

INFORMATION

The spreadsheet was one of the first major applications for microcomputers. Its use in the home, however, has been hampered by the assumption that it is strictly for business use. But the spreadsheet has a range of useful possibilities, serving as an 'ideas generator' as well as a valuable aid in the collation and display of information.

Like a word processor or database, the spreadsheet has many facilities that are rarely explored by its users. Most people with a word processing system seldom use its more sophisticated commands, while database programs tend to be used as file management and index systems to the exclusion of their data processing abilities. The majority of home micro owners, however, don't own a spreadsheet program and can't see the need for one. Many believe they would find such a program boring and of little practical use, and are generally intimidated by its association with financial and business uses. This view of spreadsheets underestimates the importance of financial management in the home, and overlooks the fact that spreadsheets are simply ideas processors that have become stuck with the accountancy image. In fact, as word processing is to text, spreadsheets can be to concepts.

A spreadsheet is really a text editor and calculator in one. It is called a spreadsheet because it is divided into rows and columns like an accounting spreadsheet, with data shown in cells, or boxes. These are like the cells of a paper spreadsheet in that they can be used in a number of different ways: text can be entered into a cell where it will remain on display, numerical data can be entered for display and calculation, or mathematical formulae operating on the contents of other cells can be entered. Once some formulae are in place, the spreadsheet becomes a user-generated program waiting for input. Whenever new data — text, numeric, or algebraic — is entered, all the formulae cells are recalculated in turn, thus keeping the spreadsheet constantly up to date with data input. The spreadsheet can, therefore, be used for simple screen/printer layout tasks, making it easy to format and to print not only calculations you could do yourself (if they weren't so tedious), but calculations you would never otherwise have thought of.

In many cases, using a spreadsheet will help to reveal needs the user was unaware of — such as keeping inventories, analysing sports results, designing forms, producing timed synchronisation

charts for theatre sound and lighting cues, generating tax returns, deciding whether to rent or buy a television, and so on. All these things could be programmed by someone with a working knowledge of BASIC, but each would take hours to develop, and most of this time would be spent on working out and debugging the endless PRINT TAB, PRINT AT, and INPUT commands needed for formatting the screen display. The great advantage of the spreadsheet is that you format the display as you work out the relationships between your variables. This is done as naturally as you would lay out a sheet of paper, by writing the text, data and the results of calculations wherever you want them to be on the display.

Spreadsheets support a variety of commands to make layout easy: you can copy, move or delete blocks of cells, insert and delete rows and columns, and define the format of a cell or block in terms of size, justification (alignment with other items in the same column), and position of the decimal point. These are exactly the details that are so difficult to handle in most dialects of BASIC, but which are vital to the appearance and ease of use of any report.

Analogous to these formatting facilities are the calculating functions. With a single command you can calculate the mean value of a row or column of data, count the non-zero entries in a table, work out the sum of an array of values, find the maximum and minimum values in a list, and use these facilities in mathematical expressions with more familiar operators and functions such as '+' and '/', SQR and ABS. Not all spreadsheets support all of these facilities, however. The options offered depend upon the available computer memory and how much you are prepared to pay for the program. Prices range from around £5 to several hundred pounds.

Perhaps the most useful single spreadsheet command is REPLICATE. Using this allows a calculation or value typed into one cell to be duplicated in any number of other cells, so that the setting-up of accumulating tables of data — such as mortgage interest from month to month, or household spending week by week — can be achieved in a dozen key-strokes. Spreadsheet programming very quickly becomes a natural extension of arithmetic BASIC, enabling complicated mathematical expressions to be expressed in a more straightforward way than BASIC allows.

Completed spreadsheets can be SAVED to and LOADED from tape and disk, and many versions offer the option of saving just the text and data in a file format that can be used by word processing