N', but needn't press <ENTER> to complete the entry.

If your entry is more than one character, you should type the letters or figures required, and complete the entry by pressing <ENTER>. Sometimes a default (assumed) answer will appear in the prompt line. For example, when loading a data file, the prompt:

Enter Filename PLDATA__

will be displayed. If you want to load the file PLDATA, then just press <ENTER> to select this default name.

Graph Plot makes use of a specially-written line editor to handle all entries. This editor allows you to overwrite a default entry or edit an existing entry of your own. If you want to load a different data file in the example above, you simply type its name over the default and press <ENTER>.

As well as overtyping characters in the entry line, the line editor provides the following facilities:-

- <COPY> inserts a space at the current cursor position.
- deletes the character to the left of the cursor.
- <CLR> deletes the character under the cursor.
- <CTRL>U clears the current entry.
- <CTRL>D restores the previous entry.
- <lc> and <rc> move the cursor one character left or right.

2.3 Data Files and Security

You should always keep at least one copy (a 'back-up') of any data file you use in Graph Plot, on a separate cassette or disk. Although Graph Plot is unlikely to damage your data, your dog might!

2.4 Changing Colours

If you want to change any of the colours normally used by Graph Plot, you can do so using the following Control Sequences:

```
<CTRL>Q Change colour 0
<CTRL>W Change colour 1
<CTRL>E Change colour 2
<CTRL>R Change colour 3
<CTRL>T Change colour of border
```

Each colour will cycle through the 27 available colours. <CTRL>G selects a default colour scheme suitable for use with a green screen monitor.

2.5 Re-entering Graph Plot From BASIC

If you inadvertently leave Graph Plot and enter BASIC, you can re-enter the program by typing GOTO 50 <ENTER>. Your data should be preserved, but check this by selecting option 6 from the main menu.

3 GETTING STARTED

Before loading Graph Plot, reset your computer by switching it off and then on again.

If you're running Graph Plot from cassette, put the cassette in the recorder, rewind it fully and press <CTRL> and the small <ENTER> key on the numeric keypad. Press the 'PLAY' key on your recorder and then any key on the keyboard.

If you're loading Graph Plot from disk, insert the disk in the disk drive and type:

```
RUN"PLOT <ENTER>
```

In either case, the Gemini title screen appears, followed by a prompt to select for a colour or green screen monitor. Graph Plot then automatically sets up an appropriate colour scheme, and displays the main menu.

To load the demonstration data file, select option 0 from the menu, press <ENTER> to accept PLDATA as the file name, and press any key to load the file.

4 THE MAIN MENU

This menu lists a total of 10 options. In the following section each will be discussed in turn.

The examples used in this section assume you're working with the data in the PLDATA demonstration file.

Option 0 - Load File

Use this option to load a data file from tape or disk. When you select '0', you are asked to enter a file name of up to eight characters. You can use any features of the line editor while entering the file name. Press <ENTER> to complete your entry, or on its own to accept the default file name, PLDATA.

If you have a disk drive connected, Graph Plot asks you whether you want to load the data file from tape or disk.

Press any key to load the data file into memory.

IMPORTANT

ANY EXISTING DATA IN MEMORY WILL BE LOST WHEN YOU LOAD A DATA FILE

Option 1 - Save File

Use this option to save data in memory to tape or disk. When you select '1', you are asked to enter a file name of up to eight characters. You can use any features of the line editor while entering the file name. Press <ENTER> to complete your entry, or on its own to accept the default file name, PLDATA.

If you have a disk drive connected, Graph Plot asks you whether you want to save the data file to tape or disk.

Press any key to save the data file.

Option 2 - Histogram

Use this option to display a bar graph of the data currently in memory. When you select '2', Graph Plot displays eight statistics calculated from your data. These are maximum, minimum, average and standard deviation figures for the X and Y data sets. Standard deviation indicates the 'spread' of values about the average.

The X values are normally plotted along the horizontal axis of a histogram, and the Y values normally range up the vertical axis.

Graph Plot prompts you to enter the minimum and maximum values of Y. These must lie within the values displayed on the screen, and are used to scale the Y axis. Once you've entered both values, or accepted the defaults, the histogram is plotted.

When this is done, you can select any of the following options:-

- R rescales the graph.
- X plots values of X rather than Y.
- Y plots values of Y rather than X.
- <CTRL>A copies the screen to an Epson compatible printer.
- <TAB> returns you to the main menu.

