



**Manual and User Guide for**

**OFFICE MASTER**

**CASHBOOK AND FINAL ACCOUNTS  
DATABASE  
MAILIST  
HOME ACCOUNTS  
STOCK CONTROL  
GRAPH PLOT  
EASILEDGER**

**48K Sinclair Spectrum**



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# Cashbook Accounting

**Sinclair Spectrum 48K Version**

User Manual

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# 1 General System Overview

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The Gemini Cashbook package for the Sinclair Spectrum micro-computer is designed for a hardware system consisting of:

- i) Sinclair Spectrum 48K microcomputer
- ii) 80 column printer or 32 column ZX printer
- iii) Cassette or microdrive data storage

Note that running the program on microdrive will not change the way that the program works, but you will have the benefit of the far greater speed for the loading and saving of files that a microdrive system provides.

See Section 5 of this manual for a complete list of fixed nominal accounts, each of which has been assigned a unique code.

You will keep a data file containing all the account balances and VAT details, which can be loaded, updated, and saved in its entirety by the Cashbook program. The same file is also used by the final accounts program for the printing of Profit and Loss and Balance Sheet accounts. This means, therefore, that every time you run the Cashbook program you will have to load your data file into the program - see Section 2 for full details. The only time that you do not load a data file is when you wish to start completely from scratch - in which case all account balances, VAT memo accounts, etc. will be zero.

Since the data file does not keep a record of individual transactions, but rather the cumulative totals of the accounts, a facility is provided for printing out all batch information and journals entered, so as to provide an audit trail.

# 2

# Operating Notes

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Throughout the running of the program, you will find that you are guided through the various stages by "prompts"—very often the answer required from you is just a single key press e.g. "IS THIS CORRECT?"—press either «Y» or «N» for yes or no. In this case, you do not need to press the «ENTER» key. However, at other times, you may be asked for information, e.g. "ENTER AMOUNT"—at this point a flashing white cursor will appear, indicating that you are required to type in the answer, and then press the «ENTER» key, before any action can be taken by the Computer.

If **BREAK** («CAPS SHIFT» + «SPACE») is pressed, the program will halt, and can be re-started by typing "GOTO 10000", then «ENTER». The current batch being entered will be lost, but complete batches already accepted for processing should not be. Pressing **BREAK** in certain circumstances, however could cause accounts to be wrongly updated. Therefore, we strongly suggest that you check the accounts carefully, print the batch details, and save the file straight away. If in any doubt at all, run the program again and re-enter all the transactions.

The program is configured to accept a maximum of 70 transactions (payments, receipts, etc.) plus 70 journal adjustments. Transactions are entered in batches (maximum 25 per batch), with a maximum of 10 batches. When any of these limits are reached, the program will print a message upon which the user should return to the menu, print out the batch details, and save the nominal accounts on a data file. If there is more information to enter, the program can be run again.

# 3 Getting Started

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## 3.1. PRINTER CONFIGURATION

### A. 80-column Printer (using parallel or serial interface)

There being a very wide variety of printers on the market, the program cannot be expected to cope without a certain amount of 'tailoring' for the printer that you are using. By avoiding printer control commands etc., there is very little that needs to be changed apart from the following:

The character code required for the "£" sign varies from printer to printer. This code is held on the accounts data file, and can be changed to that required immediately after loading the file, whenever necessary. Again you will have to refer to the printer manual for the code for your particular printer.

### B. Sinclair ZX Printer

No special preparation required.

**Note:** Remember to connect to the computer whichever printer is being used, and switch it on, before loading a program.

## 3.2. STORAGE SYSTEMS

### A. Cassette Systems

You have been supplied with the following two program cassettes plus a demonstration cassette:

- Cashbook Accounting
- Final Accounts

To load and run either program, carry out the following procedure:

- i) Ensure that all leads are plugged in, and that the volume/tone controls on your recorder are set to about half way, or whatever levels best suit your system.
- ii) Place the program cassette in the recorder and fully rewind it.
- iii) Type **LOAD "CASHBOOK"** and press the «ENTER» key—then press the 'play' button on the tape recorder.

After about 3 minutes, the program will load. If you are loading Cashbook you will then be required to reply to the prompt "Microdrive (Y/N)?" , if you are loading the program off tape regardless of whether you have a microdrive press «N» otherwise press «Y» followed by «ENTER» (please note that the tape should be paused at this moment and then started again after you reply to the prompt).

If you have difficulty loading the program try adjusting the volume/tone controls.

## **B. Microdrive Storage**

Throughout the manual references to cassette are made, such as press play, these should be ignored in the case of microdrive operations. If you wish to transfer the programs to microdrive refer to page 23.

### **3.3. LOADING DATA FILES**

After loading the program, our copyright notice will be displayed—press any key to continue. Now you are asked for the date—enter up to 9 characters, then press «ENTER».

Next you are asked whether you have a file to load—press «Y» or «N» for yes or no. The only time that you do not have a file to load is when you wish to start a completely new set of accounts. For the configuration required for a new file of accounts refer to the last part of this section.

To load a file, follow the following procedure:

- i) Press either «C» or «M» when asked for the type of file you wish to load. «M» should be chosen if you are loading a microdrive file, «C» is for a cassette file.
- ii) After selecting the type of data file you are asked to give the file name, to a maximum of 9 characters. To load the demonstration file supplied, use the name DEMO1 (note that this is in uppercase), otherwise the name of the file is whatever you called it when it was last saved, using option 8 from the main menu of the program.
- iii) After loading, the current character code that will be used in order to print the "£" sign on the printer is shown. If this is correct, just press «ENTER»—if it is correct, type in the new value and press «ENTER». To find which code you require, refer to your printer manual.

If a data file has been loaded, you will then be asked if you wish to re-configure the program for VAT purposes.

This will be necessary if:

- a) Your own VAT structure has changed, or
- b) New rates of VAT have been introduced by the Government.

If you answer no, the program will continue to the main menu, with the same VAT memo accounts as before.

If you answer yes, the program will ask for various information concerning VAT rates (see 3.4 below).

If no data file has been loaded, then the VAT configuration procedure is mandatory.

If you wish to clear VAT memo accounts down to zero, this can be done using the Journal Option (No. 5).

### 3.4. VAT CONFIGURATION

iv) If you have not loaded a file you will be asked the following questions:

—How many rates of VAT are applicable?

You are given the following choice of answers:

∅ = You are not VAT registered.

1 = You only have zero rated inputs and outputs.

2 = You have standard rate inputs and outputs only or a mixture of zero rated and standard rated inputs and outputs.

3 = Provides for a multi-rated VAT system of up to 3 rates including zero rate.

If there is a change in your VAT rate structure, you may re-configure the program after loading your data file as described at the end of Section 3.3 of this manual.

—Are you extracting output VAT at point of sale?

No = The program will prompt you to analyse your gross purchases for resale between the various VAT rates in order that the memorandum VAT accounts can store this data to enable those users on Retailer Special Schemes to calculate their output tax on the basis of their taxable inputs.

Yes = There will be no prompt to analyse your gross purchases for resale.

### **3.5. DATA PREPARATION**

We strongly advise that prior to processing data you organise your data into manageable batches and use batch labels which are a permanently retained record showing the following information:

- Processing date
- Batch number
- Control total
- Number of transactions

Always compare the batch label information with batch output data produced by the computer at the end of each run.

**N.B.** When batching your data, you must be prepared to input **NET** sales and purchases i.e. after manually adjusting for any sales refunds or purchase credits.

# 4 The Main Menu

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The main menu for the Cashbook program consists of a total of 9 options. Each option is briefly described with the number to press for that routine at the left. The options are as follows:

## 4.0. OPTION 0—EXIT PROGRAM

If you have made any journal or transactions entries that you wish to keep on the file, it is essential that before using this routine, you use option 8 of the menu (Store Data) to save the newly updated accounts on to tape or microdrive, and option 9 (Print Batch details).

