



**STRATEGIC  
SOFTWARE**

The Largest & Most Innovative Producer of Coleco ADAM™ Software Products

# MicroWORKS

## Program Operation Manual

A program designed for use with the  
Coleco ADAM Family Computer System.

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# Warranty Notice

The enclosed program is designed to operate using **revision 79** SmartBASIC™ and a revision 80 ADAM™ memory console. The enclosed program **Will Not** operate properly without having the correct revisions of SmartBASIC™ and the ADAM™ memory console.

To know what revision of SmartBASIC™ you have, load SmartBASIC™ into memory and type **print peek(260)** at the ready prompt and press **RETURN**. The revision number 79 should then appear. To know what revision ADAM™ memory console you have, turn your ADAM™ on and press the **CONTROL** key and the **R** key simultaneously while in the electronic typewriter mode. The revision number **R80** should then appear below the Roman Numeral **IV** at the bottom of the screen.

If the revisions that you own are not correct and the enclosed software does not operate properly please contact Coleco™ Industries. **Do Not** immediately assume that the enclosed program is defective.

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Parallel/Strategic Warranty Support  
P.O. Box 8185  
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# Introduction

**MicroWORKS is an integrated system that combines five of the most widely used types of application software: A text editor, spreadsheet, data base, business graphics, and picture editor.**

**An integrated package combines two or more applications into one system, so that you can move easily between the applications without having to switch between data packs or disks, or be concerned about one program not being able to use files and data from another.**

**Most software for microcomputers like the ADAM produces files that cannot be used by other programs. For example, many word processors will not allow you to load a spreadsheet file into them, and vice versa. Unfortunately, most projects require that you produce reports or documents that contain data from different sources. You may have to physically cut and paste output from one program into the printed text of another.**

**Because MicroWORKS combines all of these applications, you can move easily from one function to another without worrying about file compatibility. This means that you can transfer information from a spreadsheet into the middle of a letter or proposal. Or, you could incorporate information from a data base file containing customer data.**

**How about using information from your date base in your spreadsheet? MicroWORKS makes that easy too. Suppose, for example, that you had a data base file containing inventory information, and you wanted to use that same information in a spreadsheet to compute its value. Of course, you could retype the data into the spreadsheet, or you could use MicroWORK's ability to transfer the information from the data base to the spreadsheet. Once it is there, you can add the appropriate formulas and calculate an accurate inventory valuation. All of this without changing data packs or disks and without moving out of the MicroWORKS system.**

**Essentially, MicroWORKS, gives you all of the tools necessary to get started right away. There are no confusing commands to remember and each module operates the same way. A straight-forward, easy-to-use, affordable, yet powerful environment. You may ask how a system like this could be created for the ADAM Family Computer, and at such a low price. Well, it was designed and made possible by Strategic Software, perhaps the largest and most innovative developer of third-party software products for the Coleco ADAM Family Computer System. We hope you enjoy it!**

**Now, let's get started.**

## Getting Started

First, turn your ADAM on and load SmartBASIC into memory. Remove the **MicroWORKS** program data pack from the package and insert it into data drive one. At the ready prompt, type the following and press **RETURN**:

```
new
```

When the ready prompt appears again, type the following and press **RETURN**:

```
brun microworks
```

The data pack will begin to spin, and after a few seconds the **MicroWORKS** command menu should appear.

All of the **MicroWORKS** command menus operate the same way. In other words, the way in which you select a command or function in one module is the way you select it in another.

This is the command menu that you should see at the bottom of your screen:

```
-----  
SELECT COMMAND:  
  
CALC  EDIT  GRAPH  FILE  WRITE  
SET-COLORS  QUIT
```

Commands are selected by pressing the **SPACE-BAR** and hi-lighting the key word representing the command of your choice. Once this word is hi-lighted, press the **RETURN** key to initiate the command. This may also be accomplished by simply pressing the first letter of the desired key-word. For example, instead of hi-lighting **CALC** and pressing **RETURN**, you could just as easily, press **C** to do the same thing. Command menus and key-words will be referred to frequently throughout this manual.

The module that is now in memory should be considered as the top level of **MicroWORKS**. It will allow you to enter any of the other modules as well as change the colors of your viewing screen. This module will simply be referred to as, **MicroWORKS**, since it is the doorway that leads to the rest of the system.

### Changing Colors:

Select **CHANGE-COLORS** from the command menu. You will then be presented with four color choices. Select the desired color, **MicroWORKS** will then proceed to make the change and return to the original menu.

PLEASE NOTE: Any data files that are generated by each of the modules should **NOT** be saved on the program tape. This may result in damage to the program and may void the warranty. Make sure you save these files to a separate, freshly formatted disk or tape.

# MicroWRITE

## The Text Editor

MicroWRITE is a module that allows you to write letters, articles, memos, proposals, form letters, or reports. However, because your text is stored as a file on your tape or disk, you can print your document as many times as desired, revise it without retyping it in again, merge information from other modules, and store several versions of it.

First, select **WRITE** from the **MicroWORKS** command menu, then follow the rest of the instructions. After a few seconds, the MicroWRITE module will be loaded into memory. Its command menu will appear at the bottom of the screen. MicroWRITE assumes that you have a basic knowledge of word processing skills.

### Editing or creating a document:

In order to create or edit a document that is currently in memory, select **EDIT** from the command menu. The screen will clear and MicroWRITE will display the editing screen. The line at the top of the screen indicates your left and right margin settings, as well the line in your document that the cursor is currently on. The bottom line of text that appears on the screen may be edited. It will scroll horizontally as you type or move the cursor. When you reach the end of the line, simply press the RETURN key. When the cursor is close to the end of the line, you will hear a beep. After the RETURN key has been pressed, the line that you were on will scroll up and the cursor will appear on the next line in your file. Just think of MicroWRITE as a deluxe, electronic typewriter with an LED display. Instead of each line being printed after you press the RETURN key, it moves out of the line editing area and stays in your ADAM'S memory. The lines that are contained within memory make up your document and may be stored on tape or disk as a file.

You can change the line that is being edited by scrolling up or down your document using the arrow keys. Use the left and right arrow keys to move the cursor to other parts of the line that is being edited. You can jump to the beginning of the document automatically, by pressing the HOME and UP ARROW keys simultaneously. You can jump to the end of the document automatically by pressing the HOME and DOWN ARROW keys simultaneously. The BACKSPACE key will delete the character that is to the left of the cursor and the UNDO key will delete the character at the cursor.

You can delete the line that the cursor is currently on by pressing the DELETE key, located in the upper right corner of your keyboard.

MicroWRITE offers two types of entry modes. **INSERT** and **TYPE-OVER**. When insert is on, any text that is typed will cause the text to the right of it to move over, thereby making room for the new text. When insert is off any text that is typed will replace the text that is currently at the cursor. Insert may be turned on and off by pressing SmartKEY I.

MicroWRITE allows you to **UNDERLINE** text by first pressing SmartKEY II. You will hear a beep. Enter the text that you wish to be underlined, it will appear in inverse video on the screen, when finished entering this text press SmartKEY II again.

