WELCOME TO MINI OFFICE II

MINI OFFICE II provides the six most essential pieces of business software in a single, user-friendly, integrated package.

These elements are:

- A powerful Word Processor.
- A comprehensive Database.
- A sophisticated Spreadsheet.
- An effective Graphics system.
- An easy-to-use Communications system.
- A useful Label printing program.

Also included are utilities to convert files produced by the original Mini Office package to a format acceptable to the much more advanced Mini Office II.

Each of the six modules performs a series of specific tasks. What follows in these pages is advice on how to choose the module that is most suitable for the task you need to carry out, how to use the chosen module so that it gives you the greatest long-term benefit, and how to use the data entered in one of the modules of Mini Office II from within another of the modules in the package.

WHAT DOES EACH MODULE OF MINI OFFICE II DO?

AN office is required to carry out a wide number of tasks if it is to handle efficiently all the administrative tasks that are demanded of it. The remainder of this opening section describes the basic function of each module of Mini Office II in order to help you determine which is best suited to the task you wish to perform.

WORD PROCESSING

PERHAPS the most common administrative task, and almost certainly the most time-consuming, is that of producing correspondence, memos, reports, exercises,

texts and so on. These may be short or long, simple or complex, "one-offs" or repetitive. It is really unimportant which of these classifications your writing falls into. What is essential is that it expresses your thoughts precisely and briefly, is grammatically correct, has no spelling errors, and is clearly and attractively laid out.

No-one, no matter how talented, will produce even a short piece of writing which completely fulfils all four requirements at the first attempt. A Word Processor is the only tool available at present which allows a writer to modify his text without constantly copying, erasing and/or redraughting his words. Using the power of the computer to store, manipulate and display data, the author can modify or correct his initial creation until he is completely satisfied it fulfils his needs.

All you require to transform a dull, error-ridden piece of prose into an attractive, concise, expressive document is to learn the Word Processor's few, simple commands.

DATABASE

THE next task an office needs to perform at regular intervals is filing. The use of steel cabinets or box files can never be completely satisfactory, because the item filed can only be retrieved from a single place.

Imagine you receive an order for 10 of your products from ABC Ltd on January 12, 1986. Using an ordinary filing cabinet does the order get filed under Customer, Product, Date of Order, or all three? Whatever you file it under there will be frequent occasions when people will look under the wrong heading to find it, like looking under Product when the order was in the Customer folder. The simple act of removing the order to look at it will increase the risk of mislaying it, or returning it to the wrong place, such as into a Date folder. You could of course file multiple copies but it will cost a fortune in copying costs, prove increasingly bulky as time passes and also treble the risk of misplacing the documents on return to the filing cabinet.

The benefits of a Database are legion. The most important are:

- A single record – the computer equivalent of a single document in the steel cabinet – may be found by reference to any or all of the categories above: Customer, Product or Date of Order.

- Studying the contents of any part of the file does not require removal of any record from the file, thus ensuring that data cannot be "lost".
- There is no reason why retrieval of the records need not be achieved using further classifications at no extra cost, such as Sales Representative responsible for the Order, Value of Order, Required Delivery Date and so on.
- Records in the file can be sorted in a wide variety of different orders, prior to listing on the printer or presenting on the screen.

SPREADSHEET

OFFICES need to carry out a large number of calculations. Most of these are highly repetitive and yet subject to frequent and random changes. This is particularly true when planning for the future, as in setting targets or organising budgets. Suppliers' prices, interest rates, discounts, sales volumes and so on are all unpredictable, which means that every permutation of possible events must be considered in order that a profit will be produced at the end of the year. Even in simpler circumstances calculations can be vital, such as: *How much can a cricket club afford to spend on new equipment if the membership rises to 35 and the fees are . . . "*

The Spreadsheet can be used in every case where tabular information needs computing. The format is a table of figures – called a matrix – and it can be as large or as small as your requirement demands. It may contain any number of rows, identified by letters, and any number of columns, identified by numbers. Once the overall size has been determined, each cell of the matrix – a cell is where a row and column intersect – can have entered into it a number (such as 3.47), text (such as PRICE/ITEM), or formula (such as D3 + D5).

When you have created your matrix the Spreadsheet is commanded to calculate the figures and the formulae will produce the required results. Recalculation with a completely different set of numbers in any cell takes just a matter of moments, since all that is needed is to change the numbers and request a recalculation. Even people with no programming experience and only the most elementary mathematical ability can quickly and easily set up sophisticated calculations.

GRAPHICS

WHILE the Spreadsheet is an exceptionally efficient way of handling large volumes of repetitive calculations, it does have one serious drawback. This is that the average person can suffer arithmetic indigestion when confronted by a large table of numbers. Individual figures are never a problem, and only very rarely does a list of figures present any difficulty. It is when trying to detect relationships and trends in the table that the interpretation of the results becomes at best a chore and at worst problematic.

It is for this reason that Mini Office II features a powerful Graphics module. It takes figures that have been typed in directly or which have been previously saved using the Spreadsheet, and redisplays them as a series of graphs or diagrams, in order that the situation demonstrated by the many calculations can be better understood.

COMMUNICATIONS

THE on-going information revolution makes communications software a vital ingredient of any business software package.

For the first time, Mini Office II Communications makes contact with powerful on-line databases a matter of a few simple keystrokes. We've taken all the mumbo-jumbo out of communications and left you all its power and excitement.

LABEL PRINTING

LABEL printing is ideally suited for computerisation, either the printing of individual text for addresses, or multiple printing of labels bearing the same information. Both these can be performed simply and speedily by Mini Office II.

You can print as many labels as you require in one operation, and they can be of any shape or size.

RUNNING MINI OFFICE II

NOW that the six elements of Mini Office II have been introduced and you are familiar with the use you will be able to put them to, this handbook will explain each of them in detail.

The first stage is obviously getting Mini Office II up and running. Tape or disc, this could not be easier.

Mini Office II on tape:

- *Place the Mini Office II cassette in the player.*
- *Type: RUN "WORD" for the Word Processor.*
  RUN "DATABASE" for the Database.
  RUN "SPREAD" for the Spreadsheet.
  RUN "GRAPH" for the Graphics package.
  RUN "COMMS" for the Comms package.
  RUN "LABELS" for the Label printer.

The start menu of the module you selected will appear once the appropriate section of the tape has been loaded.

Mini Office II on disc:

- *Place the Mini Office II disc in the disc drive.*
- *Reset the computer and type RUN "OFFICE".*
- *Select the required program from the menu.*

ABOUT THE MENUS

MINI OFFICE II is operated through the use of menus – lists of options from which you choose as follows:

- *Move the pointer to the option you wish to highlight by means of the cursor keys.*
- *Make your selection by pressing the Enter/Copy key.*

In some cases another menu will be presented before the action you requested is carried out. This menu selection procedure allows you to perform complex activities without needing to know anything about the internal workings of the computer. The options presented will be expressed in terms you are familiar with, such as PRINT

TEXT or SAVE TEXT. Having made your choice, you will be informed on the screen when the task has been completed. If the option you require is irreversible, you will be asked to confirm your choice by pressing Y for YES or N for NO.

In most cases, while the menu is on the screen you will be able to directly access the Amstrad's Resident System Extensions (RSX) by using the ¦ command – such as using ¦ERA to remove a file.

Menu selection is an extremely simple and safe way of performing your tasks. Therefore feel free to experiment. This is the quickest way to learn about the large number of facilities contained in the Mini Office II package. Rest assured that there is nothing you can do to harm the software. If you make an impossible request of Mini Office II, you will be told and no action will take place – other than a menu being presented to allow you to choose again.

At any time while you're using Mini Office II, pressing Esc will take you back to the previous menu.

For safety's sake, save your files at least twice and store the copies in separate places. Also note that when you save data it is a file and not a program that you have saved. Therefore it has to be loaded via the appropriate LOAD option from a Mini Office II menu. It will NOT work if you attempt to RUN it.

CONVERTING FILES

ON the same tape or disc as Mini Office II there is a utility allowing files created with the original Mini Office to be converted to the new formats. Simply enter:

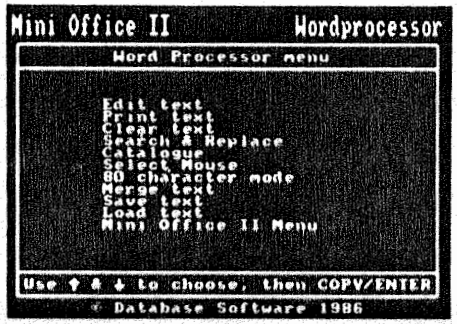
RUN "CONVERT"

Once the program has been loaded, by following the on-screen prompts, your files will be converted.

INTRODUCTION

AFTER selecting the Word Processor you will be presented with the options shown below. These will allow you to choose the type of activity you wish the Word Processor to perform. Many of these options have supplementary menus within them to enable more detailed selections to be made.

EDIT TEXT: While using the Word Processor you will spend most time within this option, since this is where you type in or modify the text. When you wish to commence work on a completely new piece of text, whether a letter, article or other document, this is the option you will select first. You will also return to this menu and select EDIT TEXT after completing another activity within the Word Processor, such as setting Tabs or merging together different pieces of text.



PRINT TEXT: Once you have finished writing your text, this option will either print your text out directly, or take you on to a lengthy sub-menu where you can decide on the exact layout of the final document, such as how many lines on a page, the numbering of pages, and so on. If you are not satisfied with the format that has been built into the program you will find it is very easy to make whatever changes you require.

CLEAR TEXT: This option should only be used when you have completely finished working on your text and have either printed it out or saved it for future use. It wipes the computer's memory clean, leaving the text space completely empty, ready for a new document. Use it with care.

SEARCH & REPLACE: Anyone who has ever done any writing will recall the

horror of finding a consistant spelling error throughout a long piece of text, such as writing Mr McKay instead of MacKay in the minutes of a meeting. This option lets you make repeated corrections, without having to hunt for every single occurrence of the incorrect word. Alternatively you may merely wish to find every occurrence of a certain word. This is particularly useful when compiling an index.

CATALOGUE: Displays a list of the files, both text and programs, that are present on your disc or tape. You tend to use this option before giving a name to a text file you want to save.

SELECT MOUSE: Owners of the AMX Mouse will know that using this little gadget will make the operation of moving around the screen much simpler and quicker. This option switches control of the cursor from the cursor keys to the Mouse.

80 CHARACTER MODE: This option determines the maximum number of characters that can appear on one line of your screen: 20, 40 or 80. When in 40 or 80 character mode letters appear normal size. They appear double size in 20 character mode. The latter is very helpful for young children or people whose sight is impaired.