Having selected this routine, you will be asked to confirm the above. If you type «N» then you will be returned to the main menu. On typing «Y» you will be asked "Please confirm to exit (Y/N)".

The program can be restarted by typing "GOTO 1000", then «ENTER» (see Operating Notes).

## 4.1. OPTION 1—CASH RECEIPTS

The program will ask for a batch total, and then the number of transactions in the batch. Each batch may contain up to 25 transactions, each of which may be analysed into five accounts of your choice. The routine is similar to that used for cash payments (4.2). If a code which is inappropriate for cash receipts is entered, it will be rejected.

## 4.2. OPTION 2—CASH PAYMENTS

The cash payments option from the main menu will display a sub-menu of three further options as follows:

### 1. Purchases for resale.

A maximum of 25 transactions may be entered in one batch and each transaction may be analysed over five accounts as follows:

Purchases 1-4, Input VAT

A series of prompts will appear as follows:

- 1) Enter batch total (enter "Ø" if you wish to return to the main menu).
- 2) If you elected not to analyse your output VAT at point of sale on setting up the program, you will be asked to analyse your gross purchases over the various rates of VAT applicable, and the program will check that the analysis totals agree to the batch total.

N.B. These amounts will be stored in memorandum accounts and if you do not wish to use the memorandum accounts for VAT purposes, enter the batch total when asked for and again for "GROSS—at ZERO VAT", to allow the program to proceed.

- 3) You will then be asked how many transactions there are in your batch (up to a maximum of 25). (Again enter "Ø" if you wish to return to the main menu.)
- 4) For each transaction enter the gross amount and then analyse according to the table displayed.
- 5) The program will not allow you to proceed to the next transaction until the analysis total agrees with the gross amount.

If the amounts do not agree, the message "TOTAL INCORRECT" will appear and you will be returned to the gross amount prompt which you may then amend as necessary.

- 6) After inputting all your transactions, the program will compare the transaction total with the batch control total.

If the total agree, you have the option either to process or delete the data by pressing either «Y» or «N» in answer to the prompt "confirm to update data". Updating the accounts may take a few seconds.

If the totals do not agree the message "BATCH TOTAL INCORRECT" will be screened with a summary of the transactions and totals so far entered. Now enter the transaction number you wish to correct (or enter Ø if you wish to delete the batch). You will then be returned to that transaction for amendment of the figures and the procedure will continue until the transaction totals agree to the batch control total.

## 2. Other expenses

Use this option for any items of cash expenditure other than purchases for resale, including banking of cash received.

The following prompts will appear:

- 1) Enter batch total (enter "∅" if you wish to return to the main menu).
- 2) Enter the number of transactions in the batch (up to a maximum of 25).
- 3) For each transaction enter the gross amount and you then have the facility to analyse the amount over a maximum of 5 accounts of your choice.

Enter the account number and the account name will be screened to confirm that you have chosen the appropriate nominal code. If the code that you enter is either invalid or inappropriate for a cash payment, it will be rejected.

When you have finished entering your transactions, the same procedure will apply as outlined in the purchases for resale option to ensure that the transaction total agrees with the batch total.

### **3. Menu (any other key)**

#### **4.3. OPTION 3—BANK RECEIPTS**

This option will screen the prompt "BANK ACCOUNT 1, 2 or 3?"—just nominate to which account the receipt is to be posted.

From then on, the procedure is exactly the same as for cash receipts.

#### **4.4. OPTION 4—BANK PAYMENTS**

This option will display the following sub-menu:

- 1—Purchases for resale
- 2—Other expenses
- 3—Menu (any other key)

These routines are exactly the same as the cash payments, purchases for resale, other expenses routines, with the exception that you are required to nominate the bank account from which the payments are made (enter "∅" to return to menu).

The "other expenses" routine should be used to record the withdrawal of cash from the bank to finance cash expenditure.

## 4.5. OPTION 5—JOURNAL

The following sub-menu is displayed:

### 1. Set up/Amend Nominal Accounts

This allows you to input your opening trial balance which will be obtained from your last balance sheet, or to put through adjustments to the nominal accounts. When using the journal feature, it is essential to observe the principles of double entry in order to maintain the accounts in balance.

First of all, enter the account number, and the name of that account is displayed, together with the present balance. Now enter the amount, and whether it is a credit or a debit. The final balance will then be displayed, and you are asked to confirm whether the entry is correct. If you answer yes, the program will repeat for another journal entry—if this is not required, press « $\emptyset$ » or «ENTER» and you will be directed back to the journal sub-menu. If you answer no, the item is cancelled, and you can then re-enter the journal.

(N.B. For the accounts to remain balance, every debit entry must have a corresponding credit entry, and vice versa).

The journal facility is particularly useful for entering the closing adjustments to produce the final account, e.g.

- i) Debtors and prepayments
- ii) Creditors and accruals
- iii) Closing stock and work-in-progress
- iv) Depreciation
- v) Disposals of Fixed Assets
- vi) Hire purchase adjustments

Note: No debtor or creditor needs to be entered for VAT as the final accounts program will automatically calculate this from the original input data.

### 2. Update Memo Accounts

The memorandum accounts do not form part of the trial balance or the final accounts, but are purely available to store information to enable you to complete your VAT returns. Since these accounts are cumulative, you are advised to clear them down to zero at the end of each quarter, using this procedure.

A sub-menu will be displayed, showing the memorandum accounts applicable to your VAT configuration. Enter the number for the account that you wish to adjust, then the amount, and whether it is a credit or debit, and then confirm whether the entry is correct.

### **3. Menu (any other key)**

When this option is chosen, the program will automatically check that you have left the nominal accounts in balance. If they are in balance you will be returned to the main menu. If not a flashing warning message will appear, giving the amount by which the nominal accounts are out of balance. If you still wish to exit from the routine, you may do so, in order to trace your error by any of the following routines:

- i) Print batch details which will give all your journal entries.
- ii) Print the trial balance.
- iii) List and check the nominal accounts.

You may continue running the program without correcting the journal error if you wish, but every time you use the journal routine, the same warning message will be screened until the error is corrected.

If you print the final accounts without correcting the error, the program will assume that it is a rounding error, and allocate it to sundry expenses.

## **4.6. OPTION 6—LIST/PRINT ACCOUNTS**

After selection of this option, a further sub-menu of 4 options is displayed as follows:

### **Option 1—List Nominal Accounts**

All nominal accounts are listed, a screenful at a time, with the current balance followed by a C for credit or a D for debit given. To move on to the next 'page' of accounts, press any key.

### **Option 2—List Memo Accounts**

The memo accounts appropriate to your circumstances are listed on the screen, press any key to continue.

### **Option 3—Print Trial Balance**

This prints (on the printer) all accounts whose balance is not zero, and the totals of credits and debits are given. You will be asked to

specify Z (ZX Printer) or O (other 80 column printer)—if you enter any other key, you will be returned to the menu.

Option 4—Menu (any other key)

#### **4.7. OPTION 7—VAT SUMMARY**

This routine lists all three VAT control accounts (VAT input, VAT output, and VAT refunds/payments), and the relevant memo accounts.

The accounts headed VAT Nominal accounts form part of the Trial Balance, and when the Final Accounts program is run, it will combine all three accounts to arrive at the year-end debtor or creditor. The following briefly summarises the function of each account:

#### **NOMINAL ACCOUNTS**

##### **VAT INPUT (I/P) TAX ACCOUNT**

This account contains the VAT element of all payment transactions whether they originate from the cash or bank accounts. The total in this account will enable you to complete box 5 of your periodic VAT return, **BUT** note that this is a cumulative total and you need, therefore, to deduct from the balance in the account the amounts already included on your previous VAT returns submitted during the period under review. You are, therefore, urged to keep copies of all your VAT returns.