In order to set or remove a **TAB** stop, move the cursor to the desired position of the tab and press SmartKEY III. MicroWRITE will record that position as a tab setting. The tab key will position the cursor at the next tab setting.

Any text that is currently on the line being edited can be **CENTERED**, between the left and right margins, automatically by pressing SmartKEY V.

If you would like to force a **PAGE BREAK** at any point within your document, position the cursor at the line which you would like the break to occur and press shift SmartKEY V. MicroWRITE will automatically insert a page break code on the line that the cursor is on then move to the next line. Please do not remove or edit the code that MicroWRITE inserts. This code will not be printed, however when MicroWRITE reads this, it will advance to the next page when printing your document.

Due to the ADAM's limited character display of 32 columns it is only possible to display one third of the document text that appears above the editing line, at one time. If you would like to **VIEW** the second third of the document text, press SmartKEY IV. If you would like to **VIEW** the final third of the document text press SmartKEY IV again. A number, located in SmartKEY IV's box, will indicate which viewing mode is currently on. A 1 represents the first third of your document, a 2 represents the second third, and a 3 represents the final third. MicroWRITE will automatically change the viewing mode, as you type, If you press shift SmartKEY IV. This feature can be turned off by pressing shift SmartKEY IV again. Remember, the editing line will scroll horizontally to a full 75 columns, independent of the text that is above this line.

If you wish to return to the command menu from the editing screen press SmartKEY VI.

### **Search and replace:**

If you would like to replace a word that appears in your document several times with another word, automatically, select **SEARCH** from the MicroWRITE command menu. MicroWRITE will then ask if the original word was typed in normally or was underlined. Select the appropriate choice. MicroWRITE will then ask you to enter the word you wish to change and press RETURN. You will then be asked to enter the word that you would like to replace it with and press RETURN. Confirm the procedure, and MicroWRITE will proceed to make the adjustment within your text.

### **Margin settings:**

If you would like to change the left or right margin settings within your document, select **MARGINS** from the command menu. Select **LEFT** for the left margin or **RIGHT** for the right margin. MicroWRITE will then display the current setting and allow you to enter a new one and press RETURN. Each time you press a new carriage return, the cursor will be placed at the current left margin position.

### **Clearing the memory:**

If you would like to clear the document that is currently in memory, select **CLEAR** from the command menu. MicroWRITE will inform you that if you proceed the memory contents will be

lost. Confirm or abort the procedure. This option will clear the document that is in memory, but it will not be erased if it has been stored on tape or disk.

### Loading and saving files:

If you would like to **LOAD** a new document file into memory, select **LOAD/SAVE** from the command menu. MicroWRITE will then ask you to select the appropriate option. Select **LOAD**. MicroWRITE will ask you to select the current drive and insert the tape or disk that the file is located on. Confirm this option. MicroWRITE will then display a file directory for that tape or disk. Type in the appropriate file name and press **RETURN**. Most MicroWRITE documents will end with the extension 'w'. Documents produced by MicroWRITE itself may be loaded as well as MicroWRITE document files produced by any of the other modules. You may also load picture files produced by MicroEDIT or bar graphs produced by MicroGRAPH. Each new file loaded will be attached to the file that is currently in memory and will be inserted at the point at which the cursor was last located. If you are loading a document file and do not wish it to be integrated with the file that is in memory select the **CLEAR** option first. There are two MicroWRITE documents that we have included on the program tape, you may wish to load and view them.

If you would like **SAVE** the document that is currently in memory, select **LOAD/SAVE** from the command menu. MicroWRITE will then ask you to select the appropriate option. Select **SAVE**. MicroWRITE will ask you to select the drive and insert the tape or disk that the file will be saved on. Confirm this option. MicroWRITE will then ask you to enter a file name. Enter this name and press **RETURN**. Remember to end the file name with the '.w' extension so that you know it can be read by MicroWRITE. MicroWRITE will proceed to write the file to your disk or tape.

PLEASE NOTE: When loading picture files or graphs, MicroWRITE will automatically center them in your document and will insert codes before and after the picture or graph. Do not erase or edit these codes, they will not be printed.

### Free memory:

In order to find out how much memory is left while editing your document, press the **WILDCARD** key. MicroWRITE will display the free memory in byte units, at the lower left corner of your screen.

### Printing your document:

If you would like to print the document that is currently in memory or a group of document files, one after another, select **PRINT** from the command menu. MicroWRITE will then ask if you would like to print the document that is presently in memory or chain various document files together. Select **PRESENT** or **CHAIN**. Since the ADAM's memory is very limited, your document may extend beyond its capacity. If so, save several portions of your document as different files, and print them using the **CHAIN** option. By using this option MicroWRITE will print each file in the order that you entered their names and maintain the correct page numbering. By chaining files together, the printed output will appear as though all of the files could have been held in memory at once.

MicroWRITE will then display a printing options screen. If you would like to change any of the default settings, select **EDIT**. The cursor will appear at the first option, **PAGE LENGTH**, enter a

new value, or just press RETURN to leave it or any other value unchanged. If you would like automatic page numbering enter a 'y', if not enter an 'n'. Select CONTINUE, when ready. MicroWRITE will then ask if you are using SINGLE SHEET or FANFOLD paper. Select the appropriate option. You will then be asked to insert your paper and ready the printer. When finished select CONTINUE. MicroWRITE will proceed to print your document. If you had selected CHAIN MicroWRITE would ask you to insert the tape or disk that all of the documents files were contained on. Enter each of the document file names and select CONTINUE when finished. You may select up to ten different document files to print.

### Form letters and merged documents:

You can merge mailing list data from MicroFILE with a document from MicroWRITE in order to create personalized form letters. Do this by first creating the document that will be printed. Wherever you wish field information to be included, type in the desired field's number, and surround it by pointed brackets.

For example:

```
<1>  
<2>  
<3>,<4>,<5>
```

Dear <1>,

Thank you for purchasing your new Walters appliance. If you have any difficulty operating it, please do not hesitate to give your sales person a call.

Thank you,

Walters Appliances

Whenever MicroWRITE encounters a number, surrounded by pointed brackets, it will replace it with the appropriate category information of the record that is currently loaded from your data base file. Each record in your file will receive one form letter. When you have finished creating your form letter document. Select **PRINT** from the command menu then **MERGE** from the print menu. Before printing, MicroWRITE will ask you to enter the name of the file, produced by MicroFILE, that the category and record information will be extracted from. This concept will become clearer as you work with the MicroFILE module.

### Leaving MicroWRITE:

When you are finished using MicroWRITE or wish to use another module in the **MicroWORKS** system, select QUIT from the command menu. Select the desired destination and follow the screen instructions.

# MicroFILE

## The Date Base

A data base manager lets you organize information into convenient records that can be sorted and recalled in a variety of ways. An example of a data base would be a card file of clients. You could sort the cards or records alphabetically by name; select them by telephone area code, zip-code, or company product. And, because the data is stored on tape or disk, you can update it whenever you like and never lose the original information. You can also print out the results of each search and sorting in a separate, formatted report without altering the information in the data base file.