Option 3 - Scatter Graph

Use this option to display a scatter graph of the data currently in memory. A screen of statistics drawn from your data is displayed (see Option 2 - Histogram) and you are prompted to select a Point or Line graph and to enter maximum and minimum values for both the X and Y axes. The maximum values must lie within the displayed maximums.

The graph is plotted and the correlation coefficient is displayed at the top of the screen. This coefficient indicates how closely the plotted points fit a straight line.

Once the graph is plotted, you can select any of the following options:-

- R rescales graph.
- <CTRL>F plots a line which best fits the data.
- P plots a point graph if a line graph is displayed.
- L plots a line graph if a point graph is displayed.
- <CTRL>A copies the screen to an Epson compatible printer.
- <TAB> returns you to the main menu.

Option 4 - Pie Chart

Use this option to display a pie chart of the data currently in memory. The size of any segment of the pie corresponds to a Y value as a percentage of the total of all plotted Y values. Graph Plot can handle up to 20 data points in a single pie chart. Each segment is lettered and keyed to an X reference, in a table down the left-hand side of the screen. The total of all Y values is shown at the bottom of the screen.

When you select option 4 you're presented with a page of statistics drawn from your data (see Option 2 - Histogram). Press any key and a table of percentages and the Y total are displayed. You're prompted to enter a figure for 'Scale'. The default value is the Y total and represents a plotting ratio of 1:1. Increasing the scale value decreases the size of the pie.

Once you've entered a value for scale, the pie chart is drawn. When it's complete, you can select any of the following options:-

- R rescales the pie chart.
- X plots values of X, rather than Y.
- Y plots values of Y, rather than X.
- <CTRL>A copies the screen to an Epson compatible printer.
- <TAB> returns you to the main menu.

Option 5 - Formula Graph

As well as plotting graphs from your table of data, Graph Plot can calculate and plot graphs for up to three formulae. The plotting data calculated for these formulae is held independently of the data for the other graphs and charts.

The formulae may contain any mathematical expression valid in Locomotive BASIC, and are entered in their algebraic form (see option 7 - Set Parameters). Try entering the following three formulae:-

```
3*X+5
50*sin(X)
X^2
```

Once the formulae are entered, selecting '5' from the main menu will prompt for the numbers of the formulae you wish to plot. As each formula is selected, there will be a short pause while Graph Plot checks its syntax. If there's an error, a message will be displayed and you'll have to alter the offending formula. If you don't wish to plot all three formulae, just press <ENTER> against the prompt to end selection.

Graph Plot will then calculate plotting values for the formulae you've entered and prompt for minimum and maximum values of X and Y. In most cases the default values will be suitable.

Once the graphs have been plotted, you may select any of the following options:-

```
R          rescales the graph.
<CTRL>L switches the formula labels off.
<CTRL>A copies the screen to an Epson compatible printer.
<TAB> returns you to the main menu.
```

Option 6 - View Data

Use this option to enter, view or edit data for histograms, scatter graphs and pie charts. Graph Plot provides you with a screen editor so that you can easily move around the tabulated data, and insert, delete or edit values and labels.

The screen is divided into four columns:-

- 1 The number of each point, used to specify the range of points you wish to plot. Graph Plot can hold a maximum of 254 data points.
- 2 A five character reference, or label, showing what the data point refers to. The first three characters of each reference may be used to label the horizontal axis of the histogram and pie chart.
- 3 The X value of the data point.
- 4 The Y value of the data point.

Data is entered using Graph Plot's line editor, and you may also use the following keys which have special functions:-

<uc>	moves the cursor up one line.
<lc>	moves the cursor down one line.
<SHIFT>uc	moves the cursor up 20 lines (one screen).
<SHIFT>dc	moves the cursor down 20 lines (one screen).
<CTRL>dc	moves cursor down after each entry (column mode).
<CTRL>rc	moves cursor to right after each entry (row mode).
<CTRL>lc	forces cursor to stay put after each entry (stay mode).
<COPY>	enters line editor without clearing the current entry.
<ENTER>	inserts a line at the current cursor position.
	deletes the line at the current cursor position.

When you leave the data table display, by pressing <TAB>, any blank lines in your table are removed so that the data is held in one continuous block.