##### **VAT OUTPUT (O/P) TAX ACCOUNT**

This account contains the VAT element of all sales whether from cash sales or direct credits to a bank account. The source of this data will come either from your own analysis on the cash and bank receipts routines or, if you have configured so that you do not extract VAT at the point of sale, from a journal adjustment that you will be required to make.

As noted above, **REMEMBER**, that the total in this account from which you will complete box 1 of your VAT return, is cumulative and you need, therefore, to deduct from the balance in the account the amounts already included on previous VAT returns made during the period under review.

## VAT REFUNDS AND PAYMENTS

This account will be used for all payments made to, or refunds received from H.M. Customs and Excise. Therefore, ensure that such items are posted to this account (no. 82) and not to VAT input or output tax accounts.

## MEMO ACCOUNTS

Depending on your VAT configuration the following memo accounts will be displayed:

(1) Configured to analyse output tax at point of sale.

**Total sales:** The total in this account records the total sales net of VAT and will be used to complete box 9 of your VAT return. The program is set up to use the **ALTERNATIVE BASIS** for completion of box 9 of the VAT return i.e. all your net business outputs will be declared. Everything posted to the following nominal accounts will automatically be posted to this memorandum account

- Sales accounts
- Proceeds from sales of fixed assets
- Sundry income and deposit interest

Remember that own consumption should be declared for VAT purposes and both the VAT nominal and memo accounts should be adjusted through the journal routine for this item.

**Net payments:** The total in this account records the total payments net of VAT and will be used to complete box 10 of your VAT return. Again, the **ALTERNATIVE BASIS** for completion of box 10 is used i.e. all your net business inputs will be declared which includes purchases for resale and the appropriate business expense accounts.

Original transactions entered via the journal routine e.g. use of home as office will require you to update the VAT accounts manually through the journal.

(2) Configures NOT to analyse output tax at point of sale.

**Total sales:** Unlike the previous option, this account will record the **GROSS** sales i.e. inclusive of output tax and therefore, you must at the end of each VAT period complete the following routine:

- 1—Calculate your output tax and transfer this via the journal routine to the credit of the VAT output account (no. 81) and to the debit of the relevant sales account (nos 1-4).

2—Debit the VAT total sales memorandum account in order that this shows the net sales as required for box 9 of the VAT return.

For the retailers using the VAT special schemes, this section of the program contains the gross purchases for resale memo accounts at the different VAT rates to enable you to calculate output tax from your taxable inputs.

**Net Payments:** This account contains the same information as described earlier in the section of the manual dealing with the option to analyse VAT at the point of sale.

**VAT inputs at different rates:** As noted above, these accounts contain the gross purchases for resale at the various rates to enable you to calculate output tax on the basis of taxable inputs.

For the sake of convenience, we would recommend that your VAT quarters are consistent with your accounts year—consult your VAT office for the procedure to be adopted.

#### **4.8. OPTION 8—STORE DATA**

This routine is essential to ensure that any changes to the nominal accounts or the memo accounts are recorded so that they may be loaded by the program next time it is run. The procedure is as follows:

- i) Press «C» or «M» for the type of data file.
- ii) Enter the file name (up to 9 characters) and press ENTER. In this case you may use any file name you wish, but it is suggested that you use the same file name each time, to avoid confusion.
- iii) Place a blank tape in the recorder, press record and play, and then press any key.
- iv) The message "FILE SAVED "" will show on the screen, and then the question "VERIFY? (Y/N)". If you wish to VERIFY, rewind the tape, press «Y», then PLAY, and any key.
- v) The message "OK—VERIFIED" should show. If the file has failed to SAVE properly, press BREAK, "GOTO 10000", «ENTER» and repeat the STORE DATA procedure.

#### **4.9. OPTION 9—PRINT BATCH DETAILS**

On selecting this option, you will be asked to specify «Z» (ZX Printer) or «O» (other 80 column printer). Any other key will return you direct to the menu. After selecting the appropriate printer, all receipts and payments batch details will be printed, followed by journal batch details.

# 5 The Nominal Accounts

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The complete list of nominal accounts follows, divided into the Profit/Loss, and Balance Sheet accounts.

## PROFIT/LOSS

- 1: Sales (1)
- 2: Sales (2)
- 3: Sales (3)
- 4: Sales (4)
- 5: Own Consumption
- 6: Opening Stock & Wip
- 7: Purchases (1)
- 8: Purchases (2)
- 9: Purchases (3)
- 10: Purchases (4)
- 12: Closing Stock & Wip
- 13: Sundry Income
- 14: Deposit Interest
- 16: Wages
- 17: Sub-contract
- 18: Wife's Wages
- 19: Rent
- 20: Rates
- 21: Insurance
- 22: Electricity
- 23: Gas
- 24: Repairs
- 25: Equipment Hire
- 26: Use of home as office
- 27: Motor Expenses
- 28: Travelling Expenses
- 29: Carriage
- 30: Telephone
- 31: Postage & Stationery
- 32: Advertising
- 33: Accountancy

## BALANCE SHEET

- 50: Freehold Property
- 51: Freehold Property—Acc Depn
- 52: Leasehold Property
- 53: Leasehold Property—Acc Depn
- 54: Vehicles
- 55: Vehicles—Acc Depn
- 56: Plant & Equipment
- 57: Plant & Equipment—Acc Depn
- 58: Fixtures & Fittings
- 59: Fixtures & Fittings—Acc Depn
- 60: Goodwill
- 61: Bank (1)
- 62: Bank (2)
- 63: Bank (3)
- 64: Bank Deposit
- 65: Cash
- 66: Stock & Wip
- 67: Debtors/Prepayments
- 68: Sales Ledger
- 69: Other Current Assets
- 70: Creditors/Accruals
- 71: Purchase Ledger
- 72: Bank Loan
- 73: Other Loans (1)
- 74: Other Loans (2)
- 75: Hire Purchase (1)
- 76: Hire Purchase (2)
- 77: HP Interest Reserve (1)
- 78: HP Interest Reserve (2)
- 79: Other Liabilities

34: Legal & Professional	80: VAT Input Tax
35: Sundry Expenses	81: VAT Output Tax
36: Bank Charges	82: VAT Refunds/Payments
37: HP Interest	83: Capital Account (1)
38: Loan Interest	84: Capital Account (2)
39: Leasing	85: Capital Account (3)
40: Bad Debts	86: Capital Introduced (1)
41: Vehicles—Depn	87: Capital Introduced (2)
42: Plant & Equipment—Depn	88: Capital Introduced (3)
43: Fixtures & Fittings—Depn	89: Drawings (1)
44: Leasehold Property—Depn	90: Drawings (2)
45: Freehold Property—Depn	91: Drawings (3)
46: Sale of Fixed Assets	92: Long Term Loans (1)
	93: Long Term Loans (2)

# 6 Final Accounts

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This program must have at least one data file to be able to run for the printing of the final accounts. If you have a data file of the previous year's figures, or budget figures, which you wish to include on the accounts as comparative figures, this can be loaded as well. The procedure for setting up the program for printing is as follows:

i) Load **ACCOUNTS'** and then load the data file of the current year's figures, as described in section 3 of this manual. There will be a pause whilst the figures are rounded to the nearest pound.

ii) Answer yes or no to the prompt **"FILE OF COMPARATIVES TO LOAD?"**—if yes, then repeat the file loading procedure, with your second data file. You will then be asked to enter the **"Business Details"**:

- i) Enter the business name (up to 32 characters).
- ii) Enter the date of the accounts (e.g. "31.3.83"—up to 9 characters).
- iii) Enter the account period (e.g. "Year"—up to 9 characters).
- iv) Enter the title for the current period (e.g. "1982").
- v) Enter the title for the comparatives (e.g. "1981").