First, select **FILE** from the **MicroWORKS** command menu, then follow the rest of the screen instructions. After a few moments, the MicroFILE module will be loaded into memory and its command menu will appear at the bottom of the screen.

### Creating a data base file:

Your MicroFILE data base file consists of a group of records. Each record will contain various categories. Each category will contain information. For example, if you wanted to store the client list, mentioned above, and you knew that each clients' record would contain a Name, Company, City, State, Zip Code, and Phone Number, you would determine that each of the records would require 6 categories. And Information like John Doe, Williams Appliances, 5 Main Street, Anytown, New York. 10022, 212-543-7431. would be the information that you would want to store in each of these categories. Each record would contain different client information.

Determine how many categories each record will need and select **CREATE** from the MicroFILE command menu. Select **CREATE** from the RECORD LAYOUT menu. Confirm this option. MicroFILE will ask you to enter the name that it will use to store the data base file under. Enter this name and press RETURN. MicroFILE will then ask you to enter the number of categories that each record will contain. Enter this number and press RETURN. Enter the first category name (NAME, ADDRESS, CITY, etc.) and press RETURN. MicroFILE will then ask you to enter the maximum character length for this category. For example, if this was the Name category, and you did not think that any name entered into this category would exceed 20 characters, then you would enter a 20, etc. Enter the character length and press RETURN. Repeat this procedure for each of the categories that you have requested.

MicroFILE will then ask if you would like to CONTINUE with the create process. If so, select **CONTINUE**. If you would like to **EDIT** any of the category names or lengths, select **EDIT**. MicroFILE will ask you to enter the category number that you wish to change. Enter this number and press RETURN. The cursor will reposition itself under the old category. Make your changes and press RETURN. Correct the category length and press RETURN. You may EDIT as many categories as you wish.

When you select **CONTINUE**, MicroFILE will tell you how many records may be stored in this file. After this message has been displayed, select CONTINUE once again and MicroFILE will return to the command menu. Once record information has been stored in the file, only the category names may be edited, not their lengths.

**Adding records to the file:**

In order to fill in each category with information and add records to the file, select **ADD** from the command menu. MicroFILE will display the next highest record number at the top of the screen, and position the cursor at the first category. Enter the information that you would like stored in this category and press **RETURN**. Enter information for each of the remaining categories. When the record has been completely filled in, MicroFILE will display four command options. If the information for the record is correct and you wish to add it to the file then continue to enter other records, select **ADD**.

If one of the categories contains information with an error, select **EDIT** and MicroFILE will place the cursor at the first category. If you would like to change this information, simply type over what's there and press **RETURN**. If you would like to leave the information unchanged, simply press **RETURN**. The cursor will then move to the next category.

If more than one category contains information with an error, and you have decided to re-enter the information for the entire record, select **REENTER**.

If you would like to **ADD** the record that you are currently on then return to the MicroFILE command menu, select **STOP&ADD**.

**Loading and saving your file:**

If you would like to **LOAD** a new file and its records into memory, select **LOAD/SAVE** from the MicroFILE command menu. Select the desired option. MicroFILE will then ask you to select the drive that you will load the file from. MicroFILE will inform you to confirm this option and to insert the correct tape or disk. A directory of that tape or disk will then be displayed, and MicroFILE will ask you to enter a file name. Enter this file name and press **RETURN**. Most data base file names will end with the '.f' extension. MicroFILE will proceed to load the file and its records into memory and return to the command menu.

If you would like to **SAVE** the file that is in memory, with the records that you have added or changed, select **SAVE** from the command menu. MicroFILE will ask you to select the drive that the file will be saved to. MicroFILE will then ask you to enter a name that you would like to store this file under. If you would like to keep it under the name that was originally loaded, simply press **RETURN**. If not, enter a new name and press **RETURN**. MicroFILE will inform you to insert the tape or disk and will proceed to save your file on it. Remember to save your file with the '.f' extension, so that you know it is a MicroFILE data base file. You should also get into the practice of saving your file after you have added a group of records. If you have not saved your file, when the power goes out, you risk the chance of losing the records that have been added.

**Scanning your data base file:**

If you wish to search for specific records or view them individually, select **SCAN** from the MicroFILE command menu. MicroFILE will ask if you wish to scan the records **INDIVIDUALLY** or **SEARCH** for specific ones. Select the desired option.

If you desired to scan records individually then MicroFILE will ask you to enter the number of the record that you would like to start viewing from. Enter this number and press RETURN. MicroFILE will display the first record that you requested.

You may view the next highest record in your file by selecting **NEXT** from the command menu at the bottom of the screen.

You may view the previous or next lowest record in your file by selecting **PREV** from the command menu at the bottom of the screen.

You may edit any or all of the categories being displayed by selecting **EDIT** from the command menu at the bottom of the screen. Editing is accomplished in the same manner as described under the ADD RECORDS section.

You may delete the current record from the file by selecting **DELETE** from the command menu at the bottom of the screen. MicroFILE will ask you to confirm this option then proceed to remove this record from your file. Each record above the one that was deleted will move down one position in the file.

To stop viewing your records and return to the MicroFILE command menu, select **STOP**.

If you decided to **SEARCH** for a specific group of records, MicroFILE will display the first category and ask how you wish to search. A search is accomplished by entering certain Information Into specific categories. When MicroFILE finds a record that matches the information that you have entered, it will display that record.

If the category that is being displayed, will not contain any information to be matched then select NONE from the command menu at the bottom of the screen. MicroFILE will then display the next category and await your response.

If the information in your records should equal the information In this category, select **EQUAL** from the command menu at the bottom of the screen. MicroFILE will place an equal sign after the category name and wait for an entry. Enter the information that your records should exactly match and press RETURN. MicroFILE will display the next category and await your response.

If the Information in your records should contain a group of characters, somewhere within its entry, that matches the characters In this category, select **CHAR** from the command menu at the bottom of the screen. MicroFILE will place a **C** after the category name and wait for an entry. Type in the characters that should match and press RETURN. For example, if you were searching for a name that ended with DOE, but you were not sure of the first name, you would use this option. Because, MicroFILE would ignore everything before the characters DOE and look for only the characters that you requested. MicroFILE will then display the next category and await your response.

If the Information In your records should contain a value that Is greater than the value in this category, select **GREATER** from the command menu at the bottom of the screen. MicroFILE will place a > after the category name and wait for an entry. Type in the value that the information should be greater than and press RETURN. MicroFILE will then display the next category and await your response.

If the information in your records should contain a value that is greater than the value in this category, select **LESS** from the command menu at the bottom of the screen. MicroFILE will place a < after the category name and wait for an entry. Type in the value that the information should be less than and press RETURN. MicroFILE will then display the next category and await your response.

