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# ROM SOFTWARE



FOR THE BBC MICROCOMPUTER.



Computer Concepts Ltd

## INTER-CHART



This general purpose graph and chart plotting program allows the user to display data in the most easily understood manner—graphically.

Two quite distinct sorts of graphs are catered for. "Labelled" graphs that always have fixed increments on the X axis like yearly sales figures, and "scaled" or scatter graphs. These allow both the X and Y values to be specified.

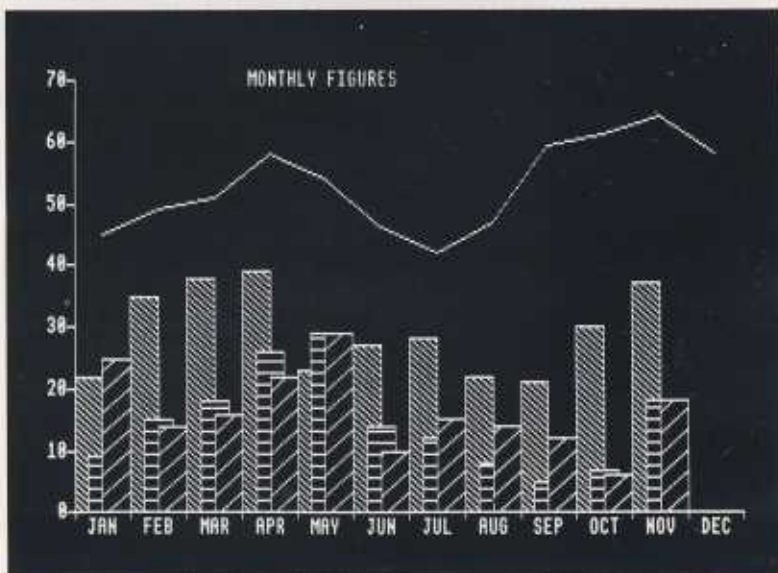
Data can be entered into the system from three distinct sources: Typing at the keyboard is the simplest method, but data can be read from ASCII files produced by WORDWISE, VIEW or a programming language such as BASIC. Because INTER-CHART is ROM-LINK compatible it can also import its data directly from other ROM-LINK packages such as INTER-SHEET.

Once the data has been entered a straightforward editor allows any previous data to be altered or new values to be inserted at any position.

**TEXT WITH GRAPHS:** Labels are normally printed along the X-axis for lines and bars. Pie charts have their labels and values printed around the chart. These may be optionally switched off. With a pie chart the values may be replaced with a percentage figure. All graph displays can have additional labels or messages printed at any position on the screen using a powerful label editor. This allows headings to be easily added to graphs. These labels are stored with each graph when saved.

**COMPATIBLE WITH:** All shadow RAM boards and the 6502 second processor. However the ROM-LINK facilities are not available when using a second processor. These include multiple INTER-CHARTS and direct data transfer from other ROM-LINK programs.

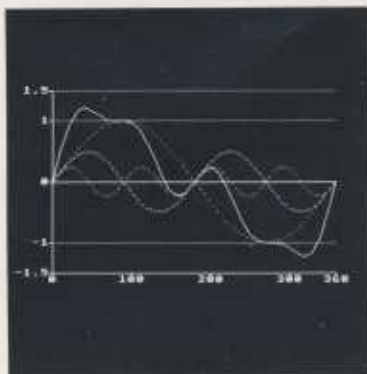
The chart and graph plotting program



**INTER-CHART** allows up to 16 graphs to be held in memory at the same time as one "package". Each graph is named and, once entered, any named graph can be selected from a simple menu display.

**SCREEN DISPLAY:** The graphs can be displayed in any of the BBC's graphics modes. The colours of the bars, lines or segments can be altered in a simple table of colours. This also allows special striped colour combinations and for bar charts a variety of cross hatching styles is available. It is also possible to use a VDU19 statement to alter the colour palette.

**DISPLAY OPTIONS:** Where appropriate (not pies, etc.) either axis can be displayed as a log or linear scale, and there is an option to display dotted graduation lines on either axis. Pie segments and bars can be highlighted (segment "pulled out").