Changing between modes is simple: You cycle round the different screen widths by repeatedly pressing Enter. Computer buffs call this "toggling between options".

MERGE TEXT: Text from tape or disc is put into the computer's memory alongside the text already there, to form a single piece. This can be particularly useful when working on long documents. A series of MERGE TEXT operations, plus some deletions and insertions, can produce lengthy texts very quickly, merely by patching together previously stored material. However the total length of the text you wish to merge must not be greater than the free memory available.

SAVE TEXT: This stores text on tape or disc without destroying the text in memory. It is strongly recommended that you save your text every few minutes. This will ensure that if by an unfortunate circumstance you lose text from

memory – such as if there is a power cut – there will always be a relatively recent version available for recovery. At worst only a few minutes work will have been lost.

When you select this option you'll be given a choice as to how you save files: in Mini Office II format or as an Ascii file. Mini Office II is the one you'll use almost always. It simply saves text in a way that lets it be read back into Mini Office II with the LOAD TEXT option: When you reload files this way they appear exactly as you've typed them – with all your embedded commands and so on. This should suffice for most of your needs. The second option – saving it as an Ascii file – has a rather more specialist use. This saves the file, but only the actual alphanumeric characters – the letters and numbers – and not embedded commands. You would use an Ascii file for sending your text to another computer via a modem. Most communications packages, including Mini Office II, prefer straightforward Ascii files.

LOAD TEXT: You use this option to load into your micro's memory, text that has been previously stored on disc or tape. This operation will overwrite any text already in memory. Before using it you should ensure you have finished all your current work and either printed it out or used the SAVE TEXT option.

MINI OFFICE II MENU *(disc version)*
or
EXIT PROGRAM *(tape version):* This is the only route out of the Word Processor. It is used when you have completed all your letters or documents and wish to work with another of the Mini Office II programs such as the Spreadsheet.

This section is intended to give you a brief indication of the purpose of the various options available to you in the Mini Office II Word Processor. In the next section you will be given more detailed advice on how they can be used.

EDITING TEXT

IMMEDIATELY after you select EDIT TEXT the top of the screen will display the following header:

This screen header, as it is known, is shown constantly while you're editing text.

Time Shows the hours, minutes and seconds that have elapsed since entering the Word Processor.

nnnn Words Shows the number of words so far entered.

nnnnn Free Characters Shows how much space is still available in the computer's memory for further text insertion. If EDIT TEXT is the first option chosen after entering the Word Processor this shows the maximum possible number of characters available in your computer. After LOAD TEXT, this figure will be reduced by the amount of text transferred from cassette or disc. As you type in your text you will see this value steadily decreasing.

Insert/ Overwrite Text can be entered in two ways, or modes – Insert or Overwrite. We'll go into what this means later. Suffice it to say that this part of the header shows which mode we're in. On selecting EDIT TEXT for the first time you'll be in Insert mode.

The start and end of the text are marked appropriately with START and END. Of course, if your text is of any significant length either or both of these may not be on screen at a particular time.

Once in EDIT MODE you can treat the micro as an electronic typewriter. You can use all the normal 'typewriter' keys – the letters, numbers and punctuation marks –

plus the arrow keys to move around the text and the Clr and Del keys to remove unwanted characters. But there are also a number of other operations that can be carried out using two keys at the same time. These will be explained in the following pages. In order to identify what is available and what they do you can call up a complete list of them at any time by pressing the Ctrl key and ? together.

The embedded commands will be left until we reach the section on PRINTING TEXT, since they control the printer operations. What we shall describe here are the functions that require you to use the Ctrl key. In order to make the explanations easier to understand, they will be presented in groups which do not follow the same sequence in which they appear on the computer screen, but rather reflect the fact that they carry out similar operations.

Before we can demonstrate their uses, we need to return to the text screen itself. Pressing the Esc key from the Help Page immediately takes you back there.

Most of the commands require pressing the Ctrl key and another character simultaneously. This will be indicated throughout the rest of this guide as Ctrl + n, where n is the character to be pressed. It is unimportant whether this character is in upper or lower case, except when the upper case character is different from the lower, such as upper case 4 which prints as $. *(Note that on the Help screen Ctrl is shown by the symbol ^).*

CHANGING COLOURS: You may wish to change the colours on your screen. This is how you do it:

Ctrl + 1 Changes the colour of the background.
Ctrl + 2 Changes the colour of the text.
Ctrl + 3 Changes the colour of the border.

Repeating these key presses cycles the colours through the complete range available. Occasionally the text will be virtually invisible and at times even disappear, since the background will be the same colour as the text itself. But there is no need to worry. The text will still be in memory, even though you cannot see it. Stop cycling through the colours when you have found the mixture that suits you best.

CHANGING MODES: Word processing can be carried out in several different modes, which result in different automatic operations taking place as you enter or modify the text. The actual mode being used will always appear on the top line of the text editing screen. This is what they do:

Ctrl + I *(for Insert)* is a particularly useful mode when modifying a passage somewhere in the middle of the text. When you are in this mode a new line will be automatically inserted whenever your typing reaches the end of a line, thereby ensuring that you do not inadvertantly overwrite previously written text.

Ctrl + O *(for Overwrite).* This is the reverse of the previous mode since it causes previously entered lines to be overwritten by the new text that is being entered. This comes in useful when you are creating a table and working in the right-hand column, where extra lines could wreck the alignment of the whole matrix. However care must be taken not to destroy part of the left hand column of the following line.

Ctrl + A *(for Auto-formatting).* This toggles between ON and OFF. When ON, it justifies the text automatically. Spaces are inserted between words where necessary to align both the left and right margins.

The mode you select will determine the basic operation of the Word Processor, as well as the look of your text. The following operations will permit you to find your way through the text, further define the appearance of your text, and also permit more specific corrections.

MOVING ROUND THE TEXT: When you wish to move only a few lines up and down the text, or from left to right along a line, you will use the arrow keys (also known as the cursor keys). However there are simple ways of taking giant strides through a length piece of text.

Ctrl + E *(for End of text).* Places the cursor at the last character of the text.

Ctrl + B *(for Beginning of text).* Places the cursor at the first character of the Text.

Ctrl + *> (for Right).* Places the cursor at the far right of the line.

Ctrl* + < *(for Left). Places the cursor at the far left of the line.

Ctrl* + H *(for Home). Places the cursor at the character that is at the top left of the screen. This location is called the cursor's home position.

Ctrl* + F *(for Foot). Places the cursor at the bottom left of the screen. This location is called the foot of the screen. Depending on the length of the text and where in it you are currently working, this position may not always have a character in it.

USING THE SHIFT KEY: There are a further series of actions you can perform in order to move the cursor rapidly to the required character. This time you have to press the Shift key together with one of the arrow keys:

***Shift* + ←** Moves the cursor to the end of the previous word.

***Shift* + →** Moves the cursor to the start of the next word.

***Shift* + ↑** Moves the cursor up a page.

***Shift* + ↓** Moves the cursor down a page.

Using the wide variety of actions available for finding your way through the text means you can swiftly and accurately position the cursor anywhere you like.

MANIPULATING SHORT PIECES OF TEXT: Most word processing requires little more than using the typewriter keys most people are familiar with plus the Clr (for Clear) and Del (for Delete) keys. But there are a number of other ways of simplifying text revision, from correcting minor errors to making major changes in lengthy documents. Like these:

Ctrl* + L *(for Line). Breaks the text at the cursor and inserts a new line, enabling extra passages to be added in the middle of the document.

Ctrl* + R *(for Rubout). Deletes the complete line on which the cursor is placed.

Ctrl* + G *(for Gaps). After inserting new lines there may be holes in the text when the passages you have entered are not exactly a full line in length. This action removes those gaps.

Ctrl* + S *(for Search). Scans the text from the cursor position onwards until it finds the next occurrence of the word or character last used in the Search & Replace option from the Word Processor menu.

MANIPULATING LONG PIECES OF TEXT: The last three actions are useful for the minor changes which may be required. But there are six more that will help you carry out major re-structuring. They are particularly useful after using the MERGE TEXT option. With these operations whole sections – called blocks – of text can be re-organised.

***Ctrl + M** (for Marker).* Before you can begin to manipulate a block of text you need to define where it starts and ends. Place the cursor at the beginning of the block and press Ctrl + M. The position is marked by a solid block symbol. Then reposition the cursor to the end of the block and press Ctrl + M again, marking the end of the block with another symbol.

Defined blocks can only include whole lines. The block starts at the beginning of the line on which the first marker is placed, and finishes at the end of the line on which the second marker is placed. This means that if you place both markers next to each other on the same line and press Ctrl+Del, the whole line will be deleted – not just the part between the markers. This has been done to avoid the disruption of already formatted text when an adjacent block is deleted, copied or moved. Using whole lines ensures that other sections of text simply move up or down while retaining their layout.

You can work on the text between the marker symbols in five different ways:

Ctrl + Del Deletes everything within the block.

Ctrl + Copy Inserts an exact copy of the marked block of text into the line immediately above the one on which the cursor is positioned. Ensure that the passage to be copied is not too large to fit in the Free Memory.

Ctrl + Shift Transfers or moves the marked block to the line immediately above the one on which the cursor is located.

Ctrl + Converts every letter in the marked block to upper case.

Ctrl + Converts every letter in the marked block to lower case.

OTHER TEXT OPERATIONS: We have now explained most of the actions available from within the EDIT TEXT option. These will provide you with immense flexibility in laying out your documents attractively and correctly. Nevertheless there are some further functions you can use. These either make

life easier when spending lengthy periods at the terminal, provide information or further enhance the layout of the text. They are:

Ctrl + K *(for Klick).* Many people, particularly touch typists, prefer to have a positive indication that what they have entered on the keyboard has been transferred into the computer's memory. This action is a toggle which when set ON produces a click each time a key is pressed. Press again for OFF.

Ctrl + C *(for Centre).* This puts in the centre of the line a word or sequence of words typed in at the left of the screen. Enter the text – such as a heading – and make sure it is nearer to the left edge than the right. When you have finished, simply press Ctrl+C and the text will be centred. If you want to centre a piece of text which is towards the right edge, enter Insert mode (Ctrl+I) and "drag" the text to the left by deleting the spaces before it. Then when it is nearer the left margin than the right, press Ctrl+C.

Ctrl + W *(for Word).* This is to help you if you wish to use the same long word several times in a piece of text. Press Ctrl+W while in Edit mode and you will see the prompt: "Enter Whole Word:" Type in the word and press Enter. Next time you want to use the word, all you have to do is type the first two letters of the word, and then press the Copy key. All being well the rest of the word will be entered for you. The word store will hold about 50 reasonably long words. Only use letters, spaces or numbers. Any other characters could result in unpredictable results. Also note that you cannot store two words with the same first two letters.

