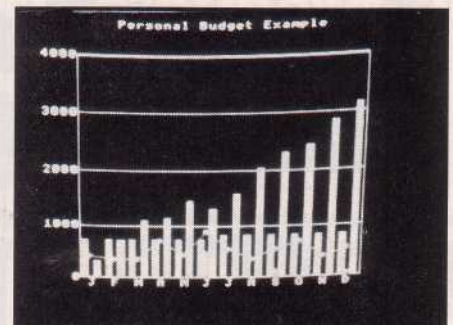# BUSINESS BUNDLE

Personal Budget Example

What will the Z80 second processor – and the free batch of software that comes with it – do for the Beeb's serious business user?

THE BBC micro has long had the potential to become a business machine and now with the appearance (at last) of the Z80 second processor it has the technology. The Z80 will run CP/M (control program for micros), which has become the standard operating system for running business programs: Software houses all over the world have written programs to run on CP/M machines which, potentially, can run in the 64k provided by the BBC micro with a Z80 second processor.

Acorn has thoughtfully provided a bundle of free software with the hardware. Here the portability of CP/M can be seen, as half of it has come from the US. The programs cover a range of applications, including word processing, filing, financial modelling and writing dedicated software. Three programming languages are included: BBC Basic; Mallard, a Microsoft-type Basic; and CIS Cobol, a business language.

But first let's look at the hardware provided for your £300. The second processor itself comes in the same bland box as the 6502 version reviewed last month, and the Teletext Adaptor before that. It matches the Beeb in colour and finish, being the same depth and height, but half the width. This links to the Tube, Acorn's patented high-speed interface, underneath the Beeb by a short cable, which dictates that the Z80 must sit on the immediate right of the micro. The manual suggests that a desk area of 5ft wide by 2ft 6in deep is needed for the hardware, plus at least four power sockets.

When you open the box you'll find a DNFS ROM provided which is a combined version of the disc and Econet filing systems.

The issue of CP/M is 2:2 with BIOS 1.0 (this is the input/output part of the operating system). Although CP/M is a standard business operating system, there are different implementations on various machines. Acorn is using CP/M under licence from its US owners, Digital Research. CP/M has its own disc operating system, which will handle up to 128 directory entries per disc:

The software comes on seven discs in CP/M format: A list of the major items is given in figure 1, with the companies behind the programs.

The manuals for the software and the user guide (apart from the standard CP/M manual) were produced by Baddeley Associates of Cambridge, which has an excellent reputation in this area. Its efforts for this package certainly uphold its reputation, most of them being far better than the original guides written by the software houses involved. The manuals have gone through several stages of rewriting and do a good ' hand-holding' job with detailed examples of the software in use: The text examples are backed up by data files on disc that again demonstrate the time and thought that have gone into this package.

Acorn believes that the package will turn the BBC micro into a fully fledged business machine. But how well does this claim stand up? Figure 2 gives some cost comparisons against the Torch Z80 pack and an Apricot. An 800k disc drive is needed to run the system (dual, double-sided, 80-track) and, of course, a monitor. All of that adds up to between D 300 and £1700 (mainly depending on the disc drives).

This is comparable to the Torch and the Apricot, which boasts a much larger

The second processor, shown with the family of business software, sits to the right of the host micro

memory, better discs, service back-up and a wide repertoire of tried and tested software. However, where the BBC stands out is in the free software which, in the words of Acorn boss Hermann Hauser, the company ' scoured the world for'. All three machines demonstrate the trend towards giving away software to start users off, but Acorn's estimate of £3000 to buy its bundle takes some beating – and it's good stuff (figure 1):

Acorn has kept the price of the Z80 a close secret, and withdrew an original tag

There wasn't time to do a full review of the Z80 software, which will have to wait for another issue, but we can run through some initial impressions (PCW is running a series of reviews based on early versions of the programs).