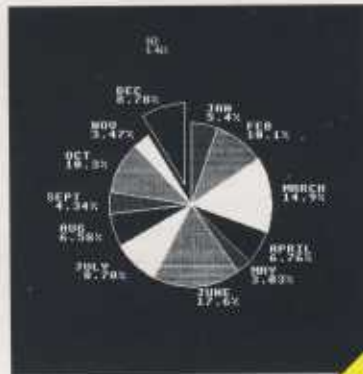


**SCALING:** INTER-CHART automatically scales the graph display to cover the full range of values entered. INTER-CHART can cope with numbers in the range  $2E-39$  to  $2E+38$ . It is possible however to force the scale independently on the X and Y axis to show any specified range, including the option for log scales on either or both axes.

**PRINTERS:** INTER-CHART has a built-in screen dump routine for all EPSON matrix printers and compatibles. It is possible to use other screen dump routines from within (or external to) INTER-CHART for other printers or plotters.

**FILING OPERATIONS:** Any named graph can be saved or loaded individually to disc or cassette, or all graphs can be saved together in one file.

**GRAPH TYPES:** INTER-CHART supports the three main graph types, lines, bar charts and pie charts. Scatter graphs are also catered for and can be displayed as points or lines.



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(£36.80 incl)





## INTER-SHEET

**FILING OPERATIONS:** Load and Save entire sheet. Save specified part of sheet. Load part of sheet to any sheet position. Spool sheet to file. Save all ROM-LINK packages. Load all ROM-LINK packages.

**IMPORT/EXPORT:** Export any part of sheet for use in word processors. Import sheets created on word processors. Import data directly from other ROM-LINK packages.

**PRINTING:** Print all or specified part of worksheet. Print with or without sheet borders. Print with or without held lines (windowing). Sheet titles can be printed and control codes can be sent to the printer. Print all formulae. The pound sign code can be altered to a sequence of codes for different printers.

**AUTO-STEP:** Whenever an entry has been made the cursor can automatically move one box up, down, right or left.

**CELL DISPLAY:** Any box (cell) can be displayed left or right justified. Labels can also be centred. Numbers may be displayed in three formats, exponent, fixed or general format. The number of digits is controllable from 0 to 10.

**LOCKING:** Any box, row or column or all boxes can be locked to prevent accidental alteration.

**LABELS:** Formulae can refer to other boxes in the normal way (e.g. A1 or G5) but can also refer to boxes in a much more meaningful way via labels (e.g. JAN SALES), the box referred to is at the intersection of the column and row of the specified labels. Labels are not restricted to being placed on the borders of the sheet only.

**REPLICATION:** Any box or area can be copied to any other box or area on the sheet, giving total flexibility. The replication is very fast—see comparisons. Single key operations for inserting or deleting a row or column.

Formulae can automatically be altered, if desired, relative to their new position.

**OPTIONS:** A variety of spreadsheet defaults can be altered, such as the default box justification, number format, sheet area. Screen colours are easily alterable.

**WINDOWING:** A unique system that allows any row or column (or multiple rows and columns) of the sheet to appear at a fixed position on screen, still allowing the sheet to scroll underneath. Far easier to use and more flexible than other windowing systems.

INTER-SHEET offers many quite unique features.

- 1** The fastest spreadsheet—see comparison box.
- 2** The largest capacity—see comparison box.
- 3** 40, 80 and special 105 column screen mode.
- 4** Multiple spreadsheets in memory at once.
- 5** Data transfer between sheets in memory.
- 6** Data transfer to and from word processors such as WORDWISE and VIEW.
- 7** Menu operation and fully prompting commands.
- 8** Complete documentation. Two manuals, an introduction and a reference, are supplied along with a quick reference card.
- 9** Will integrate directly with INTER-CHART and other ROM-LINK compatible products.

**The electronic  
spreadsheet  
program**

Some further facts about  
INTER-SHEET:

**CURSOR MOVEMENT:** WORDWISE-like cursor movement allowing the user to move left or right one box, one screenful or to the extremes of the used sheet area. A further command allows immediate movement to any specified box.

**SCREEN DISPLAY:** Single key switch for 40, 80 and a special 105 column screen mode. This allows much more of the spreadsheet to be visible on screen at once. The 105 column mode requires no special monitors—if you can read the 80 column mode then the 105 will work perfectly well.