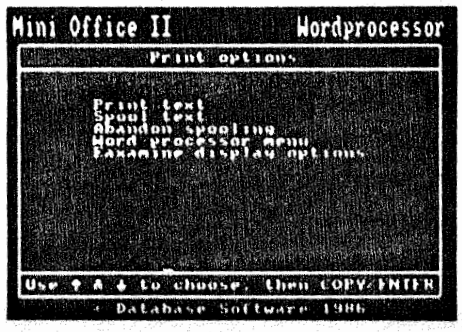
Ctrl + J *(for Justification).* Aligns the left or right hand edges of the page – or both at the same time. You are prompted to say whether you prefer L (for Left), R (for Right) or B (for Both). This operation only affects text after the cursor position. If you wish to justify all the text, press ***Ctrl+B*** followed by ***Ctrl+J.*** *(See also* ***Ctrl+A****.)*

RETURNING TO THE WORD PROCESSING MENU: At any time within EDIT TEXT you can return to the Word Processor Main Menu by pressing Esc. The text you've entered won't be lost. You can return to it by choosing EDIT TEXT from the Main Menu.

PRINTING TEXT

ONCE the text has been prepared you will want to print it out. Selecting PRINT TEXT from the Main Options menu will present you with a menu which will give you three further options:

PRINT TEXT: This sends the text to the printer while retaining it in memory. You will be asked how many copies you require. Press Enter and the computer will assume you only require one copy and start printing it immediately. If you want more than one enter the number you require. After each copy it waits for you to press Enter before printing the next. This is to give you time to replace the paper if you are printing on single sheets.



SPOOL TEXT: This utilises the multi-tasking capabilities of your Amstrad to print the text in memory while allowing you to enter or edit another document at the same time. It is obviously necessary for the text being spooled to remain in memory until printed so that the computer knows what to send to the printer. When you choose the SPOOL TEXT option the program will relocate the text in memory to the top of the text storage area, thus freeing memory for the user to enter or edit a different document. Obviously, the amount of memory left free will depend on the size of the original file. For larger documents it may not be worthwhile spooling since the amount of free memory will be too small to be useful. When the spooling has started you can start entering a new document or even load in a partially complete file and edit it as normal.

If you wish to load a file while spooling text, use the MERGE TEXT option. This will load the text into the start of the text storage area. Do not use the LOAD TEXT or CLEAR TEXT options as either of these will erase the text being spooled. Remember that spooling erases the text as it prints it, so save before spooling or

all will be lost. Even if you will not require the text after it is printed it would still be prudent to save it in case of a paper jam or power failure.

The spool routine does have some limitations. To allow it to proceed at a reasonable speed, it does as little processing as possible. Text to be spooled must be completely formatted before printing. The parameters in the control screen – such as headers and margins – are ignored, as are embedded commands and headers and footers. For most documents, especially letters, these restrictions are not very significant since the text can easily and quickly be formatted on screen before spooling. In addition, printouts which utilise the database integration routine may not be spooled.

When entering text which you intend to spool you may find it particularly convenient to use ***Ctrl+A*** since this produces ready-formatted text with a minimum of time and effort.

ABANDON SPOOLING: This stops the spooling. The remainder of the text will still be present towards the end of the text storage area and may be deleted if required.

WORD PROCESSOR MENU: This takes you back to the Word Processor menu. You use this when you have finished printing, or as a "get-out" if the wrong selection had been made in the previous menu.

EXAMINE DISPLAY OPTIONS: Before you start printing out the text you may need to change some of the instructions you have given the computer, such as the number of lines on a page, the positioning of the titles, the numbering of the pages and so on. This option allows you to examine and change these by using the ↑↓ keys to work through this three-page menu until you find the one you wish to alter. To make a change you either key in the relevant number or press Enter in order to alternate, or toggle, between YES and NO.

These display options are presented as a sequence of three pages of options:

- The first page of options allows you to determine the general layout of the printed document. In every case the value shown in the last column is the one that will be obeyed by your printer. What you see when you first look at this

screen are the default values – the ones that will be used if you do not change anything. The number in brackets show the possible range.

Lines per page: Shows the number of actual text lines that will be printed on each page. It does not include the number of blank lines that will be left at the top and bottom of each page. It can be any figure between ***10*** and ***99***.

Characters/line: Shows the maximum number of characters – including spaces between words – that will be printed on a line. Note that while you may request a number greater than 80 you must not use one that is wider than your printer can handle, otherwise the end of each line will be placed on the following line of the document. It can be any figure between ***10*** and ***200***.

Line spacing: Shows the number of "line feeds" that will be issued from the computer to the printer at the end of each line. The effect of a line feed is to start printing on the line below. So for double spacing simply change 1 to 2. You can choose any figure between ***1*** and ***10***.

Left margin: Shows the number spaces in from the left hand edge of the paper you wish the printing to start – useful, for instance, if you intend to punch holes in the document for placing in a ring binder. It can be any figure between ***0*** and ***50***.

Top space: Shows the number of blank lines that will be left between the first line of text and the top of the sheet of paper – or its perforations if it is fan-fold paper. It can be any figure between ***0*** and ***50***.

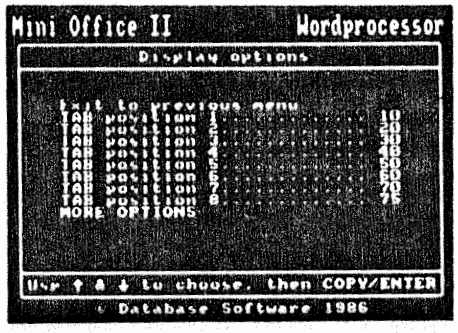
Heading position: Shows the line number from the top of the page on which the text heading will appear. It can be any figure between ***0*** and ***50***.

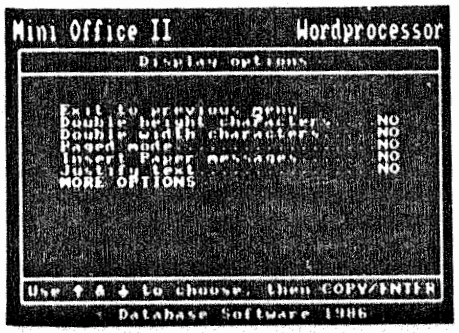
Bottom space: Shows the number of blank lines to be left between the last line of the text and the bottom of the sheet of paper. It can be any figure between ***0*** and ***50***.

Footing position: Shows the line number within the bottom space on which the page number will appear. It can be any figure between ***0*** and ***50***.

More options: Takes you to the next page of the Display Options menu.

- The second page of options defines the Tab settings. There are eight in all. You can change them to any figure you like providing those you choose increase in value as you progress from position 1 to 8.
- The third, and final page of options allows you to further tailor the printed document to your requirements. Some of the instructions that follow may not work on certain printers. Your printer manual should tell you which are possible on your printer.





Double height characters: Can only be used if your printer is capable of producing characters which occupy two lines of print. Remember to adjust the number of lines per page, otherwise your printed text will probably extend across the perforations on the paper.

Double width characters: Can only be used if your printer is capable of producing characters which occupy two spaces of print. Remember to adjust the number of characters per line otherwise your lines of text will probably extend onto a second print line.

Paged mode: You can use either single sheet or continuous stationery. Toggling YES will make the printer stop at the end of each page to allow the new sheet to be fed in.

Insert Paper messages: When using single sheet stationery, toggling YES will instruct your computer to display an INSERT PAPER message on the screen.

Justify text: This instructs the formatter to justify the printed text along both the left-hand and right-hand edges of the paper. Choosing NO will give the text a ragged right edge, while YES will give an appearance similar to a page in a book.

SUITABLE PRINTERS

The "Epson standard" is about the nearest the computer industry has come to devising a common standard for printers. If your printer is an Amstrad DMP1, an Epson or Epson-compatible then all the functions listed in the last section, as well as the "embedded commands" that follow, should function satisfactorily, provided that you have selected the appropriate printer type. Note that some Amstrad printers are Epson compatible and for these the Epson setting should be used. Other printers should print normal text on either setting and you should still be able to perform the same functions by using the embedded commands or by inserting the correct printer codes directly from an embedded command. During the printing operation, the text you have produced, together with the instructions given by the Display Options or by embedded commands are sent to the printer via the built-in formatter. While printing is under way, if you notice that for any reason the format is not as you intended you can press Esc and the printing will immediately stop, returning you to the PRINT TEXT menu.

EMBEDDED COMMANDS

EMBEDDED Commands are instructions to the printer that you type in along with your ordinary text in order, for instance, to change to italics. So that the Word Processor does not confuse these instructions with the text itself they are shown in inverse which highlights the embedded commands within the text. These embedded commands won't appear in the final printing – but they will have a marked effect on it. They are accessed by the function key pad (numeric key pad or

the CPC464).

f1 **NORMAL PRINT:** Turns off underlining, emphasis and condensed printing.

f2 **UNDERLINE:** Starts underlining text as it is printed.

f3 **EMPHASIZE:** Commences emphasised print. Beware of changes in the number of characters per line.

f4 **INDENT:** Moves the beginning of the text five characters beyond the left margin.

f5 **FORCE NEW PAGE:** Ends the current page and prints footer if one is specified. Resumes printing on new page. It must be placed on the first column of the line.

f6 **CONDENSE:** Commences condensed text if supported by your printer.

f7 **DATABASE FIELD:** See following section on Database Integration.

f8 **PAGE NUMBER:** If Paged mode is on, prints current page number. If not, it is ignored. It may also be included in the header or footer if required. If the symbol is followed by a number, the page number is set to that number.

f9 **CENTRE:** Centres the text immediately after the embedded command.

f0 **DEFINES HEADER:** The header goes at the top of every page. End your header by pressing ***f0*** again.

f. **DEFINES FOOTER:** The footer goes at the foot of every page. End your footer by pressing ***Shift+f.*** again.

Shift+f1 **SEND CODES:** Sends control codes to printer. Follow the symbol by the codes you wish to send separated by commas.

DATABASE INTEGRATION ROUTINE

THIS facility allows the inclusion of records from the Mini Office

II Database program into documents prepared on the Word Processor. The routine operates by means of an embedded command.

To prepare your document, enter the text as normal. Wherever you wish a field from the Database to be placed, enter a database record embedded command followed by the number of the required field. When placing the fields, you must bear in mind that they will take up space on the line on which they are printed. Therefore if you have normal text following a Database field on the same line, you must leave a number of blank spaces corresponding to the field length after the embedded command. If you do not do this the text immediately next to the marker may be overwritten.