First, let's tackle *Nucleus,* the 'system generator. The flexibility of this makes it possible to develop packages at least as good as most of the business programs currently available for the standard BBC micro: The great advantage is that the packages will be customised to the

writer's own use, down to the last field or record. By following Acorn's documentation, the first-time user can be producing worthwhile examples within an hour:
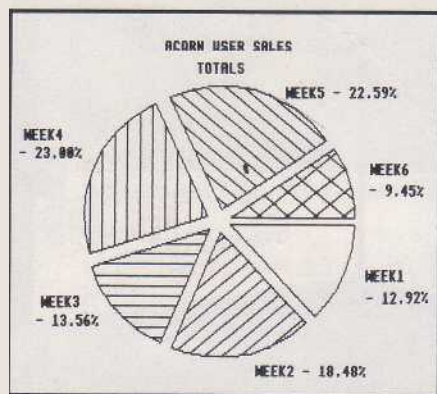
NUCLEUS

The idea behind *Nucleus* is to help users without much programming experience to write custom software: The package is straightforward to use– but what it will not do is the thinking behind how a database should be structured. You must be familiar with the concept of files, fields and records and how they interact. If you aren't, then you're in for a hard time, although working through the examples will give some idea:

Where problems will crop up is in linking files, especially as this topic won't have cropped up unless the programmer has coped with file handling in some depth.

Nucleus gives small firms and dealers an opportunity to create programs and sell them to others. A whole new industry could spring up here, and this is, in fact, exactly where Compact got the idea from (see figure 1). At the moment however, there are no firm plans for Acorn itself to do this:

The ideas offered by Compact in its own leaflets include records covering personnel, schools, medical, stock and invoicing.

Humble pie? Acorn User does its homework on 'Graph Plan', output on an Epson FX80 printer

of £225 given out a year ago on official price lists: This was no doubt a reaction to the likes of Torch, whose success with products based around Acorn's own boards must be galling: The arrival(?) of Sinclair's QL and the plummeting cost of machines like the Apricot no doubt helped persuade Acorn to keep the price down.

Another option for those who already have a BBC micro is to invest in the 6502 second processor and wait for some quality software to appear: The 6502 is reckoned to be the second-fastest microprocessor in the world and has 22k to play around with in 80-column mode.

Product	Originator	Description
Accountant	Compact Accounting Services (UK)	Nominal Ledger
Nucleus	Compact Accounting Services (UK)	Database creation
Memo Plan	Chang Laboratories (US)	Word processor
Graph Plan	Chang Laboratories (US)	Spreadsheet with graphics
File Plan	Chang Laboratories (US)	Data filing system
CIS Cobol	Microfocus (UK)	COmmon Business Orientated Language
Animator	Microfocus (UK)	Cobol debugging utility
Forms 2	Microfocus (UK)	Cobol screen layout utility
Z80 BBC Basic	Acorn/BBC	Disc version to run under CP/M
Mallard Professional Basic		Microsoft-type Basic
CP/M 2.2 with GSX graphics	Digital Research (US)	Z80 operating system

All the software comes contained on seven discs, with separate guides to each. The discs also contain sample data for some of the programs.

Figure 1. Z80 software bundle

BBC Z80 system running CP/M 2.2	
BBC micro with disc interface	£470
Dual 80-track disc drives (800k)	£450-£800
80-column monochrome monitor	£100
Z80 second processor	£300
Total cost	£1320-£1670
Estimated value of software inc.	£3000

Torch Z80 system running CP/M	
Total cost	£1409
Estimated value of software inc.	£1000

Apricot running CP/M 86 and MS-DOS	
16-bit processor, 256k RAM, twin single-sided 3½in disc drives (730k), separate keyboard, monitor	
Total cost	£1890
Estimated software inc	£750

Figure 2. Three-way cost comparison of hardware/software combinations.

```
COMPACT NUCLEUS            FILE DEFINITION

SYSTEM NUMBER         21 SCHOOL RECORDS
FILE NUMBER            1 STUDENT FILE

BASIC FILE NAME       SSFILE01
FILE TYPE             Master
RECORD LENGTH         220
NUMBER OF RANKS       1
NUMBER OF RECORD TYPES 1
FILE PROTECTION       None
```

FIELD NO.	DESCRIPTION	FIELD TYPE	NUMBER OF CHARACTERS	DIGITS BEFORE POINT	DIGITS AFTER POINT	ALLOW NEGATIVE VALUES	MINIMUM VALUE	MAXIMUM VALUE	NUMBER OF LINES	DELETE PROTECT	START BYTE	LTH	BASIC NAME
1	STUDENT CODE	Numeric		4	0	N					1	2	DA%
2	NAME	Alphanumeric	30						3		3	90	DA$
3	ADDRESS	Alphanumeric	30						4		93	120	DB$
4	FORM NUMBER	Numeric		3	0	N					213	2	DB%
5	DATE OF BIRTH	Date									215	4	FO!
6	ABSENCE TO DATE	Numeric		3	0	N					219	2	DC%