You will then be asked **"Is this correct (Y/N)"**. On pressing **«N»**, the procedure will be repeated.

You will now be presented with the main menu of the final accounts program, with the following options:

## 6.1. OPTION 1—PRINT TRIAL BALANCE

The current year's trial balance will be printed, rounded to the nearest pound. If a different arises on rounding, or there was a difference on the data file loaded, then the following message will be printed: **"N.B. Adjustment to sundry expenses due to difference on trial balance and/or rounding difference"**, followed by the amount concerned.

## **6.2. OPTION 2—PRINT TRADING ACCOUNT**

After printing the Profit and Loss account, the profit or loss must be assigned to the appropriate capital accounts—enter the amount to be posted to each account. (This must be carried out for the current year's accounts, and if appropriate, for the comparative year). This routine is necessary because some businesses are conducted as partnerships with various profit/loss sharing ratios. The routine will ask you to enter "P" or "L" for each partner according to whether the share is a profit or a loss.

## **6.3. OPTION 3—PRINT BALANCE SHEET**

This option may only be selected after printing of the trading account, as the net profit figure must be available for this routine. After the Balance Sheet has been printed, you will be asked to re-align the paper, if necessary, before the Notes to the Accounts are printed (summary of Fixed Assets and Capital Accounts).

## **6.4. OPTION 4—VAT SUMMARY**

This routine prints the 3 VAT accounts, and the balances of the relevant memorandum accounts.

## **6.5. OPTION 5—EXIT PROGRAM**

Note:

1) Although accounts can be printed using the 32-column Sinclair ZX printer, it is inevitable that account names have to be shortened in this format. The full benefit of the "Final Accounts" program will be obtained by using an 80-column printer.

2) Whenever a printing routine is selected, you will be asked to enter "Z" for ZX printer, or "O" for other (80 column printer). If you enter a different key, then you will be returned to the menu.

# 7 Conclusion

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It will be apparent both from the manual and your own experience using the program that it can be as basic or as sophisticated as you wish.

The choice is yours. Either treat the program as an ordinary cash-book recording your day-by-day cash and bank transactions, or test your accounting knowledge to the limit by producing a set of final accounts worthy of any professional!

Undoubtedly, there will be some users whose accounting knowledge is limited. We strongly advise these users to consult their professional advisor before proceeding to the final accounts program to ensure that all the appropriate adjustments have been made.

Whilst Gemini Marketing will endeavour to answer all technical queries regarding the program itself, it cannot answer individual users' book-keeping queries and, again, users are referred to their professional advisors. If you do need our assistance, please be prepared to quote the reference number on the front page of your user manual.

Finally, we wish you every success with your business and trust that our program will take the drudgery out of your book-keeping, and that you will from now on actually enjoy keeping your records the modern way!

# GEMINI 48K SPECTRUM PROGRAMS

## MICRODRIVE COMPATIBLE VERSIONS

For use with: Database, Stock Control, Cashbook, Final Accounts, Home Accounts, Easiledger, Graph Plot and Mailist.

### TRANSFERRING THE PROGRAM FROM CASSETTE TO MICRODRIVE

1. Insert Cassette, enter LOAD""
2. When the program loads, allow it to run to the Main Menu. On Cashbook and Final Accounts allow it to run to the second title page only and NOT the Main Menu or too many variables will be created.
3. Press BREAK
4. Insert the microdrive cartridge and enter the line applicable to your program:

```
SAVE * "m";1;"DATABASE" LINE 9010
SAVE * "m";1;"ics" LINE 9990
SAVE * "m";1;"CASHBOOK" LINE 1
SAVE * "m";1;"ACCOUNTS" LINE 1
SAVE * "m";1;"HOMACC" LINE 9201
SAVE * "m";1;"Commacc" LINE 9990
SAVE * "m";1;"graph" LINE 1
SAVE * "m";1;"MAILIST" LINE 9210
```

A message will be screened 'OK, 0:1' when the transfer has taken place.

5. To verify the program enter VERIFY \* "m";1;"filename". The filename is the one applicable to your program, e.g. HOMACC, ACCOUNTS, etc. as above. Should the program not verify, an error message 'Verification has failed' will appear. The program will then have to be erased and resaved. The procedure to erase is the entry of ERASE "m";1;"filename". The program may then be saved using 4 above.
6. Should you obtain an error message 'writing to a 'read' file', this would mean that a file already exists under the name which you are currently attempting to enter. It is, therefore, necessary for you to erase the old file, change the new file name or use a new microdrive cartridge.

### NOTES ON MICRODRIVE OPERATION

1. Loading programs: Enter for example LOAD \* "m";1;"filename".
2. User data files: These can be transferred from cassette to microdrive cartridge, and vice versa, from within the program.
3. Restarting programs: If a program halts, e.g. due to 'microdrive not present' or a verify procedure failed, enter the relevant GOTO number, as follows, to return to the menu without losing data.

```
DATABASE — GOTO 10
STOCK CONTROL — GOTO 10
CASHBOOK — GOTO 1000
FINAL ACCOUNTS — GOTO 1000
HOME ACCOUNTS — GOTO 10
EASILEDGER — GOTO 10
GRAPH PLOT — GOTO 50
MAILIST — GOTO 10
```

4. Microdrive and parallel interfaces: Some independently produced parallel interfaces are not compatible with the microdrive, so check first before you purchase such an interface.

**NOTE:** Certain words such as LOAD and SAVE are key words and should not be typed in letter for letter.

# GRAPH PLOT

## SYSTEM PROFILE

Business Graphics is a comprehensive graph plotting package designed specifically for the 48K Sinclair Spectrum. Making full use of the outstanding colour and high resolution graphics facilities of this machine it provides the user with the capability to clearly display numerical data in a variety of graphical representations. It also provides an analysis of the data to give totals, averages, percentages etc.

## FEATURES

HISTOGRAMS  
LINE CHARTS  
PIE CHARTS  
X/Y POINT PLOTS  
X/Y LINE PLOTS  
FUNCTIONS

Accepts data from other systems

Sends data to other systems

Full print facilities for both graphs and data

Title and axis annotation

Multiple plots without re-inputting data

Explode feature on Pie Charts

Automatic scaling of axis with user override

Re-locatable origin

Automatic annotation of 12 month plots

Automatic % calculation on Histograms and Pie Charts

Cumulative plotting

## HISTOGRAMS AND LINE GRAPHS

These graphs are used to represent single dimensional data such as monthly sales, country populations, etc., in an item by item format. The package allows the user to annotate the graph with a title, a horizontal (X axis) description, and a vertical (Y axis) description. The data may come from either the keyboard or a cassette tape from another system, or a graph may be drawn from data previously entered for another single dimensional graph. The graph is drawn using all, or a subset of the data, and is automatically scaled to make full use of the screen. The data may be

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plotted as individual amounts or as a cumulative sum. The scaling and presentation of the graph may be changed by the user, by changing the origin and/or the lengths of the X and Y axis.

Once the graph has been displayed on the screen, it may be copied (one or more times) to a printer. An analysis of the graph can be displayed/printed as can a full breakdown of the data, together with totals, averages, percentages and cumulative percentages. If required, the data can be output to cassette tape.

The package will cope with up to 2500 data items, but the screen definition limits display in this format to a subset of 192.

## **PIE CHARTS**

The Pie Chart is used to represent single dimensional data in a circular format. Each segment of the circle representing the magnitude of each item of data, as a percentage of the whole. The user has the ability to annotate the graph with a title across the top, and to indicate whether any of the sectors are to be set out (exploded) from the main body of the graph.

As before, the user may use data from keyboard, cassette tape, or previous plots, and may select a subset. The number of items plotted are limited to a maximum of 18 for the sake of clarity. The percentage make up of the pie is shown alongside the graph. The user has the ability to print both the graph and data, and may save the data to cassette tape if required.