When you have prepared your document, save it and then move to the PRINT TEXT sub-menu and choose the PRINT option. When it senses that the file contains Database embedded commands, the program will ask you to select the Database file from which the records are to be taken. As it reads the required data from the Database file, it will print out the documents until it reaches the end of the Database file, or you halt the operation by pressing Esc.

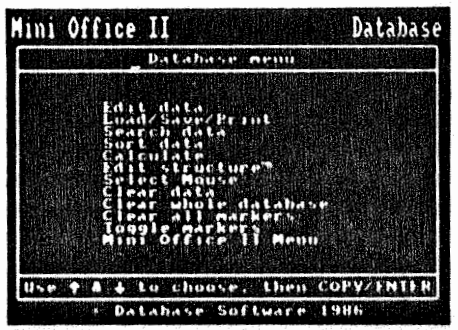
Due to the way that the routine delimits each field of the database information, it is vital that at least one free space exists at the end of the field. This means that when entering the data into the database, you must ensure that the data in any one field is at least one character less than the available space in the field. If the data fills the field space, then two fields will be printed continuously as one field, with a resulting loss of formatting. In addition, the fields selected may not correspond to the field requested by the embedded command.

INTRODUCTION

AFTER selecting the Database you will be presented with the menu shown below. This will allow you to choose the type of activity you wish the Database to perform. Many of these options have supplementary menus within them to enable more detailed selections to be made.

EDIT DATA: Permits you to enter, modify and delete records. This can only be done after the file specification has been defined. *(See EDIT STRUCTURE.)*

LOAD/SAVE/PRINT: Takes you to a sub-menu giving the load, save and print options.



SEARCH DATA: Allows you to quickly find individual records or groups of records.

SORT DATA: Permits records to be sorted in a wide variety of ways.

CALCULATE: Enables calculations to be carried out on all or part of the records held on any file.

EDIT STRUCTURE: Defines the format of the database record. As more fields – individual items within the record – are added you will see a steady reduction in the figure showing the maximum number of records that the file will be able to hold.

SELECT MOUSE: Permits owners of the AMX Mouse to transfer control from the cursor to the Mouse.

CLEAR DATA: Takes you to a sub-menu where you are asked whether you want

to clear from the memory all the records – thus keeping the structure intact – or the complete database.

CLEAR ALL MARKERS: Removes markers from the records when you no longer need them. Markers are used to identify selected records in the database.

TOGGLE MARKERS: Switches the markers from marked records to unmarked records to simplify printing of selected parts of the database.

HARDWARE OPTIONS: Permits you to choose the type of printer and storage media that is to be used. On the disc version, you can also choose to work over several files rather than just the one in memory.

MINI OFFICE II MENU *(disc version)*

or

EXIT PROGRAM *(tape version):* This is the only route out of the Database. It is used when you have completed all your letters or documents and wish to work with another of the Mini Office II programs such as the Spreadsheet.

EDITING RECORDS

IMMEDIATELY after you select the EDIT DATA option the following will appear across the top of your screen:

Used Indicates the number of records entered so far.

Free Indicates the maximum number of records that can still be entered.

Length Indicates the maximum length of each record.

Record Indicates the number of the record currently displayed.

At the foot of the screen the following appears:

The control keys work as follows:

- ← Displays the previous record.
- → Displays the next record.
- ↑ Presents next marked record. If no records are marked it will display the last record in the database.
- ↓ Presents the previous marked record. If no records are marked it will display the first record in the database.
- ***Esc*** Returns you to the Database menu.
- ***N*** Allows you to create a new record. Data is entered in the same way as when you press ***E***. Each field is identified by its title. If you are working on several files and memory is full, you will be prompted as to whether you want to save the file. Unless you wish to edit previously entered records you should answer Yes. It is a good idea to also use the Save option to save a second (backup) copy.
- ***E*** Allows you to modify the record currently displayed. Use the cursor keys to move from field to field. Pressing Ctrl+Tab at any input toggles between Insert and Overwrite mode. Having entered the last record you wish to modify, press Enter to leave this option. (Some fields cannot be left empty if NO is put in the MT column during creation of the database structure. In this case trying to end will send the cursor to the field that requires an entry.)
- ***D*** Deletes the record currently displayed.
- ***M*** Marks the record currently displayed if it is not already marked. If it is marked, pressing ***M*** will remove the mark. Marked records are identified by a * at the top of the screen.

P Prints out the record currently displayed in the form it appears on the screen.

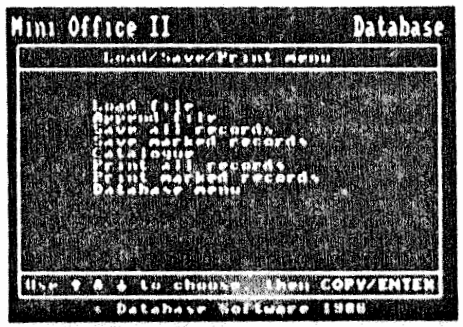
LOADING, SAVING, PRINTING

WHEN you select LOAD/SAVE/PRINT you will be presented with the following options:

LOAD FILE: Retrieves a Database file from tape or disc. This will completely overwrite any information at present in memory.

APPEND FILE: This is similar to LOAD FILE, but this time the data in memory is not replaced by the data from tape or disc. Instead additional data is added at the end of the file currently in memory.

SAVE ALL RECORDS: Saves the complete database to tape or disc. Using this option does not destroy the data in memory. It is recommended that you save frequently in case of computer malfunction or loss of power, to avoid losing any data entered.



SAVE MARKED RECORDS: Saves only records that have been marked to tape or disc. This is particularly useful since you can create files containing certain information by selecting specific records from larger databases. If more records are found than will fit in one file, subsequent files are given suffix numbers.

CATALOGUE: Displays a list of files, both data and programs, that are present on your disc or tape.

PRINT ALL RECORDS: Takes you to the Print Options menu, which will allow you to print out all records.

PRINT MARKED RECORDS: Takes you to the Print Options menu, which will

allow you to print out all marked records currently in memory.

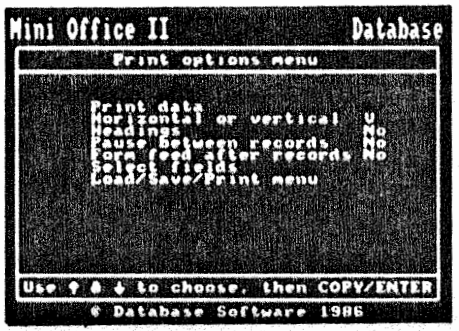
DATABASE MENU: Returns you to the Database menu.

PRINT OPTIONS

WHEN you select PRINT ALL RECORDS or PRINT MARKED RECORDS from the last menu, you'll be presented with the following options:

PRINT DATA: Prints all the records or all the marked records as requested, depending on the format displayed in the options below.

HORIZONTAL/VERTICAL: Toggles between Horizontal and Vertical by pressing Enter. Horizontal prints the fields across the page. Vertical prints them one under the other.



HEADINGS: Prints the field names.

PAUSE BETWEEN RECORDS: Waits for Enter to be pressed between each record. (Only applies with the Vertical option.)

FORM FEED AFTER RECORD: The paper advances to a new page after each record is printed. (Only applies with the Vertical option.)

SELECT FIELDS: Displays the file structure, including the actual length of each field, and invites you to select the length you require printing.

LOAD/SAVE/PRINT MENU: Returns you to the previous menu.

SEARCHING DATA

THE SEARCH DATA option permits you to search for records, marking them for subsequent use. You simply move to the required field with the cursor keys and enter the character or characters you wish to find or match. You can specify characters in more than one field, allowing you, for instance, to search for all

occurrences of SMITH from BOLTON in a list of addresses.

There may be times when you want to be rather vague about the records you're looking for: you might be uncertain of the exact spelling, or just want a general category. This is where the "wildcard" characters ? and * come in useful. The ? matches any single character and * any group of characters at the end of a field. So, if you were to ask the Database to search for H?T, it would find and mark HAT, HIT, HOT and HUT, assuming they occur in your file. (You'll notice that when you specify the record you're looking for, all the fields are initially filled with ?s so they match everything.) The * lets you have more than one character undefined, but only the final characters in a field, so that searching for HAT* would find HATCH, HATRED, HATHAWAY and so on.

When you perform a search, records already marked remain so. This has the advantage that you can search for occurrences of SMITH or JONES from BOLTON in our address list by searching (and marking) all the SMITHs in BOLTON, followed by all the JONES. It does, however, mean that you should clear unwanted markers before searching. Markers are saved along with the files, so they will still be included when the file is reloaded. They should be cleared if not required.

SORTING DATA

WHEN you select SORT DATA you will be presented with a table showing all the fields, plus a list of the available options at the foot of the screen. Position the cursor over the field required and press either A, D or S.

- ***A*** Sorts the data in ascending order, from A to Z or figures from 0 upwards.
- ***D*** Sorts the data in descending order, from Z to A or figures down to 0.
- ***S*** Starts the sort after all the fields have been identified.

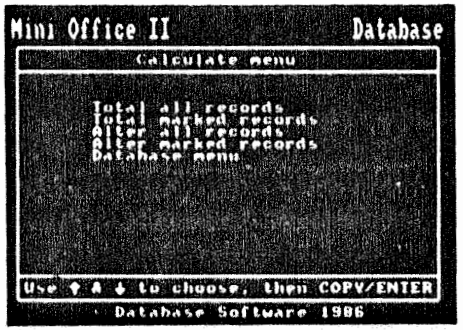
If you are sorting through files on disc, an equivalent amount of disc space is required for the sort buffer – which may be on your work disc or could be a separate blank disc if you are using a double disc drive.

CALCULATING DATA

WHEN you select CALCULATE you'll be presented with the following options:

TOTAL ALL RECORDS: Allows you to select the numeric field in which you would like to have all records totalled. Select using the ↑ ↓ keys.

TOTAL MARKED RECORDS: Allows you to select the numeric field in which you would like to have only marked records totalled. Select using the ↑ ↓ keys.



ALTER ALL RECORDS: Allows you to perform a simple calculation (arithmetic symbol or number) on a selected field within all records.

ALTER MARKED RECORDS: Allows you to perform a simple calculation (arithmetic symbol and number) on a selected field within all marked records.

DATABASE MENU: Returns you to the main Database menu.

EDITING THE STRUCTURE

WHEN you select EDIT STRUCTURE you will be given the options of creating a new database or amending an existing one by adding new fields. If you are forming a new database, you are shown an empty template on which you are asked to state the name, type, length and formula of the fields you require. A record may contain up to 20 fields. As these fields are created and the record grows in length you will see at the foot of the screen a steadily reducing figure, showing the number of records which may be held on a single file.

