

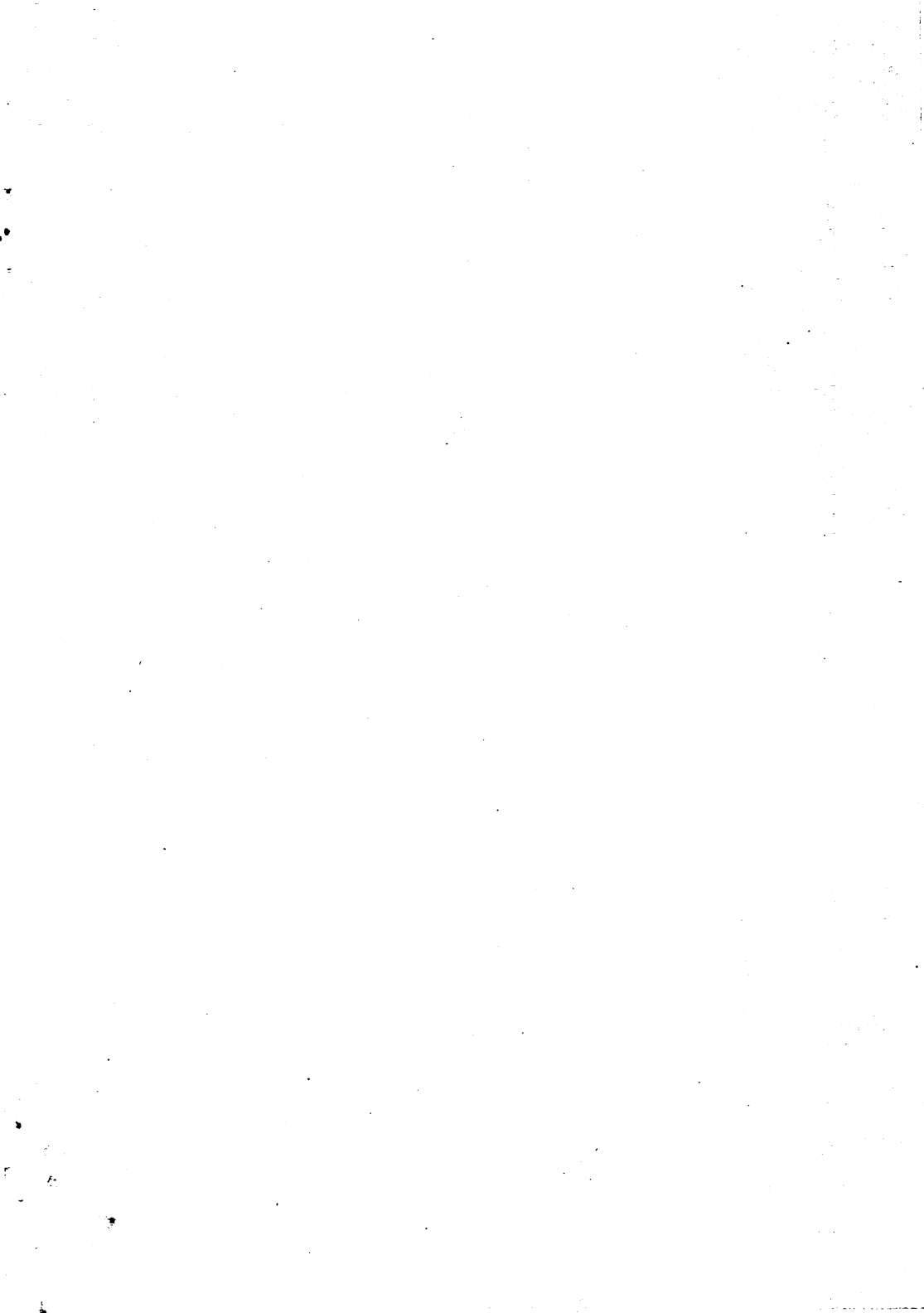
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WARRANTY

While every effort has been made to verify that this software works as described, it is not possible to test any program of this complexity under all possible conditions. Therefore DFM DATABASE 464 and DFM LABELS 464 are provided 'as is' without warranty of any kind, either express or implied.

**SOFT
941**



DFM DATABASE 464

A powerful 'In memory' data file management system for use in business and at home.

Getting Started

Reset the computer by holding down [CTRL], [SHIFT] and [ESC] keys together in that order. Place cassette into the datacorder. Rewind tape to the beginning and then press STOP/EJECT once. Press [CTRL] and small [ENTER] keys simultaneously then press play followed by any key. This tape will take up to 6 minutes to load, after which the program will display its main menu.

THE MAIN MENU

The main menu lists the major options available to you. These are:

- | | |
|--------------------|----------------|
| 1. Create New File | 2. Rename File |
| 3. Access Record | 4. Select |
| 5. Load/Save | 6. Reports |
| 7. Sort File | 8. Utilities |

Each of these items is explained more fully in the following text. Some of the options will not yet be available until a file has been loaded or created.

Option 1. Create New File

Press Option 1 to create a new file. A message will be displayed warning you that this action will clear the memory and any current data file will be lost. Press 'C' to continue.

At this point you must enter the file name. This will be the name by which you will load and save the data file in future. The name will also be displayed on the program menu.

You will now be asked how many field/columns you want in each record. A field is a particular section or line of a record. For example, to create a name and address file, you would probably wish to set up at least 6 fields for:

1. Name
2. Address
3. Town
4. County
5. Post Code
6. Telephone.

To assist in the calculation of the maximum number of records you could expect to hold within your data file, details of the field width must be entered. This figure should be an approximation of the number of 'characters' you wish to enter within each field. The maximum number of records will then be displayed on the screen based on the specifications that you have given the program.

DFM DATABASE 464 and DFM LABELS 464

This is a twin package consisting of DFM Database 464 a user friendly data management system and DFM Labels 464 an easy to use label printing program.

Use DFM Database 464 to create your DFM data files and DFM Labels 464 to print your own labels with the data files constructed with DFM Database 464.

The contents of the enclosed cassette is as follows:

DFM Database 464

Demo File

DFM Labels 464

Simply load the 'demo' file by using the LOAD / SAVE facilities of DFM Database 464 and enter the name of the file when asked as 'DEMO'. Having loaded the 'demo' file try out all the facilities of DFM Database 464 before creating your own data file.