## **X/Y LINE AND POINT PLOTS**

The X/Y plots are intended for use with two dimensional data, where the X value is represented by distance along the horizontal axis, and the Y value by the distance along the vertical axis. The Point plot produces a scatter diagram, whilst the Line plot joins the points together in the sequence in which the pairs of values occur. The graph may be annotated, and the data provided in the same way as for the histogram described above, and similarly the scale and presentation can be changed.

Once drawn the graph, graph analysis, and the data can be printed, and the data may be saved to cassette tape. In the case of X/Y plots, the data analysis shows data, totals and averages. Up to 2500 pairs of values may be plotted.

## **FUNCTIONS**

Any function of the form  $y = f(x)$  may be plotted using this option, (e.g.  $y = \sin(2x)/4 + 3$ ). The user describes the title for the graph and then completes the function  $y = \dots$  subsequently supplying the minimum and maximum values of X must be used. Care must be taken that the function can be evaluated within these limits otherwise the program will fail. (No square roots of negative numbers, etc.). The system calculates 65 intermediary values of Y for X between the limits given, and once evaluated

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the procedures for scaling, presentation, plotting and printing are the same as for X/Y plots. The data is not available for output to tape.

## **OPERATING INSTRUCTIONS**

Load program using **LOAD "graph"**

Menu will appear

Select type of graph required or **7** to end

### **TITLE FOR GRAPH?**

Enter the title you require to be printed at the top of the graph. It will be automatically centred.

### **DESCRIBE X AXIS?**

Enter the description that you require to be printed beneath the X (horizontal) axis. It will be automatically centred.

A description of **months1** will provide January-December annotation for use with 12 items of data. A description of **months4** will provide April-March annotation.

### **DESCRIBE Y AXIS?**

Enter the description that you require to be printed to the left of the Y (vertical) axis. It will be automatically centred.

### **USE SAME DATA?**

Reply **Y** if you want to re-plot using the same data as on the preceding plot. You may plot a different type of graph with the same data.

Reply **N** if you want to use new data.

### **DATA FROM TAPE?**

Reply **Y** if you wish to supply data on tape from another system. The data must have been saved using **SAVE "name" DATA a()** in another program. Use an array:

**DIM a(n)** for Histogram or Pie data with n items

**DIM a(2,n)** for Point or Line plot data

Reply **N** if you wish to enter data from the keyboard whereupon you will be prompted to supply the data.

### **NO. OF DATA ITEMS?**

Reply stating the number of data items that you wish to input.

### **START FROM ITEM?**

This option is available when it is possible to select a subset of data for plotting. Enter the item number you wish to start from.

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## END AN ITEM?

Enter item number of last data that you want plotted.

Note that if you have the Gemini Cash Book, you can load in figures from the data files created by this program, for either a histogram or a pie chart plot. All you need to type in is the number of items that you wish to load, and the name of the data file.

## CUMULATIVE Y/N?

This option is available for Options 1 and 2 only. Reply **Y** if you require a cumulative graph, **N** if not.

Once the data has been provided the package will automatically calculate the X and Y limits to determine the best scale to use to display the data on the screen. It also assumes certain values for the origin. (The point where the X and Y axis meet.) You are given the chance to alter these values so that you can change both the scale and the origin of the graph being plotted. The default values are displayed on a menu and you can select Options 1-6 to change values or 7 to end changes. When changing values, Maximum limits can only be increased, Minimum limits can only be decreased but the origin can be changed to any value.

The scaling of the graph will be re-calculated after any of the above have been changed. When the graph is drawn the axes are tic'd to denote scale. The value represented by each tic interval is displayed after the graph.

## COPY TO PRINTER?

After the graph has been displayed on the screen reply **Y** to this prompt if you wish to obtain a copy on your printer. Reply **N** to continue.

## LIST DATA?

Reply **Y** if you wish to display and print the data and the values of the parameters such as maximum, minimum and tic interval. Percentages are provided for Histogram and Pie plot data. Reply **N** to continue.

## SAVE DATA?

Reply **Y** if you wish to save the data array on to cassette tape. Reply **N** to continue. If data is to be saved you are given a chance to name the data file, to save it and to verify it.

## LIMITATIONS

The size of your machine and the screen dictates how much data you can plot.

Title line	32 characters	Pie Chart	18 items
X annotation	24 characters	Line Graph	2500 pairs
Y annotation	20 characters	Point Plot	2500 pairs
Histogram	192 items		

# EASILEDGER

## 1. INTRODUCTION

The Gemini Easiledger program for the Sinclair Spectrum will run with any memory size available, as there is a built-in mechanism within the program for automatically assigning the numbers of transactions that may be held according to the free memory. Having said that, the 16K machine can only hold about 5 transactions at any one time (due largely to memory taken up by the high-resolution memory map, which reduces the memory available to about 9K before loading the program). It is therefore strongly recommended that a memory upgrade is fitted to the 16K Spectrum—allowing about 800 transactions for 48K, up to a maximum of 999 transactions for any size memory.

The program features a wide range of ledger facilities, and its main purpose is to allow the user to keep a tight rein on the cash flow aspect of his business. VAT routines are included for listing or printing VAT input/output summaries.

The program and data are all stored together—on loading the program it will automatically run with the data current when the file was last saved using option W from the main menu (see section 4.12 of this manual).

## 2. MICRODRIVE STORAGE - See Page 23

## 3. OPERATING PROCEDURE

Having switched on your Spectrum, ensuring that all plugs are properly connected, type **LOAD** "Commacc" and press **PLAY** on the cassette recorder. The program should load in about 20 seconds or so, depending on the amount of data held on the file. The program supplied has a demonstration file of 5 transactions.

## 4. THE MAIN MENU

After loading, the program will run, clearing the screen and displaying a table of options for you to choose from. Also displayed is the number of

transactions on file, and the number remaining free. To select a particular option, press the key shown at the left, alongside the required function.

#### **4.1 OPTION A—ADD TRANSACTIONS**

The transaction menu now displayed allows the entry of seven different transaction types—they are as follows:

1) **Credit Sales**

Use this transaction for goods supplied to customers who do not pay on cash terms.

2) **Payments for Credit Sales**

This is for entering receipts from customers who have been allocated on account in (1). When an account is settled, the original credit sale transaction is converted to a Type 3 (cash sale). If a transaction Type 2 is entered and the account name and invoice numbers do not tie up with any existing transactions, an error message will be screened, and the transaction will be ignored by the program.

3) **Cash Sales**

For non-account customers etc.

4) **Credit Purchases**

For entering purchases from suppliers with whom you operate on credit terms.

5) **Cheque Payments for Credit Purchases**

Enter payments by cheque to credit suppliers who have been allocated an account in (4). On settlement, the original transaction is converted to a Type 6 (cheque payments—other). If the account name and order numbers do not tie up, an error message will be screened, and the transaction is ignored.

6) **Cheque Payments—Other**

Self-explanatory—remember to include any bank standing order payments or other regular non-cheque debits to the account.

7) **Bank Deposits**

Enter all credits to the bank account in this category.

Upon selection of any of the above, you will be asked for the date (4 numbers, e.g. **0406** for the 4th June), the account name (up to 8 characters), the amount (this can be entered in any sterling decimal format, e.g. **5.20**, **5.2**, **4.4** etc.—up to a maximum of £66,000—note that no pound sign is necessary). If you enter an amount more than £66,000, the cursor will return to the point on the screen for re-entry of the figure. You will also be asked for the invoice number, the order number, the VAT rate (in percent) and the cheque number where appropriate. The invoice/order/cheque numbers may be up to 6 of any characters.

## **4.2 OPTION B—BANK SUMMARY**

This option allows you to view all the bank transactions for the file with the final balance of the account, either in black if in credit or in red if overdrawn.