If you are amending an existing database you are shown what you entered when you created the database. You cannot change a structure that has already been

created if you are working over several files.

The template features the following categories:

No This number, between 1 and 20, identifies the field you're currently working in. Use the cursor keys to select the field you wish to create or edit.

Title This title will be used to identify the field throughout the database. It can contain up to 19 characters.

Type Select the type of field by using the ↑ ↓ keys. Available types are:

Alpha:	The field will contain alphabetic characters.
Decimal:	The field will contain numeric data with two decimal places.
Date:	The field will contain data held in the form DD/MM/YY (day, month, year).
Integer:	The field will contain numeric data which must always be "whole numbers."
Form:	The field will contain numeric data calculated according to the formula entered in the Form field.
- - - - - - -:	The field is of no specific type.

Len This allows you to select the maximum length of text you can enter in an Alpha field, up to a maximum of 60. Pressing Enter automatically selects a length of 10.

Form Used to define a formula if Form has been selected in the Type column. The formula is given as a relationship between two fields. You should give the first field number, followed by the arithmetic symbol and then the second field number.

MT N tells the computer that when a record is entered this must always be filled. Y tells it the field can be left empty (MT!).

HARDWARE OPTIONS

WHEN you select HARDWARE OPTIONS you will be presented with the following options:

PRINTER: Toggles between Epson, Amstrad and Screen.

STORAGE MEDIA: Toggles between disc and tape.

USE MULTIPLE FILES: *(Disc only).* Allows the database to work over several files rather than just within the memory. You will be asked for the database name (maximum 5 letters) and all your files will be called by this name, followed by a suffix number in ascending order. Using the PRINT, SORT, CALCULATE or SEARCH options, the operation will be carried out over all the files in series. This means the present file will be overwritten, so you will be prompted to save it first.

DATABASE MENU: Returns you to the Database menu.

INTRODUCTION

THERE are five stages involved in the production of a Spreadsheet. Of these the first – which does not involve the computer – is by far the most important. These stages should be completed in the following sequence:

- Planning the layout.
- Creating the structure.
- Entering the formulae.
- Entering the data.
- Producing the output.

The main advantage of Spreadsheets over pencil and paper methods is that the last two stages are exceptionally quick and simple to carry out, thereby allowing you to perform them as often as you wish. This is not to imply that the first three stages are difficult or particularly time-consuming, but they certainly take longer to complete.

To gain an overview of the Spreadsheet we'll take a look at its main menu. This presents you with the following options:

EDIT SPREADSHEET: Allows you to enter data into the Spreadsheet, or alter data that's already there.

LOAD SPREADSHEET: Reads a previously saved spreadsheet from tape or disc into the computer's memory.

SAVE SPREADSHEET: Transfers a complete or partially complete spreadsheet onto tape or disc. It is strongly recommended you do this every few minutes to prevent accidental loss of data.

SAVE GRAPHICS DATA: Saves data to tape or disc in a form suitable for accessing by the Graphics module of Mini Office II.

PRINT SPREADSHEET: Sends the spreadsheet to the printer, either in full or in part. To print only part of a spreadsheet you should identify the columns by letters and the rows by numbers. Use the + and # symbols like this: If you want to print columns A, C and E, reply to the prompt with A+C+E. If you want all columns between A and E reply A#E. Rows are selected in the same way.

LIST FORMULAE: Provides a list of all the formulae contained in the spreadsheet.

NEW SPREADSHEET: Allows you to define the parameters for a new spreadsheet.

ALTER SCREEN DISPLAY: Selects how your spreadsheet is displayed.

CATALOGUE: Displays a list of all the files, both text and programs, that are present on your disc or tape.

SELECT MOUSE: Gives control of the cursor to the AMX Mouse.

MINI OFFICE II MENU *(disc version)*

or

EXIT PROGRAM *(tape version):* This is the only route out of the Spreadsheet. It is used when you have completed all your documents and wish to work with another of the Mini Office II programs.

The instructions that follow appear in the sequence you would expect to carry them out rather than the order they appear on your computer's screen. You can always return to a stage you believed you had completed if you discover that a title is misspelt or a formula is incorrect.

PLANNING THE SPREADSHEET

YOU will find designing the Spreadsheet is made much easier if you use a squared grid or matrix. There is probably an advantage in creating your own rough matrix since you can then be certain that the "cells" are large enough to hold your titles, data and references to the formula. At the risk of stating the obvious, use a pencil and make sure you have an eraser to hand. It is virtually certain that you will make several alterations before you are satisfied with the final layout.

The size of your matrix will depend on the amount of data the Spreadsheet must process. Since the matrix is two-dimensional, you must organise this data into two separate lists much as you would for a graph. Mini Office II Spreadsheet carries out its calculations starting at the top left corner and finishing in the bottom right corner of the matrix so the organisation must follow the same pattern. For instance, totals must come after the components which make up these totals, and averages must come after the totals have been calculated. Do not forget to include gaps in the layout by leaving blank columns or rows. These provide greater clarity when reviewing the results.

The final step in determining the grid size is to decide which list will form the horizontal axis and which will form the vertical. If possible make the shorter list the horizontal axis. This is because even if your printer can handle 132 characters per line you will still have to split your printout of the results every 10 or so columns to ensure that every line or row will fit on a page. The smaller the number of pieces of paper that need to be stuck together the better. Assuming you use an 80 column printer a 40 x 15 grid could need eight sheets if organised horizontally, while needing no more than two if created vertically.

Now that your table is ready you can start to fill it. Begin with the titles, which will basically be your two lists. Before continuing, create the cell references. This could not be easier. Remember that *the Spreadsheet identifies columns with letters and rows with numbers.*

All you need do is string the letters in alphabetical order across the top of your grid, and number the rows down the side. If you have more than 26 columns, then

start again in Column 27 using lower case letters.

Each cell of the matrix is identified by the intersection of the row and column. For example, if the title MARCH were Column G and the title RENT were Row 17 then the cell which will contain the MARCH RENT is identified as G17. All that now remains in the planning stage is to complete the remaining cells. Many of these cells will contain data. If the RENT in MARCH is £150.00 then enter 150.00 in Cell G17.

Where calculations will be necessary, enter a reference number to another sheet of paper on which you should write the formulae. Let us assume you will want to calculate the average mark a student obtained in a series of tests and to place this result in Cell L12. This cell must obviously contain the total marks gained divided by the number of tests that have been taken. If the TOTAL cell is identified by K12 and nine tests were taken then the formula is:

L12 = K12 divided by 9

Using the language of the Spreadsheet this is written as:

L12 = K12/9

The Spreadsheet will calculate K12 for you, based upon its own formula, and then continue with the calculation of L12.

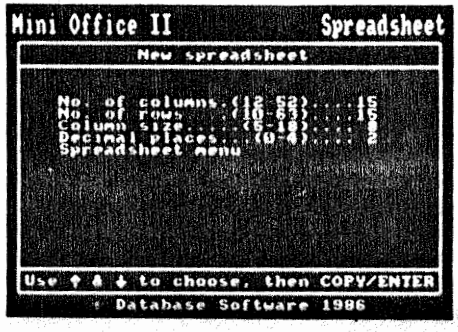
The easiest reference numbers to use are the cell identifiers themselves. Also remember there is no need to copy identical formulae across on to the sheet of paper. Where many cells require the same basic calculation the Spreadsheet can copy formulae for you. All you need do is repeat a common reference number on your grid to indicate that that formula is to be used in more than one cell.

We're now ready to transfer our Spreadsheet from paper into the computer.

CREATING THE SPREADSHEET

THE NEW SPREADSHEET menu can be called at any time from the main Spreadsheet Menu. This determines the basic parameters which will control the spreadsheet. Note that there is another option – ALTER SCREEN DISPLAY – which

you can use at a later stage to over-ride some of these basic parameters.



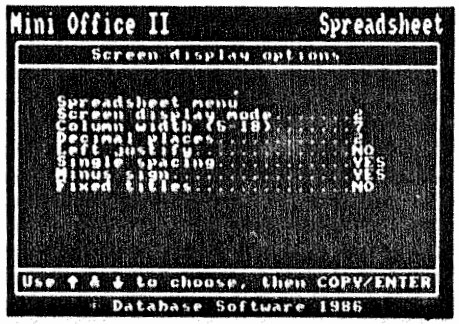
You choose the required values by moving the ↑↓ key to the appropriate option and pressing Enter. This will either have a toggle effect, or will result in a supplementary question appearing, which you should answer. The values shown on screen are the standard opening default values.

Set the number of columns and rows to match the width and height of the paper grid you have designed. Similarly choose an appropriate column size, remembering that the decimal point takes up one character of the cell, and that an additional space for a – sign is also to be taken into account.

Only use the NEW SPREADSHEET option when you are starting a spreadsheet from scratch, otherwise you will destroy any spreadsheet that is currently in the computer's memory. Once you have set these parameters you will be returned to the main Spreadsheet Menu.

ALTERING THE DISPLAY

THE ALTER SCREEN DISPLAY menu enables you to make changes to the way the format of the spreadsheet is displayed on the screen. These work on the whole of the spreadsheet, over-riding any individual "tailoring" you may have done. So beware. You will be given the following options:



SCREEN DISPLAY MODE: Switches between the 40 characters to the line and 80 characters to the line screen display modes. This action has no effect on the printing of the spreadsheet.

COLUMN WIDTH: Allows you to define the width of the columns, between 1 and 18 characters. Reducing the width does not lose data, although the contents of some cells may not be shown in full if they do not fit within the width you have specified.

DECIMAL PLACES: Selects the number of decimal places shown in each cell. Even though you may have opted for integers, the decimal places entered are remembered.

LEFT JUSTIFY: Determines whether data is aligned to the right or left hand side of the column. This is normally set to NO for right-hand justification, ensuring that all decimal points are in line. Reply YES and data will be left-hand justified.

SINGLE SPACING: Determines whether or not a space is left between the rows of data. This is normally set to YES.

MINUS SIGN: Toggles between – and **( )** for the minus sign.

FIXED TITLES: "Locks" all entries placed in any cell in Column A or in Row 1 so that they are always in view however far the spreadsheet is scrolled.

EDITING THE SPREADSHEET

WHEN you select EDIT SPREADSHEET from the main menu you can immediately start entering or editing data. One of the cells on the screen will be clearly marked with a cursor. This is the "active cell", waiting to receive data or instructions. You use the ↑↓←→keys to move the cursor around the cells. If you move to a cell which is off the edge of the screen, there may be a very brief delay while the spreadsheet shuffles the new row or column into view.