**SHEET SIZE:** 64 columns by 255 rows. Each box can hold up to 80 characters. Column widths are variable up to 31 characters wide. There is no gap between boxes so labels can continue across boxes.

**MATHS:** A full range of maths functions is included. There are also additional special spreadsheet functions such as AVERAGE, COUNT, IF . . . , LOOK UP, MAX, MIN, SUM, BOX and SQRS (sum of the squares). Numbers can range from 2E-39 to 2E+38 and can be printed to 10 significant figures.

**Spreadsheet comparisons**

Times in seconds	VIEW-SHEET	ULTRA-CALC 2	INTER-SHEET
Replicate SIN(PI) into boxes A1 to Z50	66	65	7
Recalculate the above	28	33	5
Number of bytes free with above sheet	4664	1415	6400
Price (exclusive of VAT)	£52.00	£69.13	£49.00

INTER-SHEET and the rest of the ROM-LINK series belong to the second generation of application programs for the BBC micro. They are larger, more powerful and easier to use than any previous products of this sort.

**COMPATIBLE WITH:** Shadow RAM boards such as the Aries B20 and Watford Electronics 32K RAM board. Because the ROM-LINK system needs to switch ROMs, INTER-SHEET is not compatible with the second processor, although a HI version of INTER-SHEET will be available for the 6502 second processor (no ROM-LINK facilities and no 105 screen mode). INTER-SHEET is supplied in two ROMs, but if you only have one socket then only the ROM-LINK facilities are lost (multiple spreadsheets, etc.).

```

(26)(21)(7)(4)
000          046 Fm          Auto
-----
1 1984      1984      1984      1984      1984
2 NORTH    1079.85  1507.84  1455.55  1545.98
3 LAMB     2802.45  3402.92  3354.79  3361.00
4 SOUTH   1744.23  2101.83  2045.76  2112.22
5 APRIL    1485.23  1821.41  1784.74  1829.27
6 TONY     1027.23  1282.46  1244.30  1312.24
7 LAMB     989.23   919.23   1044.80  1026.41
8 JULEY    1091.25   977.67   992.41   954.26
9 INTEREST 1115.00   874.21   921.64   904.00
10 SHIRT   1500.05   999.24   759.73   709.10
11 DIRT    1442.97  1197.60   945.90   667.01
12 NEW    1240.12  1074.75   1036.24   788.06
13 DEC     1845.21  1381.28  1235.44   922.32
14
15
16 TOTAL 10322.25 14963.96 12825.78 11506.61
17
18          GRAND TOTAL 46026.84
19
20 *****
21
  
```

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## INTER-BASE

Inter-Base is the most comprehensive and flexible data handling system ever designed for the BBC microcomputer system. It is essentially a programming language which has many similarities to BBC BASIC, but which also comes with commands designed to make database handling simple and efficient. Included is a powerful card index program that allows the user to create his or her own database, such as names and addresses, and allows many different types of searching and sorting on that data.

### Programming Language

The heart of Inter-Base is an extremely powerful programming language which makes Inter-Base totally flexible. With over 200 keywords, the language has many of the features of BBC BASIC, which means that anyone familiar with BBC BASIC can easily pick up the concepts of programming in Inter-Base. It includes several programming structures missing from most BASICs, such as:

- **WHILE . . . ENDWHILE**—which acts as a kind of reversed REPEAT UNTIL loop;
- **CASE . . . ENDCASE**—which often allows you to replace clumsy IF . . . THEN constructs;
- **Multiple line IF . . . THEN . . . ELSE** commands, as in Pascal.

As well as these programming structures, the language has a host of commands designed to allow the easy creation and manipulation of databases. Commands are included to create databases and indexes, and to allow fast searching and sorting on any field in a record. Using these commands, it is possible to write any kind of data handling programs you require. Some features of the language include:

- Ability to edit any string using a full Wordwise type editor.
- Programs are held as long strings,

allowing multiple programs in memory.

- Advanced string handling allows parts of strings to be moved, deleted, etc.
- Named procedures and functions.