After each category has been entered, MicroFILE will allow you to begin the search by selecting **SEARCH** from the command menu at the bottom of the screen. If each category that you have decided to search on was satisfied, MicroFILE will display that record. If any of the search information was incorrect, you may reenter it by selecting **REENTER** from the command menu. While each record is being displayed, you may edit any of the category information by selecting **EDIT**, or you may continue the search and display the next record by selecting **NEXT**. You may stop searching by selecting **STOP** and MicroFILE will return to the command menu.

### Columnar reports, mailing labels, and graphs:

If you wish to print a columnar report, mailing labels, or create a graph from the record information in your file, select **OUTPUT** from the MicroFILE command menu. MicroFILE will display three choices. Select the desired option.

A columnar report is a print out of the information contained in certain categories from a specific group of records in your file. The report is in a columnized tabular format, with each column being a different category, and each row being a new record.

#### EXAMPLE OF COLUMNAR REPORT:

<u>Name</u>	<u>Test1</u>	<u>Test2</u>	<u>Test3</u>	<u>Grade</u>
Ann Williams	78	82	92	B
Dave Brown	70	78	83	C+
John Doe	85	90	87	B+

The categories Name, Test1, Test2, Test3, and Grade were extracted from each record in this student file. Not only can your reports contain specific categories, but they can also contain titles as well as statistical information at the end of the report.

After selecting **COLUMNAR REPORT**, MicroFILE will ask you to enter a report title. Enter this and press RETURN. If you would like to include this report in a MicroWRITE document, then add the '.w' extension to it. If you will be using this the report as a spreadsheet file in MicroCALC, remember to add the '.c' extension. MicroFILE will then ask you how many columns the report should contain. Enter this figure and press RETURN. Remember, since the printer is only 80 columns wide, you will, more than likely, not be able to fit every category into the report.

The screen will then change, and MicroFILE will ask which category should be used for the first column. Enter the desired category number and press RETURN. MicroFILE will then ask if a statistical calculation summary should be printed for this column at the end of the report. If no summary should be printed, then select **NONE** from the command menu.

If you would like a count of the number of items printed in this column, then select **COUNT**. If you would like to total all of the values in this column, select **TOTAL**. If you would like an average of all values in this column, then select **AVERAGE**.

After all of the column information has been entered, MicroFILE will ask if you wish to **CONTINUE** or **REENTER** the column information. Select the desired option.

After selecting **CONTINUE**, MicroFILE will ask you to enter searching information. This is done in exactly the same manner as described above. It will use this information to determine which records will be printed. When you have finished select **CONTINUE**, MicroFILE will then ask if you wish the report to be sorted. Select **YES** or **NO**. If you had selected **YES**, MicroFILE would ask you to select a category that you wish to sort on. If the category contains text then the records that will be printed will be sorted alphabetically from A to Z. If the category contains numerical values then the records that will be printed will be sorted numerically from lowest to highest.

MicroFILE will then ask you to select a destination for the report. If the report will be sent to the printer for a hard copy, select **PRINTER**. If the report will be used in a MicroWRITE document, select **MicroWRITE**. If the report will be used as a spreadsheet file in MicroCALC, select **MicroCALC**. If you had selected either MicroWRITE or MicroCALC as a destination, MicroFILE would ask you to select a drive that it will save this report file to. Insert a disk or tape and select the correct drive.

If you had selected printer, MicroFILE would ask if you were using fanfold or cut sheet paper. Select the appropriate choice. MicroFILE will then ask you to select continue once the printer is ready. After selecting **CONTINUE**, printing should begin immediately.

If you wish to print mailing labels, select **LABELS** from the output menu. Labels are designed almost the same way columnar reports are. Instead of selecting categories for columns, you are selecting them for positions on the label. The six positions available are displayed on the screen. Enter a category number for the first position and press return. Repeat this for each remaining position.

MicroFILE will ask you to enter searching information. This procedure has been described above. MicroFILE will then ask if the labels should be sorted. Select the desired option and follow the procedure mentioned above. Then select the type of paper the labels are on and select **CONTINUE** to begin printing.

If you have decided that you would like to graph specific information (this graph will be generated by MicroGRAPH) found in your records, select **GRAPH** from the output menu. MicroFILE will display your categories and ask you to select the category that will be graphed. Enter this number and press RETURN. Each different group of items found in this category will be represented as a bar in a bar graph, as a point in a line graph, and as a slice in a pie graph. MicroFILE will then ask you to select the category that it will use to gather the numerical data from each record and display along the Y axis of the graph. Enter this category number and press RETURN. Next, MicroFILE will ask you to select a summary calculation of the data values for each item being graphed. You can count the items by selecting **COUNT** (useful for inventories), or total the data values for each item by selecting **TOTAL** (useful for sales information).

MicroFILE will then ask you to select searching information, described above, that it will use for the records being graphed. Next, MicroFILE will ask you to select a title for the graph. Since this graph information file will only be read by MicroGRAPH, remember to put a '.g' extension at the end.

MicroFILE will then ask you to insert a disk or tape and to select a drive that the graph data file will be saved to. MicroFILE will proceed to write the file on this tape or disk and return to the command menu.

**Leaving MicroFILE:**

When you are finished using MicroFILE or wish to use another module in the **MicroWORKS** system, select **QUIT** from the command menu. Select the desired destination and follow the screen instructions.

**REMEMBER TO SAVE YOUR FILE BEFORE LEAVING THE MicroFILE MODULE!**

# MicroCALC

## The Spreadsheet

A spreadsheet program allows you to manipulate rows and columns of numbers to create such standard financial reports as income statements, balance sheets, and cash flow statements, as well as do projections, perform complex calculations, prepare invoices and quotations, and keep statistical records. A spreadsheet program also allows for a "What if?" analysis by changing one item and seeing what effect that change has on the rest of your calculations. For example, if you were to change a number in a column, you could command MicroCALC to recalculate those numbers and automatically compute a new total at the bottom of that column. Like MicroWRITE and MicroFILE, MicroCALC allows you to store your spreadsheet file on tape or disk for later recall.

First, select **CALC** from the **MicroWORKS** command menu, then follow the rest of the screen instructions. After a few moments, the MicroCALC module will be loaded into memory and its command menu will appear at the bottom of the screen. Due to the ADAM'S limited character display and the amount of commands necessary to list, the MicroCALC menu options are selected by pressing the first letter of the command that you wish to execute.

### The screen display:

The top line of the screen consists of inverted numbers separated by a vertical line every nine spaces. These numbers represent the columns where you enter information. Each column is nine characters wide. The inverted numbers down the left edge of your screen represent the rows where you enter information. The area below the column indicators and to the right of the row indicators is the spreadsheet work area, where the headings and numbers you enter will be displayed. The intersection of a column and row within the work area is called a cell. For example, the top left cell in the work area, is at the intersection of row 1 and column 1. It is called "cell R1C1", or just "R1C1".

You can highlight different cells by using the four arrow keys at the right of your keyboard. Press the HOME key to automatically reposition the highlight line, or the pointer, to the very top left of the work area (R1C1).