You will see the contents of the active cell displayed in a window on the top three lines of the screen.

At any time you can enter numbers, or issue instructions by using an alphabetic key.

The full list of commands can be obtained at any time by pressing **H** (Help) but

a full list is printed here for your convenience:

A	Amend (edit) formula at cursor.	***M***	Cursor movement.
B	Delete row/column.	***O***	Open cell.
C	Calculator.	***P***	Return previous number.
D	Duplicate cell.	***Q***	Quit edit mode.
F	Enter formula at cursor.	***R***	Auto recalculate.
G	Go to cell.	***S***	Enter string.
H	Help screen.	***T***	Insert text at cursor.
I	Insert row/column.	***U***	Update formulae.
J	Change format.	***W***	Wipe (clear) formula at cursor.
L	Lock cell.	***Z***	Zero all boxes.

These keys combine to make the editor a powerful and versatile tool, so it's worth examining them in more detail:

A Brings the cell's contents onto the edit line so they can be Amended.

B Deletes (Blots out) the row or column containing the active cell from the spreadsheet.

C Allows the result of a Calculation to be entered directly into the active cell. For example, assume you wish to place the total of three figures in cell C3. Press ***C***, key in the calculation (say 32+26+15), then press Enter. The total (73) is then placed automatically in cell C3.

D Permits a cell to be Duplicated, to save lengthy re-entering. To copy text or numbers press ***D***, move the cursor to the new cell and press the Copy key. With formulae, Copy and Enter give two different ways of duplication. These are:

Relative duplication: Suppose you want to copy the formula in G8 to H8. Put the cursor on G8, press ***D***, move the cursor to H8 and press the Copy key. You will find the formula has

changed relatively like this:

G8=G6*G7/1000 *becomes* **H8=H6*H7/1000**

The above illustrates movement along a row. You can also move down a column, like this:

G8=G6*G7/1000 *becomes* **G14=G12*G13/1000**

Mixed duplication: There will be occasions when you do not wish formulae to be copied relatively as shown above. You may wish part or all of it to be unchanged (copied absolutely). In this case, instead of pressing the Copy key press Enter and you will be prompted for the letters A (for Absolute) or R (for Relative) for each cell reference in the formulae. Using the same example as above, pressing A at every prompt would result in:

G8=G6*G7/1000 *becoming* **H8=G6*G7/1000**

F Allows the insertion of Formulae into the active cell. Formulae can consist of a combination of cell references (such as B9), figures and symbols (such as + or –).

For instance, the formula **B9=B3+B4** adds the contents of cells B3 and B4 and displays the result in cell B9. A cell which contains a formula will be identified by the word FORMULA in the window at the top of the screen. Symbols you may use are:

+	Add
–	Subtract
*	Multiply
/	Divide
#	Total: G16 =G7#G13 means G16 is the total of all the cells between G7 and G13.
>[ ]	Largest in the range >[G7G13] is the largest in the range from G7 to G13.
<[ ]	Smallest in the range.

G Enables you to Go directly to any cell in the spreadsheet, without needing to use the cursor keys. After giving the number

of the required cell the screen may briefly clear and then display the appropriate section of the spreadsheet.

H Displays the Help screen.

I Inserts a new row or column into the spreadsheet. You will be asked if you wish to add a row or a column. The new row or column will be inserted at the point of the active cell.

J Changes the format of the column containing the active cell. As you are prompted, enter the column size, number of decimal places, and left or right Justification.

L Locks the active cell so that no accidental changes may be made to it from the keyboard.

M Sets up an automatic cursor Movement. When you first enter the Spreadsheet program this function is OFF. When you press ***M*** the word RIGHT, LEFT, UP or DOWN will appear in the window at the top of the screen. A further press will show another direction. With this command entry of rows and columns can be made much faster. After making an entry into a cell, pressing Enter will automatically move the cursor to the next cell in the direction indicated.

O Unlocks (Opens) a previously locked cell, allows you to enter new data or formulae.

P Enables you to replace the Previous number if you've accidentally overwritten it.

Q Quits EDIT mode and returns you to the Spreadsheet menu.

R Toggles the automatic Recalculation feature. This means that each time the contents of a cell are changed the computer recalculates the figures in all other cells affected by the change and displays the updated figures.

S Allows you to enter a longer text String than will fit in the width of a cell. This enables explanations, notes or even whole sentences to be included in the spreadsheet. The additional text

will automatically spread over as many cells to the right as required, over-writing any information already there. It should therefore be used with caution, and preferably before other cells are set up.

U Updates the spreadsheet by recalculating the formulae in the cells and displaying the result. This may take several seconds depending on the size of the spreadsheet and the complexity of the formulae.

W Completely Wipes out the contents of the currently selected cell – provided it isn't locked.

Z Clears (Zeros) all the numbers from the entire spreadsheet, retaining the basic structure for the creation of another spreadsheet.

Ctrl+1 Changes the colour of the screen.

Ctrl+2 Changes the colour of the text.

Ctrl+3 Changes the colour of the border.

Esc Escapes from EDIT spreadsheet and returns you to the main menu. Everything you have entered or calculated remains in memory. It also allows you to return to EDIT mode if you've made a mistake on operations such as entering a formula.

SAVING GRAPHICS DATA

THE SAVE GRAPHICS DATA option allows you to save data from the spreadsheet in a form that enables it to be loaded into the Graphics program. A set of up to 20 cells from any row or column can be saved. The Graphics program can accommodate three such sets of data at a time. Make a note of which columns or rows you want to display graphically.

On choosing this option you are asked whether you want to save cells from a Row or Column – enter R or C. Then you're asked where the titles for the cells are

located, and where the data cells themselves are to be found. All the elements of the row or column picked are then displayed one by one allowing you to choose those you want to save.

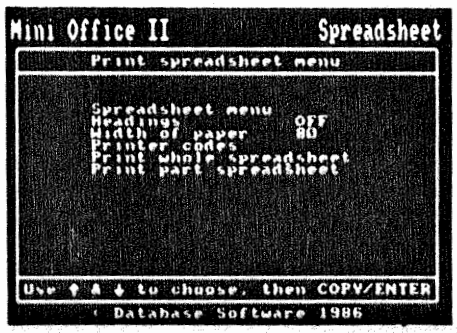
PRINTING THE SPREADSHEET

WHEN you select PRINT SPREADSHEET you will be presented with the following options:

SPREADSHEET MENU: Returns you to the Spreadsheet menu.

HEADINGS: Chooses whether or not to include the row (A-z) and column (1-99) headings in the printout. It toggles between YES and NO.

WIDTH OF PAPER: Sets the maximum length of line sent to the printer. Printers vary in the number of characters they can fit across a sheet of paper.



PRINTER CODES: Allows you to send control, or "special effect", codes to the printer at the start of each printout.

PRINT WHOLE SPREADSHEET: Prints the entire Spreadsheet. If it is too wide to fit across a single sheet it is printed in sections, each section containing as many columns as allowed by your printer.

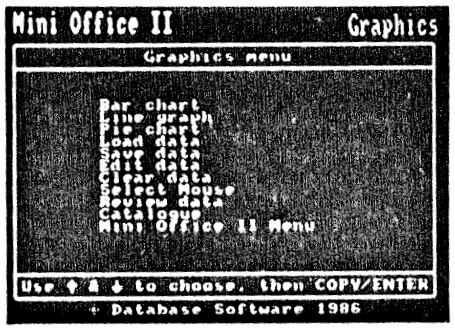
PRINT PART SPREADSHEET: Allows you to print out selected rows and columns from the Spreadsheet. When asked which rows you want to include on the printout the numbers you enter should be separated by + ("and") or # ("to"). For example, 1+6#8 would print row 1 and all rows from 6 to 8.

Columns are selected in a similar manner, with letters substituting for the numbers.

INTRODUCTION

THE extremely flexible Graphics module of Mini Office II can be used in two ways – by entering data directly from the keyboard, and by loading data from the Spreadsheet that has previously been stored on tape or disc.

In order to use the Graphics program data has to be presented in the form of a data set. This is a list of associated values, such as monthly sales for the year. A data set may hold a maximum of 20 values, and up to three data sets may be graphed at any time.



Once the data is in memory, you can select the screen presentation which best suits your needs and then produce a permanent copy on your printer.

To help you decide what the graph will look like, this part of Mini Office II uses a different method of illustrating the various options.

The main functions are still selected by moving the ↑↓ keys to the one you want and then pressing Enter. When it comes to choosing the final appearance of the graph you will be presented with a number of pictures or "icons". Selection, however, is still made by means of the ↑↓ keys and Enter.

BAR CHART: Also called a histogram, this displays numerical data in the form of columns of varying length. The longer this column – or bar – the greater the value of the number represented. Negative numbers are shown by a bar of the appropriate length descending below the "zero" base line.

LINE CHART: This is drawn by first plotting points onto a graph, the position of

each point above or below the "zero" base line depending on the value of the number being plotted. Once all the points are in position a line is drawn linking each one to its immediate neighbour.

PIE CHART: This is a circular representation of the data. Its considerable advantage over both bar and line charts is that it shows very clearly the proportion that any particular value has of the total value of the whole data. This is done by depicting the complete circle – the pie – as the total of the data set's values. Each individual value is then drawn as an appropriately sized segment. Remember, however, that a pie chart cannot be drawn if the data contains a mixture of positive and negative numbers.

LOAD DATA: Transfers data from tape or disc into the computer's memory, overwriting any data that is already there.

SAVE DATA: Transfers data from the computer's memory onto tape or disc, leaving the data in memory unchanged and available for further processing.

EDIT DATA: Permits data to be entered directly from the keyboard, or lets titles or labels be added to the graph before it is either printed out or stored for future use.

CLEAR DATA: Empties the computer's memory of all data, prior to entering new material.

SELECT MOUSE: Permits owners of the AMX Mouse to transfer control from the cursor to the Mouse.

REVIEW DATA: Displays the data held in memory in the form of numerical lists. This can be done before selecting a graph in order to check that the data in memory is correct (or does not contain negative values if a pie chart is to be drawn).

CATALOGUE: Lists the files held on the current disc.

MINI OFFICE II MENU *(disc version)*

or

EXIT PROGRAM *(tape version):* Returns you to the Mini Office II Main Menu, from which you can select one of the other modules of Mini Office II.

ENTERING DATA

THERE are two ways of entering data: the EDIT DATA and the LOAD DATA options. You can also choose to REVIEW DATA.

EDIT DATA: Selecting this option presents you with a blank screen apart from a window at the foot of the screen asking:

DATA SET 1, 2 or 3?