### Data Types

Inter-Base can manipulate several different types of data. Integer and real types are the same as in BBC BASIC. Strings can be either short strings with a maximum length of 255 characters, or long strings which can fill the entire memory, giving a theoretical maximum length of 32K. A special data type allows the storage and manipulation of dates. They can be entered and displayed in a variety of formats, and special commands are provided to allow the user to compare two dates, and perform simple arithmetic on them. The final data type supported by the language is the list. This is similar to an array in BBC BASIC but each item in a list can be any variable type.

### Special features include:

- **Full menu operation.**
- **Multiple indexes on any field.**
- **Variable field length.**
- **Variable number of fields per record.**
- **Unlimited number of records.**
- **Full conditional searching and sorting.**
- **User definable print format.**
- **All associated indexes are automatically updated.**
- **Very fast searching via indexes.**
- **Any database created using the card index can be used by another program written in the programming language.**

**The integrated  
Database**



### Database Functions

The Inter-Base language is tailored towards writing database programs. It has over sixty keywords specially included to handle databases.

Commands exist to create databases, create indexes and search through databases. These commands mean that useful data handling routines can be written in only a few lines of code.

No matter how flexible or friendly a database is, it is of no use if it cannot hold the volume of data you require. Inter-Base does have restrictions as to the maximum field size, number of records and so on. However, these limits were made deliberately large, so that it is more likely that you will run out of storage space on disc or in memory before you run out of room.

The restrictions are:

- Maximum field size 32K bytes.
- Up to 65,536 fields per record.
- More than 10 million records in any one database.

In reality, the limits will depend on the amount of free memory you have, and the amount of space you have available on disc.

### Card Index Program

The card index program supplied with Inter-Base is a very powerful and friendly relational database handler. Completely menu driven, it allows the user full control over the type of data that is to be entered, along with the layout of the display. Powerful searching and sorting functions allow easy manipulation of any sized database. Flexible printing options allow any part of the database to be printed out in a variety of formats.

```
DATABASE : None
(C) Computer Concepts 1987
```

```
1) Open database
2) Enable Index (None)
3) Set condition
4) Edit fields
5) Option menu
6) Print records
7) Build index
8) Create new database
9) Program menu
```

```
ESC Edit current record
```

```
Enter choice
```

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## INTER-WORD

INTER-WORD is the ultimate word processor for the BBC micro. Just look at its features:

- Part of the only truly integrated suite of programs for the BBC micro.
- The most comprehensive WYSIWYG image of the final document, fully paginated, centred text, justification, etc.
- Super-fast smooth scrolling in all available modes. Sideways scrolls as well if necessary.
- Documents may be edited in any of 40, 35, 80 or 106 column screen modes.
- Multiple copies.
- Multi-column printout.
- On-screen bold, underlining and marked areas shown.
- Easily set preferences including screen colours, key repeat rate, line numbering, cursor line, etc.
- Printer setup to allow simple access to any printer effects on any printer.
- Pull down menu driven throughout. Menus exist for printer setup, page size, preferences, spelling check, status, etc.
- Easy selection of filenames for save or load; all filenames in current directory are listed on-screen.
- Fully compatible with DFS, ADFS and ECONET.
- ALL FEATURES OPERATE FULLY ON: MASTER, B+128, B+standard-B, B with Watford or Aries shadow RAM.

INTER-WORD shows an accurate image of the final printed text during editing. It is continually re-formatted as new text is entered, so ensuring that the screen always accurately represents the final document. Justified text is also shown while editing; this includes left, right and fully justified and centred text.

The layout of text is controlled by rulers. These are extremely easy to insert and just as easily changed to give a different format. Any aspect of the ruler can be changed by "dragging" its position marker using the cursor keys. No description can do justice to the intuitively simple ruler editing.

Although embedded commands are little used in INTER-WORD, some embedded commands are still allowed and may be "hidden" in the text without upsetting the screen format, appearing only if they need to be edited. ANY codes for ANY printer can be included at ANY point within the text. Standard effects such as bold and underlining are shown on-screen. A simple printer code menu allows codes for any printer to be easily included.

Multiple-column printout facility is an integral feature. After setting the text width to suit one column and setting the number of columns, printing out is just a matter of pressing a key.

INTER-WORD uses a similar method of marking sections of text to WORDWISE. This provides a simple and very effective means of moving or copying any section of text to any other position in the document. However INTER-WORD has extended the marked section idea so that it may be centred or underlined or emboldened, etc.