The work area that is currently displayed is just a small part of the actual spreadsheet. Only small portions of it can be displayed on your screen at one time. Other columns may be brought into view by moving the pointer to the right, past the last column that is being displayed. As you continue moving the pointer, the screen will scroll horizontally, and other columns will begin to appear. This feature is also true of the rows. The pointer may be moved below the last row that is currently being displayed, in order to bring other rows into view. Rows above and columns to the left of the work area may also be viewed in this manner.

MicroCALC will always display the current cell's position and contents at the bottom of the screen, just above the command line.

**Typing words and numbers into cells:**

To type a word or group of words into a cell, move the pointer to the cell that you wish the words to appear in and press **I** for input. The input mode is now active. Type in the word or words that you wish to appear in the cell and press **RETURN**. If you would like to continue typing in another cell, simply move the pointer to that cell and MicroCALC will automatically enter what you had typed into the cell that you were previously at. This saves time, and does not make it necessary to always press **RETURN**. Words or text are useful for column and row headings like names of months, etc. When you have finished typing in all of the words necessary for your spreadsheet press **ESCAPE** to return to the command menu. Please note, if there is no information in the cell to the right of the cell that the pointer is located at, long lines of text will not be cut off, but will flow into the cell to the right. If you wish to enter text that begins with a number, like a date, that will be used as uncalculated heading information, begin by first typing a space.

Numbers are automatically converted to values as you begin typing them in. MicroCALC signifies this by placing an equal sign in front of the number. Do not worry, this equal sign will not appear in your spreadsheet. Numbers are entered the same way words are. Begin by moving the pointer to the desired cell location, then select **I** for input, type in your number AND press **RETURN**. Press **RETURN**, before you move the pointer to a new cell location. When you have finished typing in your numbers, press **ESCAPE** to return to the MicroCALC command menu.

**Cell reference:**

A reference is an instruction typed into a cell that causes a number in some other cell to be duplicated there. If you change the original cell, the duplicated cell changes automatically, upon recalculation, to mimic it. Begin by moving the pointer to the cell that should receive the pointer instruction. Select **I** to enter the input mode. Then press the equal sign key. You must first press shift, since it is above the plus sign. By pressing the = key, you are informing MicroCALC that you wish to enter a pointer, value, or formula into this cell. First type a capital **R** (which stands for row), then an open bracket [, the row number of the original cell, a closed bracket ], a capital **C** (which stands for column), an open bracket [, the original cell's column number, a closed bracket ], and finally press **RETURN**. The original value should immediately appear at the copied location. For example, if the original value was located at R5C3, the pointer instruction would be entered as follows:

R[5]C[3]

Instead of manually typing in the original cell's position, first press the **SPACE BAR** then simply move the pointer to it, and MicroCALC will automatically enter its position for you. Remember, when you are finished press **RETURN**. If you are finished entering cell pointer instructions press **ESCAPE** to return to the MicroCALC command menu.

**Formulas:**

Do not be alarmed by the term formula. For most spreadsheet calculations all you need to do is add, subtract, multiply, and divide. A formula is simply an instruction to insert into the cell, that the pointer is located at, the result of an arithmetic operation with the numbers in one or more other cells. For example, adding the numbers in two different cells.

To enter a formula, position the pointer at the cell which should receive the formula and press **I** for input. Press the equal sign key, then follow it with the arithmetic that you want done, using another cells location as one of the values. Move the pointer to the cells that you wish to include as values within your formula and MicroCALC will automatically enter their DIRECTIONAL positions. There are two ways to enter cell locations, as directional or RELATIVE positions, or as specific or ABSOLUTE positions. MicroCALC allows you to switch between relative and absolute positions by pressing the SPACE BAR while entering the formula. When moving the pointer MicroCALC will insert the cells position based on whatever mode (RELATIVE or ABSOLUTE) you are currently in. Values may be separated by a plus sign + for addition, a minus sign - for subtraction, an asterisk \* for multiplication , a slash / for division and a caret ^ for powers.

Examples of formula entries:

$$RC[-2] + RC[-1]$$

These two formula entries are relative. MicroCALC would read this formula as follows: Stay in the row where the pointer is located, move two columns to the left and read that cells value, stay in the row where the pointer is located, move one column to the left and read that cells value, add the two values together and display the result in the cell where the pointer is currently located.

These two formula entries are relative. MicroCALC would read this formula as follows: Move one row above the pointer, one column to the right and read that cells value, move one row below the pointer, stay In the same column as the pointer, and read that cells value, multiply the two values together and display the result in the cell where the pointer is currently located.

$$RC[-3] + R[1]C[5]*10$$

The first formula entry is relative, the second is absolute, and the third is just a numerical value. MicroCALC would read this formula as follows: Stay in the same row as the pointer, move three columns to the left, and read that cells value, read the value in cell R1C5, add the first and second values together, multiply the result by 10.

Cell locations may be entered, either in absolute or relative format, manually. However, it is recommended that you let MicroCALC enter the cell location for you, by moving the pointer. In order to eliminate any mistakes. All cell reference values used in formulas should be entered in relative format, except when you need to reference a specific cell, switch to absolute mode temporarily. This will make it easier for you to copy those formulas into other parts of the spreadsheet and still retain proper calculations RELATIVE to their new locations.

For formulas with many steps, you may use parentheses to group operations the same way they are used in basic algebra. For example:

$$((RC[-2] + RC[-1])* .20)$$

**Functions:**

MicroCALC contains two helpful functions that may be used within formulas or by themselves in order to eliminate extra typing. Just think of a function as a formula that has already been built for you. The first function is called sum. It will automatically calculate the sum of a group of cell values. Functions are entered while in the formula entry mode. Begin by typing the word sum, in lower case, type in or move the pointer to the starting cells position, type a colon (:), then type in or move the pointer to the ending cells position and press RETURN.

For example:

sumR[1]C[1]:R[5]C[1]

This function would add up all of the values in R1C1 through R5C1 and place the result in whatever cell the pointer is located at.

The other function that is available will calculate the average of a group of cell values. This function is called avg and is entered the same way as sum, except you would use avg instead.

For example:

avgR[1]C[1]:R[5]C[1]

Cell references used within functions may be entered in a relative or absolute format and may include entire areas of cells. In order to calculate the sum or average of an area of cells, include the upper left cell of the area as the first location and the lower right cell of the area as the second location. Calculations may be made across columns or rows, it makes no difference to MicroCALC. As mentioned above, functions may be used to represent values and may be included in a much larger formula.

**Changing decimal places:**

In order to change the number of decimal places being displayed, select **D** from the MicroCALC command menu. MicroCALC will ask you to select a range of columns that will receive the decimal place change. Enter the leftmost column number and press RETURN. Enter the rightmost column number and press RETURN. MicroCALC will then ask you to enter the number of decimals that should be displayed within this range of columns. Enter this figure and press RETURN. MicroCALC should reflect your change on the screen.