Option 7 - Set Parameters

Many of the parameters and labels used by Graph Plot can be edited by selecting this option. The headings are as follows:

X This is the title which will be displayed along the X axis of any histogram, scatter graph or formula graph produced by the program. It may be up to 18 characters long.

Y This is the title which will be displayed down the Y axis of any histogram, scatter graph or formula graph produced by the program. It may be up to 18 characters long.

Title This is the title of the complete graph or chart and will be printed at the top of a histogram, scatter graph, pie chart or formula graph. It may be up to 23 characters long.

Range This is the range of points that will be plotted on any graph or chart. The start and finish values refer to the numbers of the data points in the data table and are entered with a comma between them. For example, if you want to plot a graph from the 10th to the 28th point, you should enter:

10,28

Form 1/2/3 These three parameters are the formulae which may be selected for the formula graph. Only the right hand side of the equation should be entered. For example, if you want to plot the function $y=35x^2+13x+4$, you should enter:

$35*X^2+13*X+4$

Axis This defines on which axis the data should be plotted. Under most circumstances you will probably want to plot on the Y axis, and should enter 'Y' for this parameter.

Refs This parameter controls whether the first three letters of the data point references are used to label the histogram and pie chart. You should enter 'Y' or 'N' for this parameter.

Entries are made using the Graph Plot line editor and you can move between lines using the `↑` and `↓` keys. `<COPY>` enters the line editor without clearing the current entry. `<TAB>` returns you to the main menu.

Option 8 - Print Data

Use this option to print out the data in the data table. You can select to print only the data within the specified 'Range', or to print the entire table. You must have an 80 column printer connected when using this option.

If you have an Epson FX80 or compatible printer, you may also copy any Graph Plot screen to your printer by pressing `<CTRL>A`.

Option 9 - Exit Program

When you have finished working with Graph Plot you can return to BASIC by selecting this option from the menu, and confirming your intention.

IMPORTANT

SAVE YOUR DATA TO TAPE OR DISC BEFORE RETURNING TO BASIC!

5 APPENDICES

APPENDIX I - Converting Gemini Database and Cashbook Files

Supplied with Graph Plot on the same cassette or disk is a routine to convert data from Gemini's Database or Cashbook programs for the Amstrad micros. This allows you to create a data file suitable for loading into Graph Plot, and to plot graphs and charts from the values in the converted file.

Run the program by typing:

```
RUN"CONVERT
```

You will be asked for the database or cashbook file name and indeed whether it is a database or cashbook file. If it is a database file the program then loads in the data from the selected file and displays all the field headings.

With a database file, the program will ask you to specify in turn the fields you wish to use as the Graph Plot 'Ref:', 'X:' and 'Y:' columns in the data table, and for a file name for the converted data. The selected fields are then extracted from the existing file, converted to Graph Plot's format and saved to tape or disk.

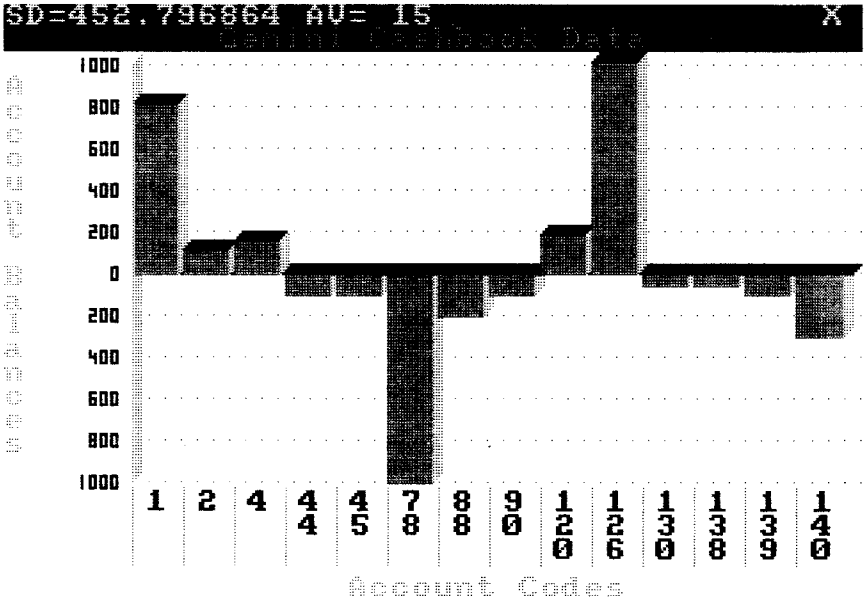
With a cashbook file, the program will ask you for the months you wish to include in the data, the account range to be included, and the filename for the converted file. The file will then be converted with the account code in the reference column and the balance of that account in the Y column.