The 'demo' file can be used in conjunction with DFM Labels 464, since it is a DFM data file and originally constructed using DFM Database 464. To use, load DFM Labels 464 in the normal way, rewind the tape approximately $\frac{1}{16}$ inch and load the file following the LOAD option within DFM Labels 464.

There is an option within both programs to select the text colour according to which type of monitor you are using. To use this facility choose the 'UTILITIES' option within either of the programs and proceed according to the prompts displayed on the screen. If you wish to load a data file already created using DFM Database 464, change the text colour after you have loaded the text file.

NOTE: Within both of these programs, when prompted to enter information within square brackets like these [], it is assumed that the information required will be typed and then entered by pressing the large [ENTER] key. The following text also makes this assumption.

For example when asked to:

Enter File Name []

Type in the required file name and then press [ENTER].

Goto: Allows you to goto a record by entering it's number. Also the current number of records on file is displayed.

Amend: Permits a field 'heading' or 'data' to be amended. Press 'H' for heading followed by the number of the field heading you wish to change. Entering a new label or name will amend the heading for the whole file. If 'D' for data is pressed, followed by the number of the field for amendment, the present data will be shown with a request for the new data to be input. Enter your new information and that field will be updated.

Menu: Returns you to the main menu.

Calcs: Calculations may be performed on numeric fields only. Enter 'C' and the option "Do you wish to peform individual calcs or totalise field" will appear. Press 'C' again and you will be asked to enter the number of the field to be calculated. (This field must be numeric). If a character field is entered by mistake then the request will be cancelled. To perform a calculation, key in the corresponding letter to the type of calculation to be performed followed by the amount. For example, to add 10.5 to the contents of a selected field, type: 'a 10 . 5'.

Input: Adds a new record to the file. Entering '=' on any field input will replicate the data from the last record displayed.

Delete: Deletes the record currently displayed. On pressing 'D' you will be given the option to change your mind. Record numbers will be resorted accordingly.

Print: Outputs the displayed record to the printer.

Scroll: Automatically scrolls through the file with options to: Stop, Continue and Exit.

< >: If a field of more than 24 characters is set up, there will not be room on the screen to view the whole record. Pressing the < or > keys allows side scrolling of the field displayed, thus creating a type of window facility.

Option 4. Select

Select allows you to 'search' through the whole file by any field, to find all the records that conform to your selection criteria. Initially, you will be asked to select if you would like to have the results output to the printer or displayed on the screen. The field name to be searched for will then be requested followed by the information you wish to extract from the search.

You will then be required to label the fields as in the 'Name and Address' example. After you have named or labelled a field, you will be asked whether it is a character or numeric field. Press 'C' if the field is to contain information such as, names, telephone numbers, labels, stock numbers, etc. or 'N' if the field will contain numbers or amounts on which calculations may be performed, such as totalling etc.

If 'C' is pressed, you will be asked how many characters you require for this field. As you have already entered an estimated figure to assist in the calculation of the maximum number of records you could expect to hold, the figure that you enter here should correspond with that previous figure. The maximum number of characters that you can hold within any field is 36. Remember the number of characters that you have within EACH field determines the size of your data file.

Numeric field widths are already set at 9 characters and cannot be changed.

Having set up the main file structure, the program automatically moves on to the data input section. You may now start entering file data.

When you have completed your entries, type '*' and the program will restore the main menu.

Option 2. Rename File

Should you wish to change the file name then press Option 2 and enter the new name. Data will be saved or updated with this new name.

Option 3. Access Record

Option 3 accesses the data file in memory. The first record will be displayed. Until the file is sorted record number 1 will be taken as the first record entered and so on. At the bottom of the screen, a sub-menu will also be displayed with the following options:

Next: Moves forward through the file one record at a time.

Last: Moves backward through the file one record at a time.

Find: Finds a record by the first field, known as the 'Key field'. In our 'Name and Address' example, this would be 'Name'. Enter the Name of the person or company whose record you wish to find. If you cannot remember the whole name then enter as much of the name as you can remember and DFM Database 464 will find the first record that corresponds. If the program does not find your entry, options to continue the search by entering new data, or return to menu will be offered.

You may choose between a 'sliding string' search and a 'standard string' search. The former allows you to enter any part of the information contained within the field of the record you wish to display. For example, if you are looking up a name and address and cannot remember the whole of the address, any part of that address can be entered and the corresponding record will be found. In the case of a 'standard string' search the first characters at the beginning of the field must be entered.

If a character field is selected, the results will be displayed if present. If however you have chosen a numeric field you will be asked whether you wish to search through the file for amounts 'equal to', 'less than' or 'greater than' the value of your original entry. The numeric fields can then be totalised according to the selection.

Option 5. Load/Save

To load a data file into memory, press 'S' followed by 'L' to load. Ensure that your data cassette is rewound and the PLAY key depressed before continuing. You will then be asked for the 'Data File Name'. On entering a valid file name your data file should then load.

To save a data file, follow the same procedure as for 'loading' except enter 'S' for save and depress the REC/PLAY keys on the data recorder. The file will then be saved under the current file name as displayed on the main menu.

NOTE: If at any time you wish to abort a 'save' or 'load', press [ESC] twice to return to the main menu.

Option 6. Reports

The report generator in DFM Database 464 is extremely simple to use. Press '6' on the main menu and you will be asked to enter the current date, followed by whether you would like the report output to the printer or displayed on the screen.

Select which of the fields you wish to include in your report. Type in 'Y' for yes and 'N' for no and the corresponding fields will automatically be included or deleted from the report.

The report will print each field at a width as specified by you at set-up, plus one space for each break in field type. Therefore if fields have been set up for their maximum widths you may only get 2 character fields per line on a report generated on an 80 character printer.

You may also send a character string to the printer. For most applications you should only require two modes of printing; standard - which does not require a character string - and condensed which does. With the latter mode, you will be able to accommodate a greater number of fields in your reports. For example, the Epson MX80 Printers use character string (chr\$) '15' for the condensed mode. Refer to your own printer manual for the appropriate number table.

Below is a sample of the type of report that can be expected from DFM Database 464.