**Changing column widths:**

In order to change the column width of one or a range of columns, select **W** from the command menu. MicroCALC will ask you to select a range of columns that will receive the column width change. Enter the leftmost column number and press RETURN. Enter the rightmost column number then press RETURN. MicroCALC will then ask you to enter the number of characters that should be displayed with these columns. Enter this number and press RETURN. MicroCALC should reflect your change on the screen.

**Erasing an area of cells:**

In order to erase the contents of an area of cells, select **E** from the command menu. MicroCALC will ask you to enter the position of the upper left cell in this area. Enter this cell's row number, press the SPACE BAR, then enter this cell's column number, and press RETURN. You may also move the pointer to this cell and MicroCALC will enter its position for you. MicroCALC will then ask you to enter the position of the lower right cell in this area. Enter its position the same way as above. Your request will be reflected on the screen. Please note if you were erasing the cell that the pointer is located at, you would simply press RETURN twice because the area encompasses only one cell.

**Displaying free memory:**

In order to display the amount of memory left, in byte units, select **M** from the command menu. MicroCALC will display this figure below the command line.

**Loading a spreadsheet file into memory:**

If you wish to load a spreadsheet file into memory, select **L** from the command menu. MicroCALC will ask you to enter a drive number that the file will be loaded from. A 1 represents tape drive one, a 2 represents tape drive two, a 5 represents disk drive one, and a 6 represents disk drive two. Enter this figure, insert the disk or tape that contains the file and press RETURN. MicroCALC will display a directory of that disk or tape and wait for you to enter the name of the spreadsheet file that should be loaded. Enter this name and press RETURN. Remember, most spreadsheet files produced by MicroCALC will end with the '.c' extension. MicroCALC will proceed to load the file, recalculate it, then display it on screen. There are two demonstration as well as three application MicroCALC spreadsheet files contained on the program tape. We suggest that you load and view these files, as they may give further examples of how MicroCALC can be used effectively.

**Saving the spreadsheet file:**

If you would like to save the spreadsheet file to a tape or disk, select **S** from the command menu. MicroCALC will ask you to select a drive that the file will be saved to. Enter a 1 for tape drive one, a 2 for tape drive two, a 5 for disk drive one, or a 6 for disk drive two. Insert the tape or disk that the file should be saved on and press RETURN. MicroCALC will then ask you to enter a file name. Enter this name, remember to include the '.c' extension, and press RETURN. MicroCALC will proceed to write your spreadsheet file to the disk or tape.

**Copying cells within your spreadsheet:**

In order to copy the contents of a cell (formulas, values, text) or group of cells to a new location, select **C** from the command menu. This feature is especially useful for copying formulas, that will be repeated often, to other parts of the spreadsheet.

If you wish to copy the contents of a single, specific cell across several columns to its right, while remaining in the same row, select **RIGHT** from the copy command menu. MicroCALC

will ask you to select the desired cell and to press RETURN. MicroCALC will then ask you to enter the number of times that you wish the cell's contents duplicated. Enter this figure and press RETURN. MicroCALC will recalculate the spreadsheet, and your request should be reflected on the screen.

If you wish to copy the contents of a single, specific cell down several rows, while remaining in the same column, select **DOWN** from the copy command menu. MicroCALC will ask you to select the desired cell and to press RETURN. MicroCALC will then ask you to enter the number of times that you wish the cell's contents duplicated. Enter this figure and press RETURN. MicroCALC will recalculate the spreadsheet. and your request should be reflected on the screen.

If you wish to copy the contents from one area of cells to another area, select **FROM** from the copy command menu. Select the upper left cell of the area and press RETURN. Select then lower right cell of the area and press RETURN. MicroCALC will then ask you to select a starting cell which the selected contents will be copied to. Select this cell and press RETURN. Remember, you can enter the cells positions manually or by using the pointer. MicroCALC will recalculate the spreadsheet and your request should be reflected on the screen. It is possible to select sections of column rows to be copied by selected the first part of a column or row as the upper left cell and by selecting the last part of the row or column as the lower right cell.

#### **Output to MicroWRITE or MicroGRAPH:**

If you would like to include the entire spreadsheet, or just a section of it in a MicroWRITE document, select **WRITE** from the output command menu. MicroCALC will ask if the row and column guides should be included with the spreadsheet information when it creates the file. Enter a **y** for yes or an **n** for no and press RETURN. MicroCALC will ask you to select the area that should be saved as a MicroWRITE document. Select this area in the same manner as COPY. MicroCALC will then ask you to enter a drive number. Enter this number and press RETURN. Insert the disk or tape that the file will be saved on. MicroCALC will then ask you to enter a file name. Since it is going to create a MicroWRITE document, do not forget to add the '.w' extension. Enter this name and press RETURN. MicroCALC will proceed to save the file. The MicroCALC module itself, does not include a spreadsheet printing function. This was done in order to conserve memory. If you need to print your spreadsheet, first send it to MicroWRITE and print it from that module.

If you wish to graph (generated by MicroGRAPH) any of your spreadsheet figures, select **GRAPH** from the output command menu. MicroCALC will ask if a row or column will be graphed. Select the desired option. It will then allow you to select the area of the column or row that you wish graphed. This is done in the same manner as copy, however DO NOT move out of the row or column, select an area from within. MicroCALC will then ask you to enter a drive number. Enter this number and press RETURN. Insert the disk or tape that the graph data file will be saved on. MicroCALC will then ask you to enter a title for the graph. It will use this as the file name also. Enter this name and press RETURN. Remember, since this is a file that can only be read by MicroGRAPH, it should end with the '.g' extension.

#### **Recalculating the spreadsheet:**

When formulas are entered, they are calculated automatically. However if you change a figure at another time, the other cells are not automatically updated to reflect this change, it would

simply take too long to do this each time. That is why, when you have finished making any additions or changes to the spreadsheet, you must recalculate it. You may recalculate the entire spreadsheet by selecting **R** from the command menu.

A RECALCULATING message will appear at the bottom of the screen, and after a few moments, all the cells will be updated.

**Leaving MicroCALC:**

When you are finished using MicroCALC or wish to use another module in the **MicroWORKS** system, select **Q** from the command menu. Select **QUIT** then the desired destination and follow the screen Instructions.

REMEMBER TO SAVE YOUR SPREADSHEET BEFORE LEAVING THE MicroCALC MODULE!

**Please note:**

The concept of a spreadsheet can be difficult to understand. If you still require further explanation, we suggest that you purchase any one of a number of books on Microsoft Multiplan. MicroCALC resembles Multiplan in formula entry and operation. Because of its compatibility with Multiplan, there are literally hundreds of pre-made, type-in spreadsheet templates that can be used with MicroCALC.

# MicroGRAPH

## The Business Graphics Generator

MicroGRAPH is a module that allows you to graphically display any data created by MicroFILE or MicroCALC. Graphs are especially useful for presentations or whenever you need to understand a group of figures more clearly.