The Graphics program can handle three data sets simultaneously. It can, for instance, compare three rows of figures taken from the spreadsheet. So this question is used to inform the program in which of the three data sets you wish the values you are about to enter from the keyboard to be placed. Key in 1, 2 or 3 and in the window will appear a table into which you enter your fieldnames (such as Jan. Sales) and values (such as 13157.50). Use the ↑ ↓ ← → keys to move around and make your entries.

You are limited to a maximum of 20 items. Press Esc after the last pair has been entered and you will be returned to the menu. If you want to enter another set of data, select EDIT DATA again and repeat the sequence.

Try to ensure that the range of values you enter are not too extreme, like 12000, 17.5, –3400, 1.3, 7300, 0.75. Should you enter figures as extreme as these the program will still attempt to fit everything on the screen, but several values will be indistinguishable from each other, either because the segment will be unreadably narrow, or the column will not rise above the "zero" base line.

LOAD DATA: The way data is loaded is different from other modules of Mini Office II because the Graphics program can cope with three different separate sets of data. The data set into which the results are to be placed is identified by replying to the question:

DATA SET 1, 2, 3?

You are then asked:

FILE NAME?

Make sure you give the name of a file that is on your disc or tape. If not you will be returned to the menu and will have to start again.

The data is now taken automatically from the tape or disc, being placed into the data set as requested. When the transfer into memory is complete you will be returned to the menu.

There is no reason why data sets to be used in one particular graph should all come from the same source. For instance, sets 1 and 3 can be entered from the keyboard, and set 2 loaded from disc. The three sets can then be analysed together by the graph routines.

REVIEW DATA: When you select this option you will be asked:

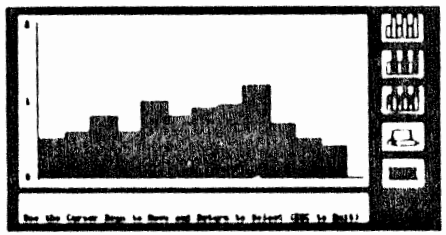
DATA SET 1, 2, or 3?

After you have given your answer the data set you have chosen will be listed in two columns showing the Data Name and Data Value. When you are satisfied you have the correct data press any key to return to the menu.

DISPLAYING DATA

THERE are three ways of displaying the data: the BAR CHART, LINE GRAPH and PIE CHART options.

BAR CHART: When you select this option the screen goes blank apart from five icons on the right. Use the ↑ ↓ keys to choose the function you require and then press Enter. The five icons depict:



An ordinary bar chart. Choose this and only one of the data sets will be used. Before graphing can be carried out you will be asked which data set is to be drawn.

A side-by-side bar chart. Two or three of the data sets will be used, with related values placed side by side. For instance, data

set 1 can show Sales and data set 2 can show Purchases. You will be asked whether two or three data sets are to be drawn.

A stacked bar chart. Two or three of the data sets will be used, with related values stacked one above the other. You will be asked whether two or three data sets are to be drawn.

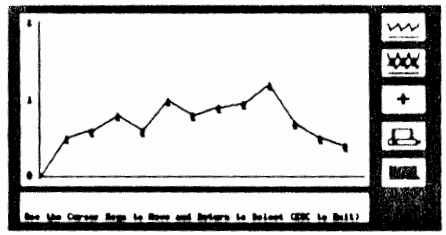
A printer symbol. You choose this if you want to print out the graph.

A grid. This causes a grid pattern to be drawn as a background to your chosen bar chart.

When you have finished using this option press Esc to return to the menu.

LINE GRAPH: Again you are presented with a blank screen plus the five icons. They depict:

A single line chart. Only one of the data sets will be presented. Before graphing will occur you will be asked which data set is to be drawn.



A double line chart. Two or three of the data sets will be presented. They could, for instance, show Sales for three different years. Before graphing can be carried out you will be asked whether two or three data sets are to be presented.

A cumulative line chart. A line will be drawn representing the total of two or three of the data sets. You will be asked whether two or three data sets are to be drawn.

A printer symbol. You choose this if you want to print out the graph.

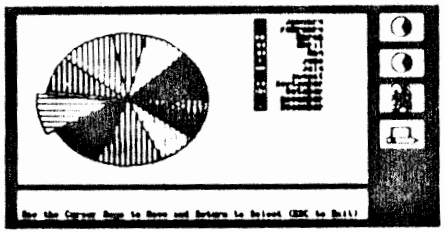
A grid. This causes a grid pattern to be drawn as a background to your chosen bar chart.

When you have finished using this option press Esc to return to the menu.

PIE CHART: This time you are presented with a blank screen and four icons. They depict:

An ordinary pie chart. With a pie chart only a simple data set can be

used. Before graphing can be carried out you will be asked which data set is to be drawn.



An emphasised pie chart. After selecting which set of data you wish to draw, the ordinary pie chart is shown. You are then asked if you wish to emphasise all segments. If you answer yes, the complete chart is redrawn in an exploded form. If you answer no, you are prompted as to which segments you want pulled out from the chart on the screen.

A symbol table. This lets you select the type of shading to be used for the different segments of the "pie" in place of the default shadings. A grid is drawn at the foot of the screen showing 20 different shading symbols. Use the ←→ keys to choose the shading you prefer. Press Enter and the last segment to be drawn will be filled with your chosen shading. Those you have already used are marked with a *.

A printer symbol. You choose this if you want to print out the pie chart.

When you have finished using this option press Esc to return to the menu.

TITLING GRAPHS

ONCE your graph is displayed on the screen you are given the opportunity of adding titles and labels. You are asked if you wish to enter text. Answer Y for yes, enter the word or words, and then move it into the correct position by using the ↑↓→← keys. (You can speed up the movement by holding down the Shift key at the same time.) Once you are satisfied with the final position, press Enter.

SAVING DATA

SAVE DATA: The way data is saved is different from other modules of Mini Office

II. First the program needs to know which data set you want to save. You are asked:

DATA SET 1, 2, 3?

You are then asked:

FILE NAME ?

When you have given the file name the data set you have selected will be transferred onto tape or disc and you will then be returned to the menu.

SAVING SCREENS

INDIVIDUAL screens may be saved for use in other programs – such as a "slide show" type of presentation – or for reloading into the graphics module at a later date.

To save a screen, simply press **Ctrl-S** when your display is complete. You will be asked to give a filename.

To load a screen, press **Ctrl-L** instead of making an icon selection. You will be asked for the filename. When the screen is loaded and displayed you will be able to enter more text, or print out the display.

INTRODUCTION

COMMUNICATION between computers is only possible if they share a common protocol. A protocol is simply a way of interpreting the electronic signals passing between the two computers. If they both share the same protocols they're able to talk to each other in a common language. However, the continuing rapid growth of communications networks has resulted in an ever growing number of protocols, each involving different characteristics.

Fortunately the Mini Office II Communications module takes all the chore out of linking your computer to another by offering the commonly used protocols on a menu. All that is needed is to select the link required: Mini Office II will organise the correct protocol. You do not need to know anything about what the software is doing, or the characteristics of the link itself.

For those who wish to link to other systems which use different protocols there is an option which enables individual characteristics to be entered. Consequently Mini Office II can be used to connect your computer to virtually every computer which is capable of communications.

The most common method of connecting two computers is by means of the telephone. To do this you will also need an RS232C serial interface and a modem, a device which converts signals from a computer into a form which can be carried over the telephone system. If you do not use a modem the two computers will have to be close enough together for a suitable cable to be used as a direct connection. This cable should never be more than about 15 metres in length.

GOING ONLINE

WHEN you select the Communications package you will be given another menu offering six choices. Before discussing the options, we'll deal with the last two

menu items first of all:

SELECT MOUSE: Transfers cursor control to the AMX Mouse.

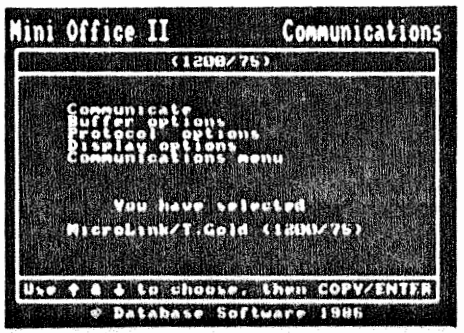
RETURN TO MINI OFFICE II MENU *(disc version)*
or

EXIT PROGRAM *(tape version):* This is the only route out of the Communications module. It is used when you have completed all your letters or documents and wish to work with another of the Mini Office II programs like the Spreadsheet.

As you can see, the menu provides the three most common protocols, those of the MicroLink/Telecom Gold network. In addition there's a Customised Protocols option for "do it yourself" communications. Initially it's configured to take you straight onto standard bulletin boards.

Picking one of these four takes you to a sub-menu giving you the choice of:

- **Communicate** – taking you straight into communications or chat mode, as it's known.
- **Buffer Options** – deciding how to store the data communicated.
- **Protocol Options** – selecting a common "language" to talk in, if you want a non-standard protocol.
- **Display Options** – choosing how the data is presented.
- **Communications Menu** – returning you to the previous menu.



These options combine to give an extremely powerful communications capability. To gain some idea of their scope and flexibility, we'll now examine each one in detail.

COMMUNICATE

THIS opens the link and waits for you to make connection with the other computer. While you are in communication there are a number of functions you can carry out without losing the line, all controlled by the function keys (or numeric keypad on the CPC464). These are:

f0 **RETURN TO MENU.**

f1 **TRANSMIT A FILE:** Puts this message on the screen:

Transmit File. 0. Abort. 1. ASCII 2. Expanded ASCII

In general you will press 1 for normal communications purposes. But when you want to send non-Ascii characters, such as a program written in machine code or a file containing control codes, you will need to use the Expanded Ascii option. If the file you are transmitting is on disc you will be asked to:

Enter filename –

Enter the name of the file to be transmitted and press Enter. You will see the message:

Buffer on

Data will be transmitted down the link automatically. After a delay, which depends on the length of the file and the line speed you are using, you will see the message:

File transmitted

If, having selected ***f1***, you change your mind, pressing 0 aborts

the operation and takes you back to chat mode without any file transfer.

f2 **RECEIVE A FILE:** Puts this message on the screen:

Receive File. 0. Abort. 1. ASCII 2. Expanded ASCII

The procedure to follow is almost the same as for transmitting a file. However, if you pressed 2 for Expanded Ascii the computer will need to know the type of file it is to receive. It will ask:

File type. 0. Basic. 1. ASCII† 2. Binary

When you wish to end a transmission press *f2*.