01/01/85 Filename=demo

NAME	ADDRESS	TOWN	COUNTY	PHONE	AMOUNT	BAL0/S
-----	-----	-----	-----	-----	222222222	222222222

01/01/85 Filename=demo

NAME	ADDRESS	TOWN	COUNTY	PHONE	AMOUNT	BAL0/S
The Specialist Wool Co	112 Brayton Court	Warwick	Wt Midlands	0926 23842	245.00	135.50
Eastern Suppliers Ltd	34 Tanhouse Road	Chelmsford	Essex	95 50662	150.00	50.75
The Old Mill Complex	Upper Bridge Road	Melksham	Wiltshire	0225 639011	532.00	305.00
Jamieson Supplies Ltd	44 Church Lane	Reading	Berks	0735 56442	225.00	75.00
Business Advisory Unit	68 Hampton Court Lane	Hampstead	London NW3	01435 7885	643.00	58.50
Newey Co Ltd (Dept SA)	3 Willow Grove	Salisbury	Bristol	02217 9265	64.00	0.00

Totals

AMOUNT	1859.00
BAL0/S	624.75

Option 7. Sort File

You can sort a DFM file by any field whether character or numeric. Select Option 7 and you will be asked which field you wish to sort by. If a character field is chosen, sorting will be in alpha-numeric order. If a numeric field is selected, sorting will be by order of value, from lowest to highest.

Option 8. Utilities

There are 6 facilities within this option:

1 Memory Available

-Having constructed your data file this option will tell you how much memory you have left.

2 File Description

-This facility can be output to the screen or the printer. It will give you the exact specifications of your file.

DFM LABELS 464

DFM Labels 464 is a label printing program which can only be used in conjunction with DFM Database 464. It has no facilities for creating data itself, instead it uses data files already created with DFM Database 464.

Getting Started

If you have already loaded DFM Database 464 and used it to create your data file do not rewind the cassette. Reset the computer, depress the **PLAY** key on the datacorder and load DFM Labels 464 in the normal way by pressing **[CTRL]** and small **[ENTER]** keys simultaneously followed by any key. The program DFM Labels 464 will now load.

However, if you have previously saved a DFM data file onto a cassette and wish to use the facilities of DFM Labels 464, reset the computer, and fast forward the tape for approximately $\frac{1}{8}$ th inch. Load the program in the normal way as outlined above.

The program DFM Labels 464 will take approximately 4 minutes to load.

The Main Menu

Once the program has loaded a menu consisting of six options will be displayed. These are:

```
[D]atafile Load
[V]iew Records
[S]ort/View Index
[L]abels
[U]tilities
[E]xit Program
```

Pressing the desired option accesses that part of the program.

[D]atafile Load

This option works in exactly the same way as the 'LOAD/SAVE' option of DFM Database 464 except that you only have the one option, to load. Insert your cassette and type the appropriate file name when asked. The data file will now load.

[V]iew Records

This option allows you to look at selected records on file or all records using a scroll facility.

3 Change Date

4 Reset File

-Allows you to clear all records from your file whilst retaining the file structure.

5 Green or Colour Monitor

-Allows you to choose the appropriate 'text colour' according to which type of monitor you are using

6 Return to Main Menu.

Option 9. Exit Program

Having chosen which records are to printed, your choice may be displayed on the screen before printing. To then print, press 'R' for reprint followed by 'P'.

[E]xit

Exits program.

[S]ort/View Index

Sort allows you to resort the file at any time. As in the case of the 'Sort File' option within DFM Database 464, it is possible to sort a DFM file by any field whether character or numeric. If a character field is chosen, sorting will be in alpha-numeric order and if a numeric field is selected, sorting will be by order of value, from lowest to highest.

Indexes created as a result of a sort may be viewed from this option.

[U]tilities

This option is very similar to the 'Utilities' option within DFM Database 464. There are five facilities:

- 1 Memory Available
- 2 File Description
- 3 Change Date
- 4 Greenor Colour Monitor
- 5 Return to Main Menu

[L]abels

Setting up the labels print run is based on the principles used within the 'Reports' facility of DFM Database 464. The program displays the various fields that have been set up by DFM Database 464 and then asks you whether or not you want them to be included on the labels. Key in either 'Y' or 'N' to determine which are to be included.

The program will then ask you for the starting position of the labels across the page. This can be a number from 1 to 60, allowing you to position the text exactly where required within the page or sticky labels stationery.

You will now be asked to enter the label width. This allows you to select the maximum number of characters for each type of label. As a guide, an average window envelope allows 24 characters.

Enter the number of lines required between each label and the number of each label you require.

This completes the format setting up of the labels and it now remains for you to decide which of the records in your file you wish to print. Press 'A' to print all records and 'S' to select particular records.

If select records are chosen you may choose between a 'sliding string' search and a 'standard string' search.

Lets' now take a look at the demonstration worksheets. DEMO1 is a letter from a stockbroker to a client advising him to sell his holding of a particular share. You can see the formula structure by examining the FORMULA MAP printout. The basic principles are:

- a) $\text{VALUE OF HOLDING} = \text{UNITS HELD} * \text{UNIT PRICE.}$
- b) $\text{PROJECTED VALUES} = \text{TREND OF PREVIOUS VALUES.}$
- c) $\text{INDEX} = \text{CURRENT PRICE} / \text{BASE PRICE} * 100$

MICROSPREAD makes it easy for you to mix text, data and calculations in this way -whereas with a traditional spreadsheet this is very difficult.

DEMO2 shows *MICROSPREAD* being used to solve the sort of prople traditionally associated with spreadsheet programs. This worksheet contains three very similar blocks of CELLS.

- 1) a block contining a QUARTERLY PROFIT PLAN
- 2) a block containing the LATEST FORECAST using the same formt.
- 3) a block containing a variance analysis - the difference between the LATEST FORECAST and the original PLAN.

Because the text contents of each block is so similar most of the text was typed in only once. The other two blocks were generated using BLOCK COPY thus saving a considerable amount of time. Note also that as the year proceeds it will be desirable to "FREEZE" the results in the FORECAST block where the figures are known and no longer need to be recalculated. This can be done by KILLING the ALLOCATION of FORMULAE to those CELLS so that they will be unaffected by any further recalculations.

Please experiment with these demonstration worksheets as part of your familiarisation with *MICROSPREAD*. Doing so will strengthen your knowledge of both the program and spreadsheets generally.

BLOGGS & CO LTD.