## **4.3 OPTION D—DELETE A TRANSACTION**

This option may be used to completely remove a transaction from the file. If you enter an invalid transaction number, you will be returned straight to the main menu with no action taken, otherwise you are asked to confirm to delete (press **Y** or **N** for yes or no)—after deleting, all transactions with a number greater than the deleted transaction are 'shuffled' down one place, and their numbers will therefore change.

## **4.4 OPTION E—EXIT PROGRAM**

On pressing **E** for this option, you are asked to confirm (**Y/N**)—if you still exit by mistake, type **GOTO 500** followed by the **ENTER** key to return to the main menu with all the transaction information intact.

## **4.5 OPTION F—FINANCIAL SUMMARY**

This lists the totals for sales, receipts, purchases and payments for all transactions on the file.

## **4.6 OPTION J—LIST JOURNAL**

This screens all the transactions on the file—the information displayed for each transaction is as follows:

- i) Transaction number.
- ii) Transaction type (T)—refer to Section 4.1 of the manual for details of the transaction types (1-7).
- iii) Account name (A/C)—only the first five characters are displayed.
- iv) Order/Invoice number (Or/Inv).

## **4.7 OPTION N—NEW FILE**

After selecting this option, press **Y** or **N** to the prompt "Are you sure?" If you press **Y**, all transactions are deleted, so that a fresh file may be started. After starting a new file, the only options that may be selected from the main menu are Add Transactions or Exit Program.

## **4.8 OPTION P—ACCOUNTS PAYABLE**

This screens all Type 4 transactions (Credit purchases).

## **4.9 OPTION R—ACCOUNTS RECEIVABLE**

This screens all Type 1 transactions (Credit Sales).

#### 4.10 OPTION S—ACCOUNT SEARCH

Enter the account name that you wish to look for—note that the full name need not be entered—just sufficient characters to identify it. If you therefore entered **G** for the account name, all transactions for Gemini, Grant, Granny etc. will be listed.

#### 4.11 OPTION V—VAT SUMMARY

After selecting this option, press either **I** or **O** for input/output summaries.

#### 4.12 OPTION W—WRITE FILE

This saves the complete program with all current transaction data onto tape. While saving the file, it is a good idea to remove just the EAR plug from the Spectrum—this improves the reliability. Next time when you wish to update or add to the file, proceed as for Section 3, with the newly saved file in the cassette recorder for loading.

## 5. PRINTED SUMMARIES

If you have the ZX printer, you may obtain a copy of the listings for options **J** (list Journal) and **V** (VAT Summary) on the printer. Press the **red symbol shift** key and the **P** key simultaneously from the main menu, and a flashing 'P' will appear in the top right of the screen. Now proceed as before—selecting **J** or **V** will give you a printed listing. To cancel this function press **symbol shift** and **P** again from the main menu.

## 6. PAGING

When an option is selected which entails the screening of information row by row (options B, J, P, R, S and V), if there are more transactions to be listed than can be fitted onto the screen in one go, they will be listed a 'page' at a time, with the message "ANY KEY TO CONTINUE" displayed at the bottom of the screen. When the final page is displayed, the message "ANY KEY FOR MAIN MENU" is displayed—pressing any key will return you straight to the menu.

# STOCK CONTROL

## 1. INTRODUCTION

The Gemini program ICS (Inventory Control System) for the Sinclair Spectrum will run in any amount of memory from 16K upwards. A routine within the program automatically adjusts the numbers of stock records that may be held according to the free memory available. This means that you may hold about 20 records for the 16K Spectrum, and 500 for the 48K Spectrum. For machines with more RAM than 48K, the maximum number of records is 992.

The program features a wide range of functions for adding to, amending and displaying the stock information, and printer routines are included for the printing of stock records or summaries. All stock records are accessed by a unique reference code assigned by the user as the stock information is entered.

Program and data are stored together—on loading the program it will automatically run with the data current when the file was last saved using option W from the main menu (see Section 4.10) of this manual).

## 2. MICRODRIVE STORAGE - See Page 23

## 3. OPERATING PROCEDURE

Having switched on your Spectrum ensure that all plugs are properly connected and type **LOAD " "** or **LOAD "ICS"**. The program should load in about 20 seconds, depending on the amount of data held on the file. The program supplied has a small demonstration file of stock records.

## 4. THE MAIN MENU

After loading, the program will run, clearing the screen and displaying a table of options to choose from. Also displayed is the number of stock records on file, and the number remaining free. To select a particular option, press the key shown at the left of the required function.

---

#### 4.1 OPTION A—ADD STOCK ITEMS

The number of the stock item being entered is displayed at the top of the screen, and you may now enter the 9 items of information for the record.

- i) Reference code (6 characters).
- ii) Description (15 characters).
- iii) Supplier (12 characters).
- iv) Unit quantity (8 characters) e.g. Dozen, Gross etc.
- v) Units in stock (up to 99,000).
- vi) Cost price per unit (up to £99,000)—note that no pound sign is necessary.
- vii) Sale price per unit (as for cost price).
- viii) Minimum stock level.
- ix) Re-order quantity.

To exit from this routine, when asked for the reference, type \* (asterisk) and press **ENTER**.

#### 4.2 OPTION C—CHANGE A STOCK ITEM

Enter the reference code of the stock item required, and the record will be displayed. You may now change a particular stock detail line by typing in the new information followed by **ENTER**. To keep a line as it is, just press **ENTER** on its own.

#### 4.3 OPTION D—DELETE A STOCK ITEM

Enter the reference code of the stock item to be deleted, and the record will be displayed. Now press either **Y** or **N** for Yes or No to confirm to delete the record. Pressing **N** will return the program to the main menu, with no action taken. Pressing **Y** will cause the record to be deleted. All stock items with record numbers greater than the one deleted are 'shuffled' down one place, which means that their record numbers will change.

#### 4.4 OPTION E—EXIT PROGRAM

After selecting this option, press **Y** to confirm that you wish to exit, or **N** to return to the main menu.

#### 4.5 OPTION F—FINANCIAL SUMMARY

This routine gives the total cost value of stock (cost price multiplied by units in stock), the total sale value of stock (sale price multiplied by units in stock), the overall gross profit margin based on the first two figures, and the cost of new purchases (cost price multiplied by re-order quantity for all stock items whose units in stock are less than the minimum stock level).

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#### 4.6 OPTION L—LIST STOCK RECORDS

Selecting this option causes a further sub-menu of the following options to be displayed:

- i) **Browse Records**  
Enter the stock reference number of the record that you wish to be displayed (or just press **ENTER** if you wish to see the first record on the file). After screening the record, press either **Q** to move backwards through the file, **W** to move forwards through the file, or **\*** to exit from this routine.
- ii) **Screen a Single Record**  
Display just one record as given by the reference code entered.
- iii) **Screen Stock Summary**  
This gives the reference code, the description, and units in stock for every record on the file, 16 records at a time. To move on to the next page of records, press any key, until the message "ANY KEY FOR MENU" appears, in which case after pressing a key, you will be returned to the list menu.
- iv) **Print Single Record**  
As for (ii) but prints the record details on the ZX printer.
- v) **Print Stock Summary**  
As for (iii) but prints the complete summary on the ZX printer.
- vi) **Exit to Main Menu**

#### 4.7 OPTION N—NEW FILE

This routine initialises all information in the file—i.e. deletes all the current stock records. Because of the possible drastic consequences, first of all you are asked to confirm the initialisation—press **Y** or **N** for Yes or No. When there are no stock records on file, the only options that may be selected from the main menu are A (Add Records) and E (Exit Program).

#### 4.8 OPTION R—STOCK REMOVED/RECEIVED

After selecting this routine, press either **E** for stock entered, or **R** for stock removed. Then enter the appropriate reference code for the stock item required, then the amount to be entered/removed. Note that negative stock quantities are allowed.