Comprehensive search and replace functions are included. The search and replace strings are stored so they may be used again and again. The user has the choice of case dependent searches



The integrated word processor for the BBC micro.

Compatible with the BBC micro models B, B+, B+128 and Master.



**An INTER-WORD menu provides direct access to SPELL-MASTER, a fully integrated spelling checker. This is a massive 59,000 word dictionary on a single ROM chip, which makes it extremely fast and instantly accessible. SPELL-MASTER is available separately at £59.00 inclusive.**

or not. Wildcards are allowed.

INTER-WORD is very easy to use. Page format, preferences, etc., are controlled from a series of pull down menus. Incorrect settings are impossible to enter, being rejected before they can cause a problem.

The latest computers make use of menus in the same way as INTER-WORD. There is no need to remember long lists of commands or values which may follow them, all options are shown on the menus.

For example there is a "preference" menu. This allows easy selection of screen colour, key repeat rates, screen mode, whether TABS and CR are shown on screen or not, etc. There is a comprehensive "printer setup" menu. This controls things like the number of copies printed, the number of columns, the line spacing, etc.

ROM-LINK programs can all hold their data in memory simultaneously. In fact, each may hold more than one set of data. This means that INTER-WORD can cope with more than one document in memory at once.

Data may be transferred from one program to another with the minimum of effort. A spreadsheet may easily be transferred to INTER-WORD and rearranged to suit the format of the document. Similarly a spreadsheet set up in INTER-WORD may be directly imported into INTER-SHEET.

No other so-called integration system is as powerful. Other systems can only transfer data in a very limited way, making it impossible to transfer figures from the word processor into the spreadsheet for example. No other system can support data from different programs in memory at the same time.

INTER-WORD is 32K long (longer than any other BBC word processor)—BUT—due to a unique design, it is supplied in just ONE CHIP compatible with all machines.

Another menu is for control codes, so that the codes for underlining, bold and other screen effects may be set for any printer.

Saving and loading is performed via a file selector menu which lists the filenames and allows selection by name or by moving the cursor. Once tried, any other method of entering filenames becomes a real chore.

Most functions are controllable by one or two key presses as an alternative to menus. This allows users to choose whichever option suits their preference and experience.



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# SPELL-MASTER

The first completely ROM based spelling checker in the world, offering many unique features.

Because it is ROM based it can search for words far faster than normal disc based spelling checkers. Not only does this mean that it can check text faster than alternative methods, but it can be permanently installed and available at all times from within the word processor.

- **Over 57,000 complete words stored on ROM.**
- **Up to 10,000 words per minute checking speed.**
- **Integrates fully with WORDWISE, VIEW and INTER-WORD.**
  - *Checks entire text directly from within the word processor.*
  - *Checks words as you type.*
  - *Browses through the dictionary from within the word processor.*
- **User expandable dictionaries in sideways RAM or ROM.**
- **Permanently accessible from within the word processor.**
- **Unique crossword, anagram and fuzzy checking features.**
- **Compatible with all BBC machines.**

SPELL-MASTER consists of a single ROM on a small module that plugs into any sideways ROM socket.

It has been designed to fully integrate with the most popular word processors on the BBC, WORDWISE and WORDWISE PLUS, VIEW and of course INTER-WORD. This not only means that it works with files produced by these word processors, but SPELL-MASTER can be used directly from within the above word processors either from the command mode, or more usefully directly while entering or editing text.

For example, it is possible to check text while in WORDWISE or VIEW by simply pressing CTRL-J, which displays a menu, and selecting an option. In addition if you want to check any word while editing the text, simply move the cursor onto the word and press CTRL-C. The computer will beep if the word is correct, or will bring up a small "browse" window if the word is misspelt. At this point the user may scroll up and down through the dictionary and select the correct word from the list which will replace the misspelt word in the text.

**INTER-WORD:** When SPELL-MASTER is fitted, a new pull down menu is accessible from within INTER-WORD which allows direct access to several SPELL-MASTER features such as: check the entire text, just the marked region, the word at the cursor, or enter the SPELL-MASTER browse window.