KEY NO.	KEY DESCRIPTION	NUMBER OF CHARACTERS	RANK NO.
1	STUDENT CODE	4	1

Example from the user manual of a database devised with Compact's 'Nucleus' package

GRAPH PLAN
Probably the easiest and friendliest of the whole bundle. it's a spreadsheet with the rare ability to give graphical represent-ation of its rows and columns as pie-charts, bar-charts and graphs, without any heartache. It is set up for the Epson FX range of printers (although it does strange things with the Star Delta, which has the same control codes): Other printers will be supported.

This is the only piece of software in the package that supports colour.

The maximum number of cells sup-ported is 1000 as 50 rows by 20 columns, the size of each being definable within this limit. The figures in these cells can be manipulated as in any other spreadsheet. The split-screen facility of Visicalc is not supplied.

MEMO PLAN
Memo Plan is a word processor. One of its main features is that it automatically saves text every few minutes, and the user can carry on working as this happens. Two documents can be displayed on the screen at the same time, the display being split horizontally, and another three can be held in memory and called up to replace one of the two on the screen.

The use of function keys is just as comprehensive as View's.

Memo Plan does not support cont-inuous processing, so you have to stop typing while the screen is being printed out.

One of the big advantages of *Memo Plan* over the likes of View and Wordwise is that it is set up to cope with long documents. At the start of a typing session space can be reserved on disc for the equivalent of, say, a 50-page document, and the manual explains how to work out the memory required:

The system is configured for the Epson

printers as a default, although another 20 are covered, any of which can be selected.

Docuplan is an addition to *Memo Plan* that can cope with long indexes and can format text. It will be available at about £150.

ACCOUNTANT
'Simple but flexible' is the description in the manual for this program, which has three main parts: sales daybook, purchase daybook and cashbook. These can then be built up into a nominal ledger: However, *Accountant* is one of the heavyweights in the bundle and has already earned itself a good reputation on other micros. Com-pact has substantially expanded the software from the original version, improv-ing its credit-handling side.

It is aimed at the small shopkeeper and the system can be built up using other packages available from Compact to cover invoicing, sales ledger and bought ledger.

VAT reports are generated from within the daybooks, and up to 10 different rates can be entered. Companies that prepare budgets are also catered for.

Users who do not have accounting skills will be pleased to find a glossary at the back of the *Accountant* guide, but even so, transferring a complete paper system onto the package would be no easy matter. Acorn is apparently arrang-ing training courses for dealers, who may set up similar help for customers.

FILE PLAN
This is what is known as a 'viewsheet', in other words a database presented as a number of record cards on the screen. It is similar to a spreadsheet, but with words instead of numbers filling the cells:

The whole thing is menu-drive, with options for sorting and updating records. Files created on *File Plan* can be printed

out, or used to produce labels by linking to *Mail Plan,* a complementary part of the package.

BASIC
Two versions of Basic are provided: One is a version of BBC Basic which runs on CP/M, the other is Mallard, a more standard Microsoft-type Basic.

The BBC Basic on disc leaves about 40k, in any mode, for user programs. It is close to the 6502 version, but there are differences, which are outlined in the Z80 user guide: Commands can be passed to the 6502 operating system, but these are checked for as Z80 commands first.

Utilities are included to change BBC discs to CP/M format.

CIS-COBOL
The Cobol is provided by Micro Focus, and comes with *Animator.* Using this debugger enables Cobol programs to be stepped through line by line and checked for errors. Cobol, a widely used language for writing business programs, enables input to be tightly defined, although this does make it long-winded to use. *Forms2* is a screen layout facility.

GSX is a graphics package that is not actually used by any of the bundled software. It is designed for use with the Digital Research *Graph* package, which can be bought from computer dealers.

To sum up, Acorn has put together an excellent and versatile system that has something for everyone. The level of the packages varies, some demanding a high standard of knowledge and expertise, others being easy to get into: The value of even one of the packages could justify its cost to a buyer. Certainly it gives an excellent introduction to the world of CP/M and gives the would-be corn puterised businessman a foundation on which to build an excellent system.