PROFIT PLAN 1985

	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
SALES	50000	65000	75000	35000	225000
GROSS MARGIN %	22.50	25.00	24.75	18.50	
GROSS PROFIT	11250	16250	18562	6475	52537
OVERHEADS					
Rent & rates	2500	2500	2500	2500	10000
Head & light	2000	1000	750	1500	5250
Motor expenses	1000	1000	1000	1000	4000
Insurance	1250	1250	1500	1500	5500
Wages	4000	4500	4800	3750	17050
Sundries	500	500	500	500	2000
TOTAL OVERHEADS	11250	10750	11050	10750	43800
NET PROFIT	0	5500	7512	-4275	8737
%	0.00	8.46	10.02	-12.21	3.88

BLOGGS & CO LTD.

1985 LATEST FORECAST

	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
SALES	75000	82000	90000	47000	294000
GROSS MARGIN %	22.50	25.00	24.75	18.50	
GROSS PROFIT	16875	20500	22275	8695	68345
OVERHEADS					
Rent & rates	2500	2500	2500	2500	10000
Heat & light	2000	1000	750	1500	5250
Motor expenses	1000	1000	1000	1000	4000
Insurance	1250	1250	1500	1500	5500
Wages	4000	4500	4800	3750	17050
Sundries	500	500	500	500	2000
TOTAL OVERHEADS	11250	10750	11050	10750	43800
NET PROFIT	5625	9750	11225	-2055	24545
%	7.50	11.89	12.47	-4.37	8.35

DEMO 2

BLOGGS & CO LTD.

VARIANCE PLAN V ACTUAL

	1ST QTR	2ND QTR	3RD QTR	4TH QTR	TOTAL
SALES	25000	17000	15000	12000	69000
GROSS MARGIN %	0.00	0.00	0.00	0.00	0
GROSS PROFIT	5625	4250	3712	2220	15807
OVERHEADS					
Rent & rates	0	0	0	0	0
Head & light	0	0	0	0	0
Motor expenses	0	0	0	0	0
Insurance	0	0	0	0	0
Wages	0	0	0	0	0
Sundries	0	0	0	0	0
TOTAL OVERHEADS	0	0	0	0	0
NET PROFIT	5625	4250	3712	2220	15807
%	7.50	3.43	2.46	7.84	4.47

DEMO 2-continued

COMMAND

AMEND a FORMULA

ACTIVATED BY [CTRL]A

ACTION Allows you to change an existing formula by re-entering it. This is useful where a formula, as originally entered, is no longer required, and can be changed to reflect the new circumstances. It is also necessary to correct mistakes.

EXAMPLE	KEYSTROKES	COMMENTS
	[CTRL]A	Invokes AMEND.
	12[ENTER]	Amend formula number 12
	Y	Confirms that the formula displayed is the one to be amended. Enter new formula as for the ENTER FORMULA procedure on page.

NOTES

1. All cells which contain the chosen formula will give results according to the amended formula NOT the original formula.
2. This command is not available to level one users.

COMMAND

BLOCK commands.

ACTIVATED BY [CTRL] B

ACTION

Many commands can be made to work throughout a defined rectangular **BLOCK** of cells. The **BLOCK** may be as small as one cell or as large as the whole spreadsheet. To define a block you must **FIX** the **TOP LEFT HAND CORNER** and the **BOTTOM RIGHT HAND CORNER** of the rectangle. **FIX**ing is achieved by placing the **CURSOR** in the cell to be **FIXED** then pressing the **[ENTER]** key.

NOTES

1. Commands which may operate on a **BLOCK** of cells are:-

[CTRL] B A	Allocate formula to cell.
[CTRL] B C	Copy cells.
[CTRL] B D	Display Distribution.
[CTRL] B E	Erase cells.
[CTRL] B F	Format cells.
[CTRL] B K	Kill allocation.
[CTRL] B M	Move cells.
[CTRL] B P	Protect cells.
[CTRL] B U	Unprotect cells.
[CTRL] B Z	Zero cells.

2. Block commands are not available to **LEVEL ONE** users.

COMMAND

BLOCK ALLOCATE

ACTIVATED BY [CTRL]BA

ACTION ALLOCATES a given formula to all the cells in a user defined block. Thus the command works in the same way as ALLOCATE ([CTRL] A) but over a wider area which you control. This facility is useful when you need to use the same FORMULA repetitively over part of a spreadsheet. (See the SHARE PORTFOLIO VALUATION example on page).

COMMAND

BLOCK COPY

ACTIVATED BY [CTRL]BC

ACTION Copies a user defined BLOCK of CELLS to a chosen area of the spreadsheet leaving the original BLOCK intact. The COPY is completed in that TEXT, VALUES, FORMAT and FORMULAE are reproduced in the BLOCK. If you want different formulae to apply in the new BLOCK then you must amend the ALLOCATION using BLOCK ALLOCATE or BLOCK KILL as appropriate.

COMMAND

BLOCK DISTRIBUTION

ACTIVATED BY [CTRL]BD

ACTION Shows you the DISTRIBUTION of your FORMULAE over the CELLS of a chosen BLOCK. In order to do this the program enters a special MAPPING MODE which allows the DISTRIBUTION to be shown (whether on the screen or not) whilst leaving your values intact. Whilst in the MAPPING MODE you cannot edit TEXT or values, but certain commands (eg PRINT) will work allowing you to print MAPS of your spreadsheet. You can turn off the MAPPING MODE using [CTRL]0.

COMMAND

BLOCK ERASE

ACTIVATED BY [CTRL] B E

ACTION ERASES the contents of all the CELLS throughout a user defined BLOCK. This process sets all those CELLS to the original state when the program was first loaded i.e.

TEXT of 9 spaces
FORMAT 0 decimal places
VALUE of 0
NO FORMULA active in the CELL

This command should be used with care as its effects cannot be easily reversed.

COMMAND

BLOCK FORMAT

ACTIVATED BY [CTRL] B F

ACTION Performs the FORMAT command (see page 4.9) on every CELL in a user defined BLOCK. This eliminates the need for you to set each CELL format individually.

COMMAND

BLOCK KILL

ACTIVATED BY [CTRL] B K

ACTION Performs the KILL command (see page 4.13) on each CELL in a user defined BLOCK. The ALLOCATION of FORMULAE throughout the BLOCK is cancelled so that the CALCULATE command will no longer affect those CELLS. NOTE, however, that the FORMULAE themselves are unaffected by KILL.