#### 4.9 OPTION U—UNDERSTOCKED ITEMS

While searching through the entire data file, any stock items whose stock level is less than their minimum stock level will be displayed. To move on to the next understocked item, press any key, or press the **\*** key to quit the search, and return to the main menu.

---

#### **4.10 OPTION W—WRITE FILE ON TAPE**

After selecting this option, set up the cassette player for recording and press any key. While recording, it is advisable to remove the EAR plug from the Spectrum to improve reliability. The program and all stock record details are saved on to tape.

#### **4.11 OPTION Z—ZERO STOCK QUANTITIES**

The Zero stock quantity facility is provided to enable you at any time to reduce your stock holding on the computer to zero throughout the whole file. The advantage with this system may be apparent for example at the end of a particular period, say quarterly stock take, when a physical stock check may indicate the necessity for a new inventory. With this facility whole records do not have to be regenerated. Use with caution!

### **5. REFERENCE CODES**

All records are accessed via a unique reference code assigned by you. This code may be from 1 to 6 characters of any type. When you are asked to enter the reference code for the record required, you may either press just the **ENTER** key for the first record on the file, or type in enough characters to uniquely identify the reference for the record that you require.

# MAILIST

## 1. INTRODUCTION

The Gemini Selective Mailist program for the Sinclair Spectrum will run in any amount of memory from 16K upwards, as there is an automatic routine which allocates the numbers of records that may be held according to the free memory. This means that you have about 10, 200 and 300 records in a 16K, 48K and 64K Spectrum respectively. The low number for 16K is due largely to the fact that only 9K of memory is actually available before loading the program. Please note that whatever the memory on your Spectrum when you first run the program supplied, there will only be a few records available, until you use the New File routine, which will automatically allocate the appropriate numbers.

If, at any time, you exit the program by mistake, or press the **BREAK** key, type **GOTO 500** to restore the program and data.

## 2. SYSTEM OVERVIEW

At its simplest, the Mailist program allows the storing, amending and retrieval of names and addresses, which are held as data permanently on cassette tape, and can be loaded into memory for inspection or amendment at any time. Routines are included for adding to, changing, deleting or sorting the records, and for viewing/printing them. The print routines include facilities for printing either a range of records from the file, or for consecutive selective printing, e.g. printouts of all addresses for the London area. In addition, a set of 16 searchkeys may be held for each record, which are codes assigned by you. Each searchkey is any character, and has positional significance, i.e. the character A in the first position for the field has a different meaning to the character A in any other of the 15 positions. For example, you may decide that a + or - in the first position means that the person has a good or bad credit rating, and a number for 0 to 9 in the second position stands for a code for different areas of the country etc.

## 3. MICRODRIVE STORAGE - See Page 23

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## 4. OPERATING PROCEDURE

Place the program cassette in the tape recorder, ensure that all leads are properly connected, type **LOAD** "MAILIST" and press **ENTER**. Now press the **PLAY** key, and the program will load up and run. The tape supplied has a short demonstration file of a few records.

## 5. THE MAIN MENU

On running, you will be presented with a table of 10 options, with the number of records used and the number still free for use shown. If there are no records on file, the only options that you may choose are **A**—Add records or **E**—Exit program.

### 5.1 OPTION A—ADD RECORDS

Press the key **A** from the main menu (without the shift key), and the program will automatically allocate the next number for the record to be entered, i.e. record number 1 if 0 records on the file etc. A prompt box at the bottom of the screen tells you what information to enter, and on the right the number of records still free (excluding the record currently being entered) are shown. As you type in the data, it is printed on a graphic representation of the label. To skip a line, or end a line that you have entered, press the **ENTER** key. The ten lines to enter are Name, Title, Company, Address (1), Address (2), Town/City, County, Post Code, Telephone and searchkeys. If you want information on a particular line, but do not want it eventually to be printed on the printer, type a space, then the information required (excluding telephone and searchkeys, which are not printed anyway). After entering a record, the screen is set up again to enter the next record. To exit from the routine type \* (red symbol shift key and B), then **ENTER**. It is strongly suggested if you are entering a large number of records that you regularly exit from this routine and save the file on tape for security.

### 5.2 OPTION B—BROWSE FILE

After pressing **B** from the main menu, enter the number of the first record that you wish to see, or press **ENTER** on its own for the first record on the file. The record is displayed, and you can now use the keys **Q** or **W** to move backwards or forwards through the file, or \* to exit to the main menu.

### 5.3 OPTION C—CHANGE A RECORD

Enter the number of the record that you wish to change (entering an invalid number will return you straight to the main menu)—now for each line of data, type in the complete new line, then **ENTER**, or just press **ENTER** if you wish to keep the line as it is.

---

## 5.4 OPTION D—DELETE A RECORD

Enter the record number as for Option C, and the record is displayed. Now press **Y** (for Yes) to delete the record, or **N** (for No) to keep it. Note that after deleting a record, all records following on the file will be 'shuffled' down one place, to fill the gap created.

## 5.5 OPTION E—EXIT PROGRAM

This has a safety check—before exit, the program asks you: "Are you sure?"—press **Y** or **N** for Yes or No.

## 5.6 OPTION F—FIND RECORDS

The ten fields of data as described in Section 5.1 are displayed—now select the number of the field that you require. For 1–9, enter the value you wish to search for, and the program will now search for and display all records which start with the value entered in the field specified. Be careful to ensure that you use the correct upper/lower case letters.

### EXAMPLE:

Select field 6 (Town/City), enter field value 'London' and all records with London in field 6 will be displayed. Note that you could have typed **L** to list all records with fields starting with L. If, after entering London, you find records for Londonderry listed as well, to exclude this type 'London' followed by a space for the value to search for.

For field 10 (searchkeys), the search is carried out in a slightly different way. Any spaces that you place in the searchkey field mean 'ignore what the record has in that position'.

### EXAMPLE:

Enter searchkey **A +** (space A space +), and all records with an A in the second position, and a + in the fourth position will be displayed — e.g. searchkeys GA9+421, 4A/+394 are valid.

## 5.7 OPTION N—NEW FILE

Use with caution! This routine deletes all the old data, to make a fresh start. Because of the possible drastic consequences, a check routine is included as for Option E—Exit Program.

## 5.8 OPTION P—PRINT ROUTINES

### i) Set Up Label Format

The label is printed with 1 space at the left and 1 space after it, without the inclusion of searchkeys. To change these values, use this routine.

Enter the left hand tab (number of spaces at the left of the label, from **0** to **9**), the vertical spacing (number of spaces between labels from **0** to **9**), and whether you want searchkeys included as the first line of the label (press **Y** or **N**).

**ii) Print a Test Label.**

This prints a blank label to the correct format on the printer.

**iii) Print a Range of Labels**

Enter the number of the first record to be printed, and the last record. All records from the first to last inclusive are printed consecutively.

**iv) Selective Label Print**

This routine now enters Option F—Find Records (Section 5.6)—follow the same procedure as for this option—all records found are listed on the screen and printed on the printer.

**v) Telephone List**

Prints a summary of Name and Telephone for every record on the file.

**vi) Exit to Main Menu**

Note that when printing records using option (iii) or option (iv), the label is 'compacted', i.e. if a field is empty (e.g. no County entered), the label is printed as a solid block, without blank lines in the middle—extra blank lines are added after the label to make up for this.

**5.9 OPTION S—SORT FILE**

All 10 field headings are listed—select one and the complete file will be sorted alphabetically on that field. This routine uses an efficient shell sort which is quite fast, but is written in BASIC, and so will take some time with a large number of records.

**5.10 OPTION W—WRITE FILE**

While saving the program and data on tape, it is advisable to remove the EAR plug from your Spectrum to improve reliability.