First, select **GRAPH** from the **MicroWORKS** command menu. Follow the screen instructions. After a few moments the MicroGRAPH module will be loaded into memory and its command menu will appear at the bottom of the screen.

### Loading a graph data file:

Before a graph can be displayed, the data for it must be loaded. In order to load a graph data file, created by either MicroFILE or MicroCALC, select **LOAD** from the MicroGRAPH command menu. MicroGRAPH will ask you to select the drive that it will load this information from. Insert the disk or tape that contains the graph data files and select confirm. MicroGRAPH will display a directory of the disk or tape and ask for a file name entry. Type in the desired file name and press RETURN. Remember most graph files should end with the '.g' extension. MicroGRAPH will proceed to load the file into memory then return to the command menu. There are two sample graph data files on the program tape. We suggest that you load and display them.

### Displaying a graph:

Once the data has been loaded and you would like to display a graph, select **GRAPH** from the command menu. MicroGRAPH will display three graph choices: Bar, Line, or Pie graph. Select the desired option and MicroGRAPH will proceed to draw the graph on the screen. When you have finished viewing the graph, press any key to return to the command menu. Any type of graph may be selected and viewed as many times as desired.

### Changing titles and headings:

If you are not happy with the title that is displayed at the top of the graphs, you may change it by selecting **CHANGE-HEADINGS** from the MicroGRAPH command menu. Select **TITLE** from the change-headings command menu. MicroGRAPH will ask you to enter a new title. Enter this title and press RETURN. MicroGRAPH will then return to the command menu. Whenever a graph is displayed your new title will appear at the top of the screen.

If you would like to change any of the headings that appear under the bars, lines, or to the right of the pie graphs, select **HEADINGS** from the change-headings command menu. MicroGRAPH will ask you to reenter each heading one by one. After a new heading is entered press RETURN. MicroGRAPH will return to the command menu. Whenever a graph is displayed your new headings should be visible.

**Saving a bar graph:**

If you wish to save a copy of the bar graph to disk for use in a MicroWRITE document, select **SAVE-GRAPH** from the MicroGRAPH command menu. MicroGRAPH will then ask you to select a drive that this file will be written to. It will then inform you to insert a tape or disk and to confirm this option. MicroGRAPH will then ask you to enter a file name. Enter this name and press RETURN. Remember since this file can be read by MicroWRITE, you should include the '.w' extension at the end.

**Leaving MicroGRAPH:**

When you are finished using MicroGRAPH or wish to use another module in the **MicroWORKS** system, select **QUIT** from the command menu. Then select the desired destination and follow the screen instructions.

# MicroEDIT

## The Picture Editor

MicroEDIT will allow you to custom design your own pictures, logos, designs, and integrate them with your MicroWRITE documents. The picture files that are created, may be saved or loaded in either MicroWORKS or SignSHOP format. This means, that if you own the SignSHOP program (another Strategic Software product which allows you to custom design signs, notices, banners, greeting cards, and letterheads), it is possible to include SignSHOP picture files, which you may have created or purchased, within your MicroWRITE documents as well.

First, select **EDIT** from the **MicroWORKS** command menu, then follow the rest of the screen instructions. After a few moments, the MicroEDIT module will be loaded into memory and its command menu will appear at the bottom of the screen.

### Creating a new picture:

In order to create a picture for the first time select **CREATE** from the MicroEDIT command menu. MicroEDIT will then ask you to enter a name for this picture. Enter no more than ten alphabetical characters and press RETURN. Remember, since this is a picture file, do not forget to add the '.p' extension. MicroEDIT will then ask you to enter the height of the picture matrix. This figure may be 1-50. Enter the desired height and press RETURN. MicroEDIT will then ask you to enter the width of the picture matrix. This figure may be 1 -50. Enter the desired width and press RETURN.

The screen will then clear and a small blinking cursor will appear in the upper left hand corner. X and Y coordinate guides will also appear at the bottom of the screen.

A picture is made up of a pattern of characters called pixels. Most newspaper pictures are made up of groups of small dot-like pixels. Pixels are represented by capital X's which appear on the screen. If you selected 30 for the picture width, then you may plot (place) a maximum of 30 pixels across. If you selected 45 for the picture height, then you may plot (place) a maximum of 45 pixels down.

The cursor will tell you where the next pixel will be placed in the matrix. You may move the cursor around the matrix by using the arrow keys located on the right side of your ADAM'S keyboard.

You may plot a pixel at a specific position by pressing the SPACE BAR once. If you would like to erase a pixel that already exists, place the cursor at the desired position and press the SPACE BAR again. The SPACE BAR works like a light switch. Press it once to plot a pixel, and press it again to erase a pixel.

We suggest that you work from the center of the matrix so that your picture will appear centered when it is printed. For example if the picture width is 30 and the height is 30, start plotting outward from X coordinate 15 and Y coordinate 15.

When you have finished designing your picture press ESCAPE to return to the command menu.

**Editing a picture:**

You may return to the editing matrix at any time from the command menu, by selecting **EDIT**. You may return to the command menu from the editing matrix, by pressing the ESCAPE key.

**Saving and loading picture files:**

You may save your picture by selecting option **SAVE** from the command menu. Then select the format which the picture file should be stored under. Select **SignSHOP**, if this file will be used with the SignSHOP program, or **MicroWORKS**, if this file will be used with MicroWRITE documents. MicroEDIT will then ask you to select a drive that the picture file will be written to. Select the appropriate drive and insert a tape or disk. Select confirm to continue. MicroEDIT will proceed to save the picture file on your disk or tape and return to the command menu.

If you would like to load a previously created or unfinished picture, select **LOAD** from the MicroEDIT command menu. MicroEDIT will ask you to select the format that the picture file was saved under, either MicroWORKS or SignSHOP. MicroEDIT will then ask you to select a drive to load the file from. Insert the disk or tape containing the picture file and select CONFIRM. MicroEDIT will then display a directory of that disk or tape and ask you to enter a file name. Enter this name and press RETURN. Remember, most picture files contain the '.p' extension. MicroEDIT will proceed to load the picture into memory. You will then be asked to wait a moment while MicroEDIT creates the editing matrix.

We suggest that you load and look at the picture file included on the MicroWORKS tape. This will give you some idea of how the MicroEDIT module works. You may print a rough draft of your picture while in the editor, by pressing SmartKEY II.

**Leaving MicroEDIT:**

When you are finished using MicroEDIT or wish to use another module in the **MicroWORKS** system, select **QUIT** from the command menu. Then select the desired destination and follow the screen instructions.

## Important Information

There is an important defect in the operating system of your ADAM computer that you should be aware of. It occurs when many files are saved, resaved, and deleted on the same disk or data pack.

When this happens, the disk or data pack will fill up prematurely and your ADAM will display a NO MORE ROOM error even though the directory shows several blocks free. Since the various modules of the MicroWORKS system generates several files, you will most likely encounter this defect.