COMMAND**BLOCK MOVE****ACTIVATED BY** [CTRL]BM

ACTION A user defined BLOCK of CELLS is COPIED to a chosen new location and then the original area occupied by those cells is ERASED. The copy action is complete in that TEXT, VALUES, FORMAT and FORMULA ALLOCATION are all MOVED. The CELLS originally occupied will be left completely blank with no FORMULAE or VALUE. The MOVE may be made in ANY direction and the new BLOCK location may overlap the original. You should ensure that FORMULAE still work as intended after the MOVE or you may get some strange results.

COMMAND**BLOCK PROTECT****ACTIVATED BY** [CTRL]BP

ACTION Performs the PROTECT command (see page 4.19) on every CELL in a user defined BLOCK. Those CELLS are then accessible only to LEVEL TWO users until the PROTECTION is removed by the UNPROTECT command.

COMMAND**BLOCK UNPROTECT****ACTIVATED BY** [CTRL]BU

ACTION Performs the UNPROTECT command (see page 4.22) on every CELL in a user defined BLOCK. This reverses the effects of PROTECTION and allows access to those CELLS by LEVEL ONE users.

COMMAND

BLOCK ZERO

ACTIAVED BY [CTRL]BZ

ACTION Performs the ZERO command (see page 4.22) on every CELL in a user defined BLOCK. FORMAT and FORMULA active in the CELL are unaffected by ZERO.

COMMAND

CALCULATE

ACTIVATED BY [CTRL]C

ACTION Calculates the formula within the spreadsheet and inserts the resulting values into the appropriate cells. If new values have been entered onto the sheet since the last CALCULATE command then the sheet will be updated.

EXAMPLE

KEYSTROKES

COMMENTS

[CTRL]C

Invokes CALCULATE.

New values are displayed.

NOTES

1. CALCULATE operates over the whole sheet.
2. The calculation of the worksheet is from left to right and top to bottom. Because of this ensure that any forward referencing is to cells whose state is predictable, otherwise the results of calculation might not be those expected.

COMMAND

CHANGE COLOURS

ACTIVATED BY [CTRL]W

ACTION Changes the colour of the Border, Ink on Paper to the phsical colour required. Terminate the display by pressing Q.

EXAMPLE

KEYSTROKES

COMMENTS

B
8 [ENTER]
Q

Change Border colour
Select colour 8 (Bright Magenta)
Return to 'READY' state

COMMAND

DISPLAY formulae

ACTIVATED BY [CTRL]D

ACTION

Displays, in sets of ten, the formulae which you have entered. You can display the next set by pressing + or the previous set by pressing -. Terminate the display by pressing Q (quit). Pressing P will print the formulae currently displayed onto your printer.

COMMAND

Enter VALUE

ACTIVATED BY [CTRL]V

ACTION

If a numeric value is to be used in calculations (as opposed to a title or a date) then it must be entered using the VALUE command. The cell into which the value is entered becomes a NUMERIC cell and cannot contain text. Similarly VALUES cannot be edited so to change a VALUE you must re-enter the number using [CTRL]V.

EXAMPLE

KEYSTROKES

COMMENTS

[CTRL]V

Invokes VALUE enter.

123.456 [ENTER]

Enters the VALUE 123.456 into CELL BA10. Note that if the cell is FORMATTED to, say, 0 decimal places only 123 will be displayed even though 123.456 is stored.

NOTES

1. The ERASE command would convert a NUMERIC CELL back into a TEXT CELL.

COMMAND

ERASE

ACTIVATED BY [CTRL]E

ACTION Resets the cell under the cursor to its original state i.e.
1. text is 9 blank spaces
2. numeric value of zero
3. no formula active.

This command may also be used over a user defined block
(see BLOCK COMMANDS - page)

EXAMPLE

KEYSTROKES

COMMENTS

[CTRL]E

Move cursor to cell which is to be ERASED.

Y

Invokes ERASE command and erases cell contents.

Confirms that you want to erase the CELL. .

[ENTER]

Returns you to the "READY" state.

NOTES

1. This command will only work for level one users in an UNPROTECTED CELL.
2. If you press N when asked "Are you sure you want to erase?" control returns to the READY state leaving your data intact.

COMMAND

FORMAT

ACTIVATED BY [CTRL]G

ACTION Allows you to fix the number of decimal places to which any value appearing in the cell will be displayed. You can choose any number of decimal places between 0 and 8. The format will only be set for the cell under the cursor when the command is invoked but **FORMAT** has a **BLOCK** counterpart (see page 4.4).

EXAMPLE

KEYSTROKES

COMMENTS

Move the cursor to the cell to be **FORMATTED**.

[CTRL]G

Invokes **FORMAT** command

2[ENTER]

Format this cell to 2 decimal places.

[ENTER]

Return to "READY" state.

NOTE

1. You can change the format of a cell at any time by re-using the command.
2. The default format is zero decimal places.
3. Formatting a cell containing text has no effect.

COMMAND

FORMULA enter

ACTIVATED BY [CTRL]F

ACTION Prompts you to enter the parameters for a FORMULA and enters the formula into the CELL where the results are to be displayed. The precise pattern varies with the function of the formula - a full list is on the following page.

EXAMPLE

KEYSTROKES

COMMENTS

[CTRL]F

Invokes enter a FORMULA command.

\$ (ie SHIFT 2)

The formula is to calculate a SUM. Use CURSOR KEYS to move the CURSOR to CELL AC20. FIXes AC20 as the CELL containing the RESULT of the calculation.

[CTRL]J AC1 [ENTER] JUMP to cell AC1. FIX start at AC1.

R

This is a RELATIVE cell reference.

[CTRL]J AC15 [ENTER] JUMP to cell AC15. FIX finish of SUM calculation at CELL AC15.

R

This is a relative cell reference.

This FORMULA reads AC20=AC1 \$ AC15 which means add up the values in all the CELLS AC1 to AC15 inclusive and put the answer in AC20. Because formulae are re-usable and both parameters are RELATIVE this one could be allocated to CELL AD20 to mean SUM AD1 through to AD15 and put the result in AD20.

NOTES

1. Formulae are re-usable.
2. If you enter a formula which is a duplicate of an existing formula then the original formula will be used.
3. RELATIVE and ABSOLUTE cell references may be mixed in the same formula.

4. When the CURSOR enters a CELL any formula allocated to that cell will be displayed below the SPREADSHEET. The formula will be shown in the ABSOLUTE form as it relates to the current CELL.