Please note that all nominal account balances of zero will be excluded from the file.

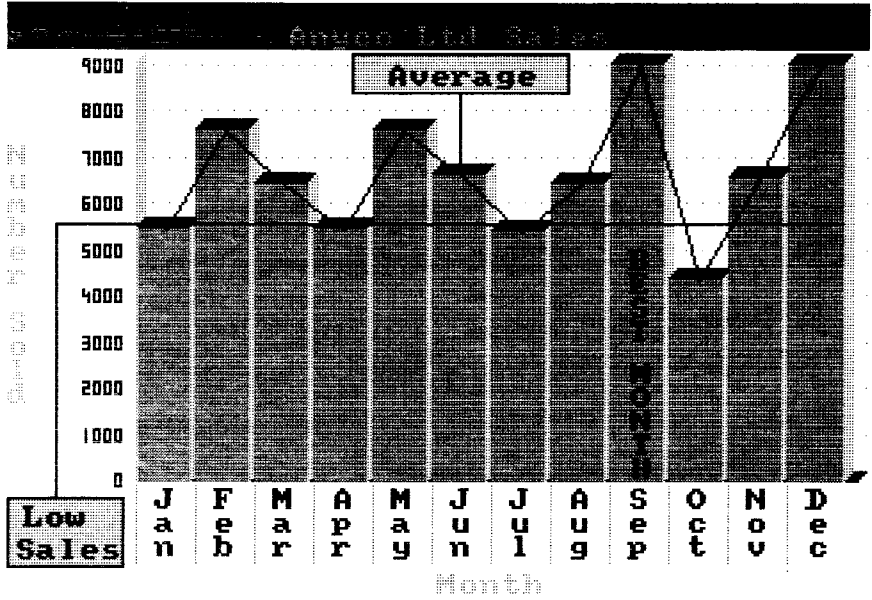
Graph Plot can then be run as normal and the data in the converted file may be loaded and plotted as required.

APPENDIX II - Printout Examples

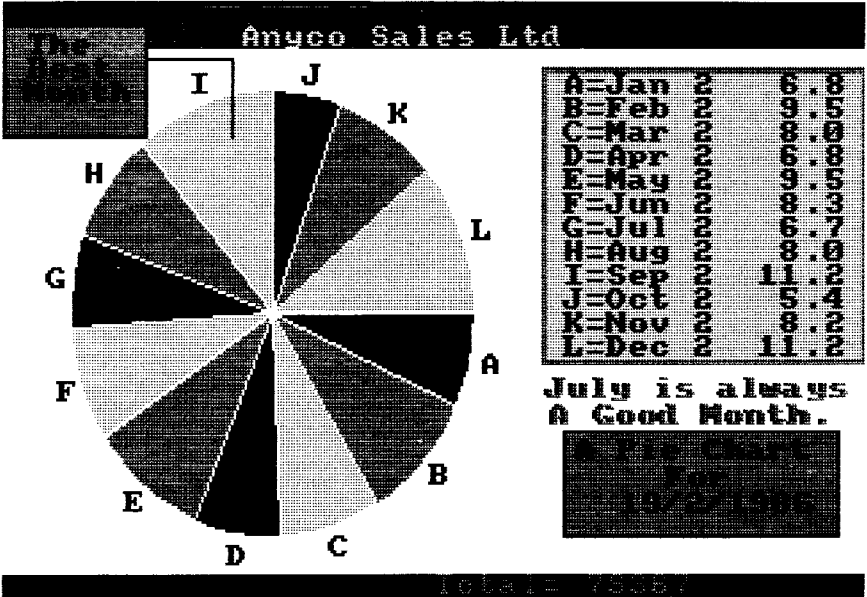
1. Histogram with merged 'Cashbook' data, showing 14 nominal accounts with balances.