## Check as you type

Because the dictionary is ROM based it is possible to check words as they are typed within all the above mentioned word processors. Having issued a star command to turn this immediate checking on, all text entered will be checked against the dictionary. The computer will beep at any word not recognised, which may then be corrected as described above.

This checking as you type adds no perceptible delay when entering text.

## User Dictionaries

SPELLMASTER supports extensions to the dictionary in sideways RAM or ROM. This has the advantage that there is no speed delay when checking against user dictionaries. Whenever a word is marked as misspelt the user is given three choices. Replace the word with another selected from the dictionary, ignore the word altogether, or add this word to a user dictionary. Adding a



word to the dictionary in this way is instant and from that point on the word will be treated almost as if it were part of the main dictionary.

Any number of user dictionaries can be added, each sideways RAM or ROM having room for about 3,000 additional words. Once a user dictionary has been created it is possible to "program" this into an EPROM and have it fitted as a permanent extension to the dictionary. Several of these extensions, whether ROM or RAM, may be resident in a machine at the same time.

Provision is made for editing the user dictionaries enabling words to be added, removed or the entire dictionary to be saved to disc.

### **Additional Star Commands**

A variety of star commands give access to several important features. Because these are star commands they may be issued from within any word processor or language ROM.

#### **★CHECK**

Lists all words in the dictionary that fit the search condition. Wild cards can be included in the string, # for any single character and \* for any number of characters. For example typing \*CHECK FR#A\* will list all words that start with FR and have A as their fourth letter. \*CHECK COMP\* would list all words starting with COMP.

#### **★FUZZY**

Lists all words that sound like the one you are searching for. If, for example, you are not sure of the exact spelling of a word, then entering the approximate spelling here will generally list the word you are looking for.

#### **★CROSSWORD**

Will search the entire dictionary for all words that exactly fit the search pattern. For example \*CROSSWORD

##M#U#E#R would list ARMOURER, COMMUTER, COMPUTER. Or typing \*CROSS####ove would list all 8 letter words that end with 'ove'. Because the SPELL-MASTER dictionary is ROM based it can search through all 57,000 words in about 9 seconds.

#### **★ANAGRAM**

Entering any string of letters will cause SPELL-MASTER to list all words in the dictionary which contain only those letters.

#### **★SPELL**

This enters SPELL-MASTER's own main menu which allows any user dictionaries to be edited, saved or loaded from file. User dictionaries can be named, and all those present are listed on \*HELP. From the menu, SPELL-MASTER's editor may be entered which allows any ASCII text file to be loaded, edited, saved, etc. The editor is fast and straightforward to use, much like WORDWISE.

#### **★BROWSE**

From within any program, even BASIC, this command will display SPELL-MASTER's browsing window in which cursor keys can scroll through the dictionary.

#### **★DSAVE and ★DLOAD**

The DSAVE command may be used to save a user dictionary, created in sideways RAM, onto disc before switching off the computer. When the user dictionary is required again it can be loaded back into sideways RAM with the DLOAD command. Any socket number may be specified, allowing any number of banks of sideways RAM to be used in any configuration.





## THE BBC BASIC COMPILER

# ACCELERATOR

This is the most comprehensive compiler of any sort to be made available for the BBC Micro.

Like many PASCAL compilers, ACCELERATOR achieves compact compiled programs by using an intermediate code (G-code) rather than 6802 machine code. This G-code is executed by another part of the compiler. Other compilers produce machine code up to five times longer than the original program especially when catering for floating point arithmetic. By using G-code, ACCELERATOR ensures that the object program is compact; in many cases actually smaller than the original program.

Machine code programs produced directly by some compilers are sometimes faster than intermediate code but, as explained above, they are usually larger. ACCELERATOR normally compiles to the intermediate G-code but a variety of utilities are supplied with the ROM that allow the G-code to be converted into machine code. Machine code programs can only use integer numbers. Other utilities are also supplied that allow the user to create his own sideways language ROMs.

ACCELERATOR however offers the user the choice between efficient G-code compiled programs, or larger but faster machine code.

ACCELERATOR is a complete compiler package including two ROMs, comprehensive spiral bound manual, disc with utility programs and quick reference card.

Note: The machine code convert utility programs are supplied on a 40/80 track disc. These require a disc drive to work.