FORMULA FUNCTION	KEY	PARAMETERS
ARCCOS	C	Res = ARCCOS Cell 2
ARCSIN	S	Res = ARCSIN Cell 2
ARCTAN	T	Res = ARCTAN Cell 2
ADD	+	Res = Cell 1 + Cell 2
SUBTRACT	-	Res = Cell 1 - Cell 2
MULTIPLY	*	Res = Cell 1 * Cell 2
DIVIDE	/	Res = Cell 1 / Cell 2
PERCENTRATE	%	Res = Cell 1 * 100 / Cell 2
PERCENT OF	P	Res = Cell 1 / Cell 2 * 100
SUM	\$	Res = SUM Cell 1...Cell 2
TREND	X	Res = TRENDLINE Cell 1...Cell 2
HI	H	Res = HIGHVALUE Cell 1...Cell 2
LO	L	Res = LOWVALUE Cell 1...Cell 2
RANGE	R	Res = HI-LO Cell 1...Cell 2
MEAN	M	Res = MEAN Cell 1...Cell 2

An error message will be generated if the cells in the linear functions (SUM, TREND, HI, LO, RANGE, MEAN) do not all lie in the same ROW and COLUMN.

COMMAND

JUMP

ACTIVATED BY [CTRL]J

ACTION Allows you to direct the CURSOR to any cell on the spreadsheet without using the usual cursor direction keys. This facility is useful when you want to move to a cell some considerable distance away from your current position.

EXAMPLE

KEYSTROKES

COMMENTS

[CTRL]J

Invokes JUMP command

BB

New column is BB

14 [ENTER]

New row is 14

NOTES

1. The JUMP command is available when using the cursor to "point" to a cell during formula enter and when using the BLOCK commands.
2. If you enter an invalid row or column then the entry will be ignored and you will be prompted to enter the value again.

COMMAND

KILL

ACTIVATED BY [CTRL]K

ACTION

If the cell under the CURSOR has a formula allocated to it then tht allocation is cancelled (ie KILLED). The formula is not affected and will continue to work in any other cell where it hs been allocated. KILLing a formula is a useful way of "freezing" a value within the spreadsheet.

EXAMPLE

KEYSTROKES

COMMENTS

	Move the cursor to the cell where the formula allocation is to be KILLED.
[CTRL]K	Invokes KILL command
Y	Answers YES to "ARE YOU SURE YOU WANT TO KILL?"
[ENTER]	Returns you to the "READY" state.

NOTES

1. This command will only work on an UNPROTECTED CELL if you are a LEVEL ONE user.
2. The KILL command has a BLOCK counterpart.

COMMAND

LOAD

ACTIVATED BY [CTRL]L

ACTION Loads a previously SAVED spreadsheet from DISK into your computer. After loading you will be prompted to enter your password which will determine whether you are a LEVEL ONE or LEVEL TWO user. More than three unsuccessful attempts at entering the password will abort the program.

EXAMPLE	KEYSTROKES	COMMENTS
	[CTRL]L	Invokes LOAD command.
	Y	Answers YES to "ARE YOU SURE?" prompt (N returns you to the current spreadsheet).
	FRED [ENTER]	Filename is FRED.
	ABC1 [ENTER]	PASSWORD is ABC1.
	Y	Answers YES to "DO YOU WANT TO CHANGE PASSWORD?"
	DEF2 [ENTER]	New PASSWORD is DEF2. You can now proceed to work with the new spreadsheet.

NOTES

1. This command clears any data held in the spreadsheet at the time it is invoked.
2. Please note that the password system is case sensitive and that a password of "ABC123" is not the same as "abc123".

COMMAND

MAP OFF

ACTIVATED BY [CTRL]O

ACTION Turns OFF the formula mapping mode so that normal text editing and entry of numbers may be resumed.

EXAMPLE	KEYSTROKES	COMMENTS
	[CTRL]O	Invokes MAP OFF
	[ENTER]	Returns you to the "ready" state.

NOTES

1. The MAP OFF is automatically turned off by the CALCULATE, and ENTER VALUES commands.

COMMAND

MENU of commands

ACTIVATED BY [CTRL]H

ACTION Displays on the screen the complete selection of available commands. You can return to the READY state by pressing [ENTER].

COMMAND

NEW

ACTIVATED BY [CTRL]N

ACTION Creates a new spreadsheet which conforms to the specifications which you enter:

1. number of rows
2. number of columns
3. spreadsheet name
4. LEVEL TWO PASSWORD
5. LEVEL ONE PASSWORD

A new file is created on the disk.

EXAMPLE

KEYSTROKES

COMMENTS

[CTRL]N	Invokes NEW command
Y	Answers YES to "ARE YOU SURE?"
20 [ENTER]	There are 20 rows
25 [ENTER]	There are 25 columns
FRED [ENTER]	Spreadsheet name is FRED
ABC1 [ENTER]	LEVEL TWO PASSWORD is ABC1
DEF2 [ENTER]	LEVEL ONE PASSWORD is DEF2.

You can now start to work with the new spreadsheet.

NOTES

1. A password may contain up to nine characters.
2. Please note that the password system is case sensitive and that a password of "ABC123" is not the same as "abc123".

COMMAND

PRINT

ACTIVATED BY [CTRL]P

ACTION Prints an area of the spreadsheet onto your printer. You define the area as a rectangular block using the CURSOR to point to the TOP LEFT CORNER and BOTTOM RIGHT CORNER of the BLOCK. There is no limit to the length of report but the width is limited to the maximum width of your printer.

EXAMPLE	KEYSTROKES	COMMENTS
	[CTRL]P	Invokes PRINT command
	80 [ENTER]	Maximum printer width is 80 characters.
	N	Answers NO to "DO YOU WANT TO USE CONDENSED CHARACTER PRINTING"
	[ENTER]	Use the CURSOR keys to position the cursor then press ENTER -this defines the TOP LEFT CORNER.
	[ENTER]	Define BOTTOM RIGHT CORNER
	[ENTER]	Press enter when paper is aligned and printer is ready.
	[ENTER]	When printing is finished press [ENTER] to return to "READY" state.

NOTES

1. If you are using an AMSTRAD DMP1 printer then you should answer 80 to the prompt ENTER MAXIMUM PRINTER WIDTH -If you exceed a very untidy report. Please note also that the DMP1 does NOT support condensed printing.

2. If you are using an EPSON compatible printer then you can invoke **CONDENSED CHARACTER PRINTING** from within the spreadsheet. This will normally give the following maximum widths -
10 inch carriage 120 characters
15 inch carriage 233 characters
and these are the figures which should be entered to the prompt **ENTER MAXIMUM PRINTER WIDTH**.