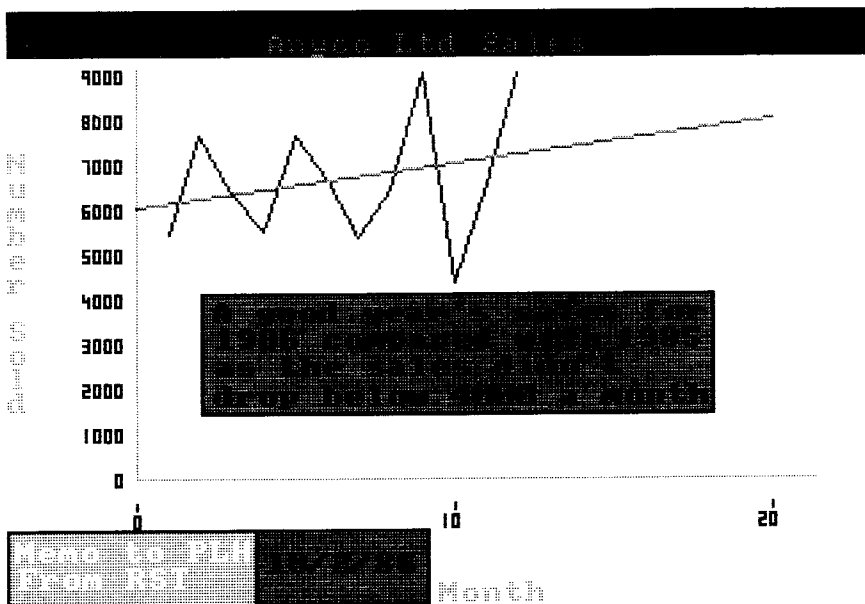
2. Customised screen after using Graph Plot's inbuilt editing features.



3. Customised pie chart.



4. Customised line graph.



APPENDIX III - The Editor

With disk versions of the program you will notice there is another file called 'CUSTOM'. If you reset the machine and type RUN"CUSTOM" <ENTER>, you will be presented with a blank screen with status indicated at the top giving the following information:-

X: Is the cursor X position from 0 to 638.

Y: Is the cursor Y position from 0 to 398.

PAPER: The current background colour for text from 0 to 3.

PEN: The current plotting colour and also the current text foreground colour.

MODE: This shows the current plotting mode from 0 to 3 which are as follows:-

0: Normal

1: XOR

2: AND

3: OR

At the end of the top line there is another mode indicator which will show GRA if the machine is Graphics mode or TXT if the machine is in text mode.

From the editor you have the following controls:-

<1>: Change Ink 0 (background colour)

<2>: Change Ink 1

<3>: Change Ink 2

<4>: Change Ink 3

<5>: Change the border colour

Please note the above controls are only available from Graphics Mode.

<CTRL>P Plot a point at the cursor position.

<CTRL>L Draw a line from the last plotted point to the cursor.

<CTRL>B Draw a box from the last plotted point.

<CTRL>C Increment the 'Paper' value by 1.

<CTRL>X Increment the 'Ink' value by 1.

<CTRL>Q Store the current screen in memory.

<CTRL>R Restore to the last stored screen.

<CTRL>D Toggle between an "." cursor and a "+" cursor.

<CTRL>M Increase the current plotting mode by 1.

<CTRL>F Fill a shape in the current ink colour.

<CTRL>H Toggle between Graphics and Text mode.

<CTRL>A Screen dump.

<u> Move cursor up 1 pixel.

<d> Move cursor down 1 pixel.

<l> Move cursor left 1 pixel.

<r> Move cursor right 1 pixel.

<CTRL>J Load screen - when this is pressed the border will flash, waiting for a key from 0 to 9 for the filename.

<CTRL>S Save screen, see load.

<TAB> Exit the program.

If you are in text mode when customising screens, then typing text or numbers will cause these to be printed on the screen at the current cursor position.

APPENDIX IV - Printer Customisation

There are two screen dumps included with the program, one for a Mannesman Tally printer and one for an Epson or Amstrad printer. Epson in this instance means any printer which is compatible with the Epson FX-80, such as the KAGA KP810 or CANON PW1080 etc. You will be asked which printer you have at the start of the program.

If you have a different printer, AND a screen dump for that particular printer, then as long as it is written in machine code, is located at address 46090 and doesn't exceed 1K in length, it may be used with this package.

Wait until the Graph Plot program has loaded, exit from the program using option 9 of the main menu, load your screendump, and when it has loaded, type "RUN" <ENTER>.

END



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2/86