# DATABASE

## 1. INTRODUCTION

The Gemini Database program is a computer implementation of the filing cabinet/card index system. This allows you to keep records on many subjects, by defining what information you wish to keep in your data file. First of all, we shall explain some of the terminology used for the database, in relation to a manual card index system:

**FILE:** The complete 'box' of cards is known as a data file. This is stored on cassette, and can be loaded into the computer at any time for inspection or amendment. In the case of the Spectrum, the complete program and data file are saved as one, so that when the program is loaded, all the information that was on file the last time that the program was saved will be loaded at the same time.

**RECORD:** A particular card in the box is known as a record. The record contains information depending upon how the fields are specified by you.

**FIELD:** Fields are the headings for each card. There may be up to ten of these. An example for a file of employee information may be as follows:

No.	Title	Type	Length
1	Name	s	19
2	Age	n	2
3	Department	s	9
4	Salary	n	6

The type refers to whether the field is to contain any text (s for string) or only numbers (n for numeric) This distinction is necessary for two reasons:

1. Calculations may only be performed on numeric fields.
2. When a sort is carried out, a different routine is used for a numeric field, so that the records are sorted into strict numerical order.

## 2. COPYRIGHT

Gemini Marketing Limited sell this program on the express condition that it will not be re-sold, lent, copied for use by any third party or transferred by any means to another machine.

### 3. GETTING STARTED

Turn on the Spectrum and type **LOAD** "DATABASE." Now set the cassette recorder to play, with the volume fairly high, and the tone control (if any) set to high. If all goes well the program will be up and running within about 30 seconds.

### 4. THE MAIN MENU

To select an option from the main menu, press the corresponding number followed by **ENTER**.

#### THE ESCAPE KEY

The = key acts as an escape key. Hitting this key at any stage returns you to the main menu, or the last field typed. If you make any mistakes, the **delete** or **escape** keys may be used to correct them.

### 5. MEMORY

Because of the serious lack of space in the 16K Spectrum after the program has been loaded (there is only about 9K even before the program is entered!), very few records may be stored in RAM at any one time. Because of this, you may find it necessary to keep a number of separate cassette files. An upgrade to 48K is strongly advised to get the most out of this program. The amount of memory then available for records is increased from about 1,000 bytes to about 30,000 bytes.

### 6. ADD A RECORD TO FILE

If you have no records in file, you will be transferred to the routine to define the fields that you require. It is worth spending a few minutes working out what you will need, in order to hold the information as efficiently as possible. Remember to type only **s** or **n** for the field type, and a number from **1** to **19** for the field length.

Having created your file, Option 1 will cause the computer to display each of the field titles one by one. Fill out the details asked for by typing in each field followed by **ENTER**. Pressing the **escape** (=) key moves you back one field, or back to the main menu if the cursor is at the first field.

### 7. CHANGE A RECORD

This option is basically the same as for Option 1, except that each field is displayed along with its contents for that record. Pressing just **ENTER**

keeps the present contents of the field, and typing any new line changes the field.

## **8. DELETE A RECORD**

This option requires little explanation, however one or two points are worth noting. When a record is deleted, all records higher up in the file are moved down, and their record numbers change accordingly. A deleted record is gone forever!

## **9. FIND/SORT RECORDS**

After selecting this option press either **f** or **s** followed by **ENTER** for the find or sort routine.

### **FIND**

The fields are listed on the screen. Now select the number for the field that you require, and enter the value that you wish for the program to search for in that field. If you enter say field **1**, search key **PETER**, the program will search for all records that have PETER in the first five character positions of field 1. The records are displayed one at a time—pressing any key moves onto the next.

### **SORT**

As for option Find, select the field required, and the entire file will be sorted into ascending order on that field. A different sort is performed automatically depending on the field type. All the records are physically changed around, and their numbers will therefore change accordingly. Please note that this may take some time if there are a lot of records on file.

## **10. LIST/PRINT RECORDS**

Enter the first record to be listed, and the last record to be listed, then either **s** for a screen listing, or **p** for a printed listing.

## **11. TOTAL ITEMS BY FIELD**

Enter the field number required (the field must be of type numeric), and the grand total of that field for the entire file will be given.

## **12. CREATE NEW FILE**

This will start the program from the beginning, clearing all information entered to date. Use with caution!

## **13. SAVE FILE ON TAPE**

Saves the program and data on to a cassette. Ensure that you remove the EAR plug from the Spectrum for more reliable saving of the data.

## **14. END PROGRAM**

Self-explanatory.

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If at any time you exit the program by mistake, either by selecting the exit option, or by pressing the **BREAK** key, typing **GOTO 1000** followed by **ENTER** will restore the program with the data intact.

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# HOME ACCOUNTS

## 1. INTRODUCTION

The Gemini Home Accounts program for the Sinclair Spectrum will run on 16K or 48K micros, the differences being the number of budget headings that you use (9 for 16K, 18 for 48K), and the number of bank transactions that may be held (6 for the 16K, about 900 for the 48K).

The program has two main purposes—firstly to keep a record of your home budget estimates and actual expenditure, and secondly to keep a record of all transactions to/from the bank account. You can obtain plots of budget spending throughout the year, and summaries of your budget or bank account. As often as you wish, you may carry forward the bank account transactions, saving the previous transactions for record purposes if required.

All data is stored with the program, and so loading and running the program will mean that all information current when the program was last saved will be present.

## 2. MICRODRIVE STORAGE - See Page 23

## 3. OPERATING PROCEDURE

Ensure that all leads are properly connected, type **LOAD** "HOMEACC" and press **ENTER**. Once loaded, the program will automatically run, first of all displaying our copyright notice, and then screening a menu of 8 options. A demonstration file is supplied for you to be able to familiarise yourself with the program. If at any time you exit from the program, or press the **BREAK** key by mistake, type **GOTO 500** and press **ENTER** to restore the program at the main menu, with all data intact.

## 4. THE MAIN MENU

The main menu is a table of 8 options, numbered from 1 to 8. To select a particular option, press the key number for that function—you are not

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required to press **ENTER**. In the case of Option 6 (banking routines) a sub-menu is displayed for the entry of a further selection.

#### **4.1 OPTION 1—ALTER BUDGET ESTIMATES**

After pressing **1** from the main menu, enter the month number (**1-12**) for which you wish to change the estimates, and press **ENTER**. Now the **9** (for 16K) or **18** (48K) budget headings are displayed, with the amounts entered for each. For every budget heading, you may now either enter a new figure and press **ENTER**, or just press **ENTER** to keep the amount as it is. The maximum number for a given heading is £99999.99 (note that no pound sign is necessary).

If you type **R** followed by a number, this will give every month from the current month up to December the same value for the current heading (e.g. while entering the estimates for July, if you type **R23.43** for the heading Gas, then all the Gas estimates for July to December will be set to the value 23.43).

Pressing **\*** at any time will cause the program to run through the remainder of the budget figures without altering them.

After the last heading has been entered, press any key to continue to the main menu.

N.B. Whether you have a 16K or a 48K Spectrum, while using the demonstration file provided, there will only be 9 headings and up to 5 bank transactions—only after starting a new file of your own will you have the full data for the 48K Spectrum.

#### **4.2 OPTION 2—ALTER BUDGET ACTUALS**

This routine is exactly as for Option 1, but a separate set of figures for actual expenditure are entered.

#### **4.3 OPTION 3—VIEW BUDGET**

You are asked whether you wish to compare estimates with actuals for a particular month (enter the month number—**1** to **12**) or for the year to date (enter **13**).

Now for each of the headings, the estimate and actual figures are shown side by side—they are drawn in blue if they are the same, in red if the actual figure is less than the 'estimated' one, and in black if vice versa.

#### **4.4 OPTION 4—PLOT MONTHLY ACTUALS**

After selecting this option, the budget headings are displayed—enter the number for the heading that you require. The program will not draw a Histogram for that heading, with the amount spent against the month.

Press any key to return to the main menu.



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## **Micro Computer Software**

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