Do not be alarmed, there is a vary easy solution to the problem. If you require more room on a tape or disk that contains several files that you have created with MicroWORKS, simply use a file copy program like The Disk Manager (by Coleco) or Back Up+ (by MMSG), and copy your original files to a freshly formatted disk or tape. Use the tape or disk that you copied the files to from that point on. Repeat this procedure each time you experience the defect. Eventually, you will use up the capacity of a disk or tape and will have to begin using e new one.

# Other Quality Strategic Software Products Available for your ADAM Family Computer System.

**ProofREADER** - Spell checking, typographical error detection, and correction system for SmartWRITER, MultiWRITE, and ASCII document files. ProofREADER is a high-speed, 100% machine language, auto-loading spelling checker, which has been specifically designed for the ADAM. ProofREADER comes with a dictionary file that contains more than 5000 of the most commonly used written words. By scanning this electronic dictionary, ProofREADER has the ability to locate misspelled words or typographical errors that are found within your SmartWRITER, MultiWRITE, or ASCII document files. If your writing vocabulary is larger than this, don't worry because ProofREADER allows you to create your own customized dictionary files, containing several thousand more words. ProofREADER is extremely easy to use. Simply run your document file through ProofREADER, then sit back and let the program do the rest. When ProofREADER finds a questionable word, it will display it on the screen along with several, correctly spelled alternate suggestions. You may replace the questionable word with your own entry or with any one of ProofREADER's suggestions.

**SignSHOP** - Turn your ADAM into a complete printing center with SignSHOP! SignSHOP will allow you to custom design and print beautiful signs, notices, fliers, posters, announcements, invitations, greeting cards, letterheads, and large-size banners. SignSHOP offers variable positioning commands, two type styles, 7 different banner sizes, and two print qualities. SignSHOP allows you to integrate pictures with anything that you design. Ten pre-formatted picture files are included with the SignSHOP program. These consist of religious, holiday, and general symbols, as well as a variety of others for many different occasions. In addition, hundreds of others are available commercially, within the public domain, or through user groups. Or, if you would like, you may design your own with SignSHOP's powerful picture editor, provided at no extra charge. An exclusive programming routine, designed by the engineers at Strategic Software, allows SignSHOP to produce stunning, near-DOT MATRIX resolution, on your standard ADAM printer. You will be utterly amazed with the results!

**MultiWRITE** - A professional word processing system, providing a 64 column display capability. MultiWRITE is the first, the only, and perhaps the last professional word processor that has been developed for the ADAM. MultiWRITE was modeled after word processors available for the IBM PC, Apple II, and CP/M computers. Not only does MultiWRITE include professional word processing features, it also provides a true 64 column display screen, without the need to purchase an expensive 80 column hardware board. The MultiWRITE software uses your standard ADAM hardware to produce the new display screen. MultiWRITE has the ability to convert your existing SmartWRITER files to MultiWRITE format. Your hours of work with SmartWRITER will not go to waste. MultiWRITE's on screen features include line centering, variable tab positioning, variable margin settings, paragraph formatting, word-wrap, horizontal scrolling, underlining, move & copy, word search, vertical position counter, and much more. Other MultiWRITE features include auto page numbering, right justification, mid-line insertion, forced page breaks, and variable line spacing. MultiWRITE is extremely easy to operate, single key presses are all you need to remember.

## Product list continued...

**PaintMASTER** - Now you can have the ability to create complex high-resolution graphic designs on your ADAM Family Computer quickly and easily. PaintMASTER brings out the true potential of your ADAM and may be considered more powerful than other graphic design software costing five times as much. With PaintMASTER you will be able to create sophisticated drawings, colorful presentations, and high-definition designs using an elaborate set of tools that any artist would envy. A totally unique program, PaintMASTER is commanded by a series of icon-driven representations, just like the Mac™. There are no commands to remember or type-in, a simple point-and-click is all it takes! PaintMASTER's features include twenty variable brush sizes and styles, a complete 16 color palette that controls both foreground and background, auto circle, triangle, polygon, and straight line formatting, as well as variable border and line thicknesses. PaintMASTER can also mix text, of any color, and your hi-res images on the same screen. PaintMASTER also has the ability to move and copy selected area of your drawing.

**TurboLOAD** - Load your programs as much as 10 times faster with TurboLOAD! No longer will you have to wait several minutes while your ADAM loads your favorite program into memory. With TurboLOAD, you can do it in seconds! Simply convert any Smart BASIC program to our exclusive TurboCharged format, then sit back and watch your program load at tremendous speeds. Your original program file will not be affected in any way. TurboLOAD will increase the performance of your disk or digital data drive by as much as 1000%. In addition, your digital data drives will now approach disk drive speeds. For those who already own disk drives, you can expect even faster results. Also included are two handy utility programs for your convenience. The File Organizer will allow you to manage and keep track of all your program files with just a few simple key strokes. For example, you can edit, delete, or rename one or many files, change the volume heading, restore deleted files, or change the foreground and background screen colors. The File Index will allow you to print out a detailed, alphabetized report of all your program files, and what disks or data packs they are contained on. With all of these features. TurboLOAD should be in every ADAM owners library!

**MicroWORKS** - A complete and fully integrated home/business productivity system. Contains 5 modules that work together: Text editor, data base, spreadsheet, picture editor, and business graphics. MicroWORKS was modeled after other best-selling Integrated programs like Lotus 1-2-3 for the IBM PC, and AppleWorks for the Apple II. The MicroWORKS system allows you to move data between each module very easily. Now you can produce more meaningful documents that contain lists, columns of number, graphs, and pictures right where you want them in the text. There are no commands to remember, each module operates the same way and displays all of its functions on the screen. The MicroWORKS modules include: MicroWRITE - a text editor that includes on-screen centering, variable tab and margin positioning, horizontal scrolling, mid-line insertion and deletion, forced page breaks, underlining, mail merge, chain printing, and much more! With MicroWRITE you can create memos, reports and form letters. MicroFILE - the data base includes customized record layouts, 24 characters per field, columnar reports, mailing labels, and statistical functions. Search for groups of records by any field. Edit, delete, or sort records at the touch of a button. MicroFILE can keep track of clients, mailing lists, and inventories, etc. MicroCALC - the spreadsheet, includes 750 storage cells, sum & avg functions, addition, subtraction, multiplication, division, powers, dec point position, auto formula building, rel and abs values, variable column widths, MultiPlan formula compatibility. With MicroCALC, you can devise budgets, project profits instantly, keep track of expenses and investments. MicroEDIT - the picture editor allows you to create designs and illustrations for use in MicroWRITE documents. Since it's SignSHOP compatible, you can use your own SignSHOP files or some of the hundreds of others that are available. MicroGRAPH - the business graphics generator allows you to graph your spreadsheet and data base data in anyone of three different formats. You may choose from a bar, line, or pie chart. Switch between charts without reloading data. Add your own titles for presentations Save bar graphs and integrate them with MicroWRITE documents. MicroGRAPH makes the most complex figures easier to understand. MicroWORKS loads in seconds due to our exclusive TurboCharged format. MicroWORKS may be the single, most useful product that you can own.