If your printer has other character pitch options then in order to use these you must set up your printer using the appropriate codes **BEFORE** running MicroSpread. When you do this **ALWAYS** answer **NO** to **CONDENSED PRINTING**.

COMMAND

PROTECT a cell

ACTIVATED BY [CTRL]Y

ACTION

Designates a CELL as one which may only be accessed by a LEVEL TWO user. This allows you to PROTECT the contents of a cell from accidental or deliberate alteration unless you, as the creator of the spreadsheet, desire it.

Such a facility is useful where, say, price quotations are being prepared and you wish to prevent unauthorised changes to key prices or rates.

EXAMPLE

KEYSTROKES

COMMENTS

[CTRL]Y

Move the cursor to CELL AD3.

Invokes PROTECT command

Returns you to the READY state.

Cell AD3 may now be changed by LEVEL TWO USERS only.

NOTES

1. The PROTECT command has a BLOCK counterpart.
2. Protection may be removed only by a LEVEL TWO user with the UNPROTECT command.

COMMAND

QUIT

ACTIVATED BY [CTRL]Q

ACTION Terminates execution of the program. The current spreadsheet will be lost unless it has previously been **SAVED**. So that you do not inadvertently **QUIT** and lose your data you will be prompted by "ARE YOU SURE". If you press **Y** then the **QUIT** command will work. Press **N** to return to the spreadsheet.

COMMAND

REPLICATE

ACTIVATED BY [CTRL]R

ACTION Reproduces the text content of the cell immediately to the left of the cursor. The value of the cell and any formula will be **REPLICATED** along with the cell **FORMAT** and **TEXT** content.

EXAMPLE

KEYSTROKES

COMMENTS

[CTRL]R
[SHIFT]→
[CTRL]R

Position cursor in cell AA1
Enter ----\$---
---\$--- appears in cell AA2
to move the cursor to next cell
---\$--- appears in cell AA3

NOTES

1. The **REPLICATE** command obviously will **NOT** work when the **CURSOR** is in column **AA** because there is no cell to the left.

COMMAND

SAVE

ACTIVATED BY [CTRL]S

ACTION Saves your spreadsheet and formulae onto disk under the current filename.

EXAMPLE **KEYSTROKES** **COMMENTS**

[CTRL]S Invokes SAVE command
[ENTER] Returns you to the "READY" state.

NOTES

1. If you are saving a sheet which has been constructed WITHOUT using NEW you will be prompted for a filename before the SAVE is carried out. Under these conditions the passwords will both be AMSTRAD until you change them.

COMMAND

TITLES lock

ACTIVATED BY [CTRL]T

ACTION LOCKS the current top two screen rows and left two screen columns onto the screen. This action allows column and row titles to remain on the screen as it scrolls. Behaving as separate windows and LOCKED row and columns scroll only when necessary to maintain the correct relationship between the titles and data. You can release the TITLES LOCK by pressing [CTRL]T again.

EXAMPLE **KEYSTROKES** **COMMENTS**

Position the screen WINDOW so that CELL AD4 is at the top left of the screen.
[CTRL]T Columns AD and AE plus rows 4 and 5 are LOCKED as TITLE ROWS.

NOTE

1. The titles rows and columns need NOT be columns AA and AB or rows 1 and 2 of the spreadsheet.

COMMAND**UNPROTECT****ACTIVATED BY** [CTRL]U

ACTION Reverses the effect of the PROTECT command on a CELL and makes it accessible by LEVEL ONE users. The command has no effect if you had not previously PROTECTED the CELL.

NOTE

1. This command has a BLOCK counterpart.
2. This command may only be invoked by a LEVEL TWO user.

COMMAND**ZERO****ACTIVATED BY** [CTRL]Z

ACTION Sets the VALUE of the CELL currently occupied by the CURSOR to ZERO. Any FORMULA or FORMAT associated with the CELL are unaffected by the command. ZERO also has a BLOCK command counterpart.

Glossary of Terms

- ABSOLUTE** Cell reference.
In a FORMULA an absolute cell reference always points to the same CELL on the spreadsheet, even if the FORMULA is ALLOCATED to another cell under the MicroSpread system of re-using FORMULAE.
- ALLOCATE** When a FORMULA is created it will automatically be allocated to the results CELL. However the FORMULA may be re-used so that the results of the calculation also appear in other cells. This process is called ALLOCATION, and is invoked by the BLOCK ALLOCATE command. If you need to ALLOCATE a formula to a single CELL you simply define a BLOCK where the top left and bottom right corners of a BLOCK are the same CELL.
- BLOCK** A rectangular collection of CELLS, defined by reference to the CELL in the top left corner of the rectangle and the cell in the bottom right corner. The rectangle may contain only one cell or cover the whole spreadsheet.
- CELL** The basic building brick of a spreadsheet which is composed of cells. A cell is a single location defined by its ROW and COLUMN address. (eg. AA1 is the cell at the top left corner of the spreadsheet).
- CELL REFERENCE or ADDRESS**
The location of a CELL on the spreadsheet defined by the COLUMN and ROW on which it lies. These give a unique address at the intersection. It is a convention that the COLUMN is noted first then the ROW. (eg. AG12 denotes the CELL in COLUMN AG and ROW 12).
- COLUMN** A series of single CELLS arranged along the vertical axis of a spreadsheet. Columns are labelled sequentially by letters of the alphabet (eg AA.....BZ).
- COMMAND** An instruction to *MICROSPREAD* to perform a task. (eg SAVE the current FILE to disk).
- CURSOR** The CELL which is currently available for data entry is highlighted on the screen by being displayed in reverse video (ie. background and foreground colours are reversed). This highlighted area is the CURSOR.
- CURSOR KEYS** Four keys on the keyboard marked ↑ ↓ ← → which, when pressed, will move the cursor either UP, DOWN, LEFT or RIGHT.