£56.00+VAT  
(£64.40 incl)

# WORDWISE PLUS

This is an enhanced and extended version of WORDWISE. This still has Wordwise as its core and so acts in the same way, but has several new and unique features that will appeal to the advanced word processor user.

A full feature BASIC-type programming language has been added. This gives the user the ability to extend the features and functions of this word processor almost infinitely, and to tailor it to the specific needs of the user.

Wordwise Plus can hold up to 10 of these programs in memory at once, or alternatively, it can support up to 10 separate documents in memory at once.

£49.00+VAT  
(£56.35 incl)

# COMMUNICATOR AND TERMI II ROMs

COMMUNICATOR is a 16K ROM designed to operate as a full VT100 terminal (please ask for a specification that details the VT100 operation). 80 column operation only excludes its use on poor quality colour TV sets.

£60.00+VAT (£69.00 incl)

TERMI II is an 8K ROM which can operate as a semi-intelligent terminal, e.g. VT52 (and the user may alter many of the actions of the terminal). It can operate as a slave BBC graphics terminal, or simply as a dumb terminal. 40 or 80 column operation is selectable whilst online.

£29.00+VAT (£33.35 incl)

Note: Neither TERMI II nor COMMUNICATOR are suitable for use on "PRESTEL" type systems, though they are widely used on electronic mail systems. Please note that the actual MODEMS used for connection to PRESTEL/MICRONET are suitable for use on other mail systems or bulletin boards, etc.

## PRINTMASTER

This is a sophisticated printer handling ROM enabling the user to simply access the special features of their printers.

Two versions are available, the normal PRINTMASTER which supports the EPSON MX, RX and FX range and EPSON compatible printers. The second version is for the STAR Delta, DP, Gemini and Radix printers. All commands in the ROM must be preceded by an asterisk and can be used like all normal operating system commands from BASIC programs, etc. It is also possible to use them from other language ROMs.

PRINTMASTER supports three types of screen dumps. The most flexible (\*GDUMP) allows any graphics on the screen to be dumped onto the printer. This will operate in any graphics mode, the colours being

displayed as shades. Any part of the screen may be printed at any position on the paper in any one of four orientations. It is also possible to magnify the screen dump by any factor \*2, \*3, \*4, etc.

A special feature allows true Mode 7 screen dumps with TELETEXT text and graphics, colours (as shades), double height, etc.

\*TDUMP allows any text mode to be dumped and \*FDUMP will automatically print the contents of a file on disc to the printer WHILE the BBC machine is doing other things, running other programs, etc.

\*WINDOW allows the user to interactively define a graphics window, this controls the part of the screen printed in \*GDUMP. A very much easier method of defining graphics windows than the normal VDU statement.

## The SPEECH SYSTEM

The BBC Microcomputer is provided with a socket for the Texas Instruments TMS 5220 Speech Synthesis Processor. This device normally receives its speech data from a specially designed serial ROM (part of the Acorn speech upgrade): an arrangement which gives very good reproduction but an extremely limited vocabulary. A further, less commonly appreciated problem is that, although the individual words or short phrases contained in such ROMs do have intonation, this is fixed, and may be quite inappropriate when attempts are made to string the words together to make long utterances.

The SPEECH ROM is designed to drive the speech processor directly. Rather than having a fixed vocabulary of words, the user may construct any English word with very little sacrifice in quality. The SPEECH ROM employs a unique method of stress and rhythm control giving simple access to the entire range of English speech and intonation.

The SPEECH ROM is no longer available on its own. It is now supplied with the Text To Speech ROM and is called the SPEECH SYSTEM.

### TEXT TO SPEECH ROM

The Text To Speech (TTS) ROM is supplied as a complementary chip to the SPEECH ROM. It enables the user to type a straightforward word or sentence without having to work out the individual phonemes. For example to say "BBC Microcomputer" the command would be:

\*SAY BBC Micro Computer

There is a Text To Speech upgrade available for existing SPEECH ROM owners, at a cost of £11.50 inclusive.

£34.70+VAT (£39.90 incl)

**The SPEECH SYSTEM requires the TMS 5220 Speech Synthesis Processor to be fitted.**



### SCREEN-DUMP & PRINTER SUPPORT ROM

£29.00+VAT  
(£33.35 incl)