As a safeguard, if an error occurs during transmission a XOFF is automatically sent to stop communications. When you re-enter communications mode, you signal your readiness to accept data with a ***Ctrl+Q***.

f3 **OPEN A WINDOW:** This draws a line at the bottom of the screen to separate text you are transmitting from text that is being received. Data from the other computer appears above the line, while everything you are sending appears below the line. This option is particularly useful when messages are coming in at random while you are transmitting, such as if you are using an electronic mail service and someone tries to interrupt you using the "Chat" mode.

f4 **EXTERNAL COMMAND:** This allows you access to the RSX (Resident System Extension).

f5 **CHANGE MODE:** This changes the screen display. It toggles between Mode 2 (80 columns) and Mode 1 (40 columns).

f6 **SEND BREAK:** Enables you to escape from receiving a lengthy file before it reaches the end.

f7 **PRINTER SWITCH:** This toggles between ON and OFF.

f8 **SWITCH BUFFER:** This toggles between Memory and Disc or Tape.

f9 **CHANGE TEXT COLOUR:** Each keypress gives you the choice of a different text colour, provided you are in Mode 3 or 6.

Shift+f3 **CHANGE LOCAL ECHO:** Toggles between ON and OFF.

Shift+f4 **SWITCHES FILTER:** Toggles between ON and OFF.

Shift+f6 **AUTOMATIC LINE FEED:** Toggles between ON and OFF.

Shift+f7 **CHANGE XON/XOFF:** Toggles between ON and OFF.

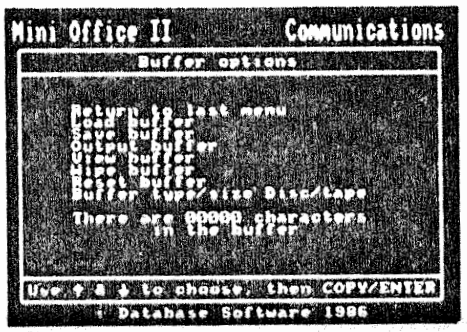
Shift+f9 **CHANGE BACKGROUND COLOUR:** Each keypress gives you the choice of a different background colour.

Ctrl+f9 **CHANGE BORDER COLOUR:** Each keypress gives you the choice of a different border colour.

BUFFER OPTIONS

THESE options enable you to make far more efficient use of the link. They will help you save time when transmitting lengthy files, and also save you a considerable amount in telephone charges. They include an option enabling you to look at data prior to transmission or prior to saving on file.

RETURN TO LAST MENU: Since there are several ways of reaching the Buffer Options menu, this returns you to the menu you last used.



LOAD BUFFER: Puts this message on the screen:

Enter filename –

Give the name of the file, press Enter, and the

file will be transferred from tape or disc into the comms. buffer. The number of characters in the buffer will be shown below the menu. Once the buffer has been loaded it may be passed down the link using OUTPUT BUFFER.

SAVE BUFFER: This is the reverse of LOAD BUFFER. Enter a filename, select the filetype and data will be transferred from the buffer to tape or disc.

OUTPUT BUFFER: Transmits the data in the buffer down the link. The responses are identical to the TRANSMIT FILE option.

VIEW BUFFER: Displays the contents of the buffer on the screen for checking before transmitting or saving.

WIPE BUFFER: Clears the buffer of any contents in order to make it available for another file transfer.

RESET BUFFER: Resets the buffer pointer to the start of the buffer.

BUFFER TYPE/SIZE: Toggles between Memory, Tape or Disc. If Memory is chosen, you must transfer the file into memory prior to transmission using LOAD BUFFER. Similarly you must transfer the buffer to tape or disc after receiving a file using SAVE BUFFER. The amount of memory available for the buffer will be shown.

PROTOCOL OPTIONS

YOU can choose from the following:

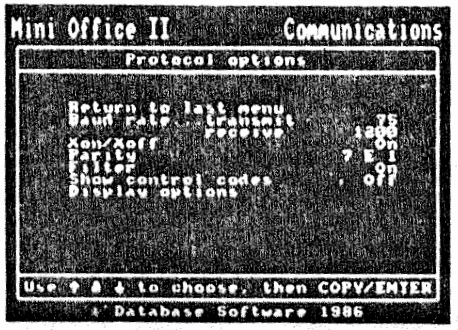
BAUD RATE: The speed at which data will be passed along the line. You can set transmit and receive rates independently.

XON/XOFF: A convention that automatically controls the flow of data between the two computers. It is normally set to ON, toggling between that and OFF. *(Pressing **Shift+f7** performs the same function.).*

PARITY: Controls how many bits of information make up each character transmitted, and how they are to be handled if an error is detected.

FILTER: Filters out certain characters not

required for normal tex.. Switching Filter OFF enables control codes to be displayed that are not normally required to be displayed. *(Pressing **Shift+f4** performs the same function.)* It is normally set to ON.



SHOW CONTROL CHARACTERS: Dictates whether control characters are to be displayed. If switched on, control characters are preceded by the ↑ symbol. It is normally set to OFF.

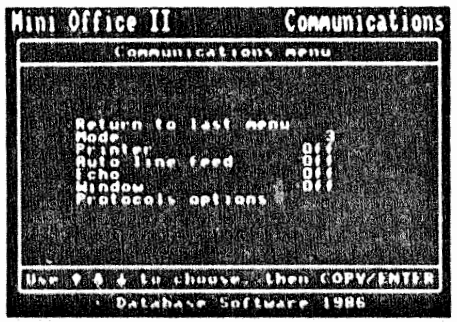
DISPLAY OPTIONS: Takes you direct to the Display Options menu.

- *If you wish to change any of these parameters you are strongly urged to discover their precise function in the handbooks accompanying your computer, modem or the network with which you are trying to communicate.*

DISPLAY OPTIONS

THE final menu in the Communications section controls the way in which the files you transfer are displayed or printed.

MODE: Controls whether Mode 1 or 2 is to be used for displaying characters on the screen. *(Pressing **f5** performs the same function.)* It is normally set to Mode 2.



PRINTER: Controls whether data received is to be printed automatically. *(Pressing **f7** performs the same function.)* It is normally set to OFF.

AUTO LINE FEED: Many computers add an automatic line feed whenever they send a carriage return. This option stops your computer from adding another one, thus causing double spacing. If the other computer does not add its own line feeds, then set this to ON. *(Pressing **Shift+f6** performs the same*

function.) It is normally set to OFF.

ECHO: If the other computer does not "echo" (send back to you) the characters you are transmitting so that you can see them on your own screen you can provide your own local echo by switching this option ON. *(Pressing **Shift+f3** performs the same function.)* It is normally set to OFF.

WINDOW: This draws a line at the bottom of the screen to separate text you are transmitting from text that is being received. *(Pressing **f3** performs the same function.)* It is normally set to OFF.

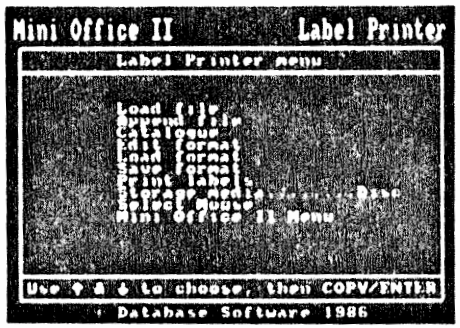
PROTOCOL OPTIONS: Takes you direct to the Protocol Options menu.

INTRODUCTION

AFTER selecting Label Printing you will be presented with the menu shown below. Some of the options have supplementary menus within them to enable more detailed selections to be made.

LOAD FILE: Retrieves a Database file from tape or disc. This will completely overwrite any information at present in memory.

APPEND FILE: This is similar to LOAD FILE, but this time the data in memory is not replaced by the data from tape or disc. Instead additional data is added at the end of the file currently in memory.



CATALOGUE: Displays a list of files, both data and programs, that are present on your disc or tape.

EDIT FORMAT: Defines how the labels are to be formatted. Label stationery comes in many different shapes and sizes, laid out on an equally wide variety of backing sheets. Your printer is probably capable of printing in several combinations of lines per inch and characters per inch. The result is an almost infinite number of possible layouts which need to be defined.

LOAD FORMAT: Loads into your micro's memory a format that has been previously stored on disc or tape. The operation will overwrite anything that is

or disc for future use.

PRINT LABELS: Takes you to the Print Labels menu.

STORAGE MEDIA: Toggles between tape or disc.

SELECT MOUSE: Switches the movement of the cursor from the cursor keys to the AMX Mouse.

MINI OFFICE II MENU *(disc version)*

or

EXIT PROGRAM *(tape version):* This is the only route out of the Label Printer. It is used when you have completed all your letters or documents and wish to work with another of the Mini Office II programs like the Spreadsheet.

FORMATTING LABELS

WHEN you select EDIT FORMAT you will be presented with the following options:

EDIT LABEL: A box appears on the screen, the width and depth of which is defined elsewhere in the EDIT FORMAT option. Text can be entered anywhere within the box. If you wish to include a field from a database record that is already in memory, enter # followed by the field number. If you are unsure of the field press the Tab key and details of the fields will be displayed at the foot of the screen. Press Escape when satisfied with the design of the label.

NUMBER OF LABELS ACROSS THE PAGE: Requires a single number stating how many labels are to be printed across the page. This can be any number between 1 and 7.

PAGE WIDTH: Depends on the type of printer you are using and the size of the printer characters.

LABEL DEPTH: Requires a figure equal to the maximum number of lines that can

be printed on a label.

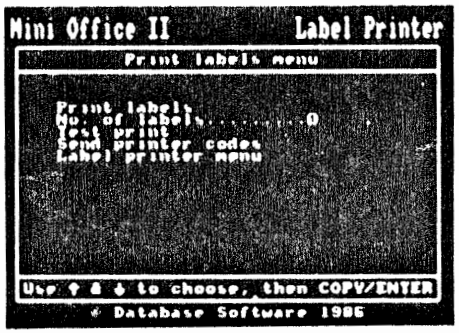
SUPPRESS EXCESS SPACES: Prevents the printing of unwanted spaces between fields.

TAB: Defines the position of the labels across the sheet. Initially these are set by the computer depending on the width of the paper and the number of labels across the page, but they can be very easily redefined to cater for individual needs.

PRINTING LABELS

WHEN you select PRINT LABELS you will be presented with the following options:

PRINT LABELS: Prints the labels according to the format you have defined or loaded. After printing the first row of labels, the number of labels left will be displayed on the screen with an estimate of the time required to print them.



NUMBER OF LABELS: Shows the number of labels contained in the file to be printed. This can be amended as required.

TEST PRINT: Allows you to check that the chosen format is correct and that the labels are correctly aligned in the printer.

SEND PRINTER CODES: Allows access to special features of any printer by sending the required code.