ENTER KEY	A BLUE key towards the right side of the keyboard which is marked [ENTER]. Used to indicate to the computer that an input data item is complete and send it into the memory.
FILE	Information stored on a disk is kept in discrete packets called files.
FILENAME	A unique label by which each FILE on a disk can be identified. Refer to your AMSTRAD DDI-1 instruction manual for guidance on legal filenames. Please don't use filename extensions for your spreadsheet.
FIX	Many HANDY SPREADSHEET commands use the CURSOR to point to a CELL in order to identify it as a component in a BLOCK command or FORMULA. This pointing is called FIXing and is achieved by moving the CURSOR to the required CELL and pressing the enter key. This action will be preceded and followed by a PROMPT.
FORMAT	You can control the number of decimal places to which VALUES are displayed on the worksheet. This is called the FORMAT of the VALUE and each cell can be FORMATTED individually.
FORMULA	An instruction to MICROSPREAD as to how to calculate a number. See page for the procedure to enter a formula.
FUNCTION	The type of calculation performed by a FORMULA (eg. MEAN and TREND).
MAP MODE	Turned on by the BLOCK DISTRIBUTION command. Allows you to see the overall allocation of FORMULAE to CELLS. In this mode you cannot enter numbers. You turn OFF the map mode and return to the normal display by pressing [CTRL] O.
MENU	A series of choices, which are open to you at a particular time, listed on the screen. You may select only one of the options by pressing the appropriate key.
NUMBER	See VALUE.
PASSWORD	A user defined series of up to 9 characters which must be entered correctly before the spreadsheet can be accessed. Each spreadsheet has two PASSWORDS - level one and level two. Users who enter the level one password have only limited access to PROTECTED CELLS and can only use certain commands. This system gives considerable security to important parameters of your worksheets.

PROGRAM DISK

Any disk which contains the *MICROSPREAD* program.

PROMPT

A message which is displayed at the bottom of the screen, telling you what action to perform next.

PROTECTED CELL

A **CELL** which has been designated as accessible to level 2 users only by the use of the **PROTECT** command. Allows the creator of a worksheet to ensure that some elements of a calculation can be changed by him along but still allow others to use the worksheet for calculations.

QUIT

The **COMMAND** to exit from MicroSpread and return control to the operating system of your computer.

READY

The **PROMPT** which is displayed when MicroSpread is waiting for you to enter either data or a **COMMAND**.

RELATIVE

Cell reference.

In a **FORMULA** a **RELATIVE CELL** reference is one which will change when the **FORMULA** is **ALLOCATED** to another cell. The change in the actual cell addressed will be relative to the change in the address of the **RESULT**.

RESULT

When a **FORMULA** is calculated the **VALUE** which is the end product is known as the **RESULT**. The **RESULT** appears in the **CELLS** to which a formula is **ALLOCATED**. Whether the **RESULTS** change from **CELL** to **CELL** will depend on whether the **FORMULA** contains **ABSOLUTE** or **RELATIVE** cell addresses.

ROW

A series of **CELLS** along the horizontal axis of the **SPREADSHEET**. **ROWS** are referenced or addressed by number. (cf. **COLUMN**).

SCROLLING

The act of moving around the worksheet by using the **CURSOR KEYS** to change the position of the **CURSOR**. When the cursor reaches an edge of the screen the whole sheet will **SCROLL** to reveal a new area of the **SPREADSHEET**.

SHIFT

Keys.

Located on the lower row of the keyboard at each end of the row of alphabet keys. Marked [**SHIFT**]. Used to activate the upper set of symbols where a key is marked with two symbols.

SPREADSHEET

see WORKSHEET.

TEXT

Data entered directly onto the spreadsheet via the keyboard. Although TEXT may contain numeric characters these will NOT be regarded as NUMBERS or VALUES for calculation purposes.

VALUE

A numeric value which has been entered into the worksheet using the ENTER VALUE COMMAND or calculated by a FORMULA. It is also possible to enter numeric characters as ordinary TEXT.

WORKSHEET

The total array of CELLS on which the FORMULAE may act and into which you can enter TEXT and NUMERIC data. Defined by the number of ROWS and COLUMNS which you set up.

Appendix A

Making Security Copies

You should **NEVER** use the distribution disk containing *MICROSPREAD* to run your worksheets. Please make a security copy and then put the original disk in a safe place. To do this work through the following procedure:

1. Switch on your DD1 disk drive.
2. Switch on your computer.
3. Put your CP/M master disk in the drive.
4. Type |CPM [ENTER]
5. Type FORMAT [ENTER]
6. When prompted, put the destination disk in the drive and press any key.
7. When complete, put your CP/M back in the drive.
8. Type DISCCOPY [ENTER]
9. Remove CPM master disk from the drive.
10. check the write protect notches on the disks, the SOURCE (copy from) disk should be protected and the TARGET (copy to) disk should not. A disk is NOT protected if the front left notch is covered.
11. Put the SOURCE disk in the drive.
12. Swap the SOURCE and TARGET disks as directed by the program.

NOTE:

If you are backing up data disks, ie. not the distribution disk, steps 5 to 7 can be omitted.

You can make security copies of your worksheet DATA files by using the FILECOPY utility program on your CP/M master disc. A worksheet called FRED will consist of two files FRED.SDC and FRED.SPC. It will be necessary for you to copy BOTH files to your security disc.

Appendix B

Notes for experienced Spreadsheet users

Many users of MicroSpread will be familiar with spreadsheet programs which run on expensive office computers. If you are such a user and are familiar with say, VISICALC, SUPERCALC, or LOTUS 123 then there are a few things you should know about MicroSpread before you get down to some serious work. Let's take the major differences one by one.

1. **FORMULAE.** It's no use entering +A1+B (or something like that) in CELL C1 and waiting for the answer - it won't work. Formulae are entered using a visual method in which the CURSOR acts as a POINTER to the cell being used in a formula. See command FORMULA on page 4.10 for further details.
2. **RECALCULATION** must always be invoked by the user ie no AUTOCALC to slow things down.
3. **SPREADSHEET SIZE** is always known and finite. The spreadsheet is set to a default number of ROWS & COLUMNS when the program is loaded and may be RESET as part of the NEW command. The maximum number of Cells is 560. All CELLS may be used and there is NO danger of running out of memory.
4. The entry of text and numbers is made directly onto the worksheet **WHAT YOU SEE IS WHAT YOU GET**. You can even use MicroSpread as a simple word processor or electronic typewriter. This approach eliminates the need for adjustable column widths.
5. **SPEED** the formula structure of *MICROSPREAD* makes for very rapid recalculation of your worksheets so that even the most complex of calculations takes only a few seconds. Although the AMSTRAD has only an 8 bit processor *MICROSPREAD* is faster than most 16 bit CALC programs.

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