

Home Data Manager™

*An easy-to-use and versatile
information manager.*

by Mark Pelczarski

POLARWARE®

Home Data Manager™

*An easy-to-use and versatile information manager by Mark Pelczarski.
Documentation by Mary Beth Miller and Mark Pelczarski.*

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INTRODUCTION

(intro, starting up, configuring the drives, configuring the printer)

Welcome to the *Home Data Manager*. This program is designed to record and organize information in a simple File/Folder format, much like a real file drawer or cabinet... only faster and more versatile. The *Home Data Manager* can be used to create a variety of files, and because you are the designer, you can customize each file to suit your needs. Employ it to record addresses, catalogue collections, systemize a home inventory, categorize tax information, and more. Since all the file information is in your computer, it's simple to reorganize and restructure your files in countless ways.

Before reading on, there are a few words and concepts used in the *Home Data Manager* that need defining:

MASTER DISK: Refers to the **backup copy** of the original disk that you should make and use while working with *Home Data Manager*. You can copy the *Home Data Manager* disk with any standard DOS 3.3 copy program.

DATA DISK: A blank or unused disk that will be used to save a file. It is equivalent to a drawer in a file cabinet.

FILE: The entire amount of data on one data disk. It is made up of a group of *FOLDERS*.

FOLDER or RECORD: A group of *HEADINGS* and *ITEMS*. Each *FOLDER* has a tab at the top, like an actual file folder, showing the "name" or "key" under which the *FOLDER* is filed.

HEADING: The word(s) or symbol that tells the category of information, such as NAME, PHONE NUMBER, ADDRESS, etc. Each file can contain 18 headings for information.

ITEM: The single piece of information that is under a specific *HEADING*, such as "60134" under the heading ZIP CODE.

KEY: The item that is on the tab of each folder. The folders are sorted alphabetically or numerically by the key, and searching for a folder by the key is the fastest way to find it. The key can easily be changed to the items under any heading, at any time. That's one of the things that makes the "computer as a file drawer" neat.

D1,D2: These stand for disk drive 1 and disk drive 2. With an Apple //c, the internal disk drive is D1, and the external drive, if you have one, is D2.

To simplify the explanations of using *Home Data Manager*, an imaginary file for a record collection (called "Music") will be used as an example whenever necessary. Later, when discussing use of numeric data, we'll use an example that organizes expenses.

STARTING UP

The first time you use *Home Data Manager* you should make a copy of the original disk. To make a backup disk use any standard copy program that will work with a DOS 3.3 disk. Always use your **backup** disk (MASTER disk) when you work with *Home Data Manager*, and store your original disk in a safe place. This way, if your Master disk ever gets damaged, you can make a new one.

Your data disks can and should be backed up frequently, using any standard copy program. That's just in case a copy of one falls behind the couch onto the radiator, the family pet gets hungry, or whatever. You wouldn't want to lose all that work, would you?

To start up the *Home Data Manager*, place your Master disk in your disk drive and turn on your computer.

When the disk is finished loading, you will see a message on the screen, INSERT DATA DISK OR PRESS ? TO GET TO HOME DATA MANAGER OPTIONS. The first time you use *Home Data Manager*, press ?, and we'll configure your Master disk to your system and create a new data disk. Once you have a data disk, you can load *Home Data Manager* and go straight to your information without having to go to the "options" screen first.

When you press ? to get to the options screen, you should see the screen shown in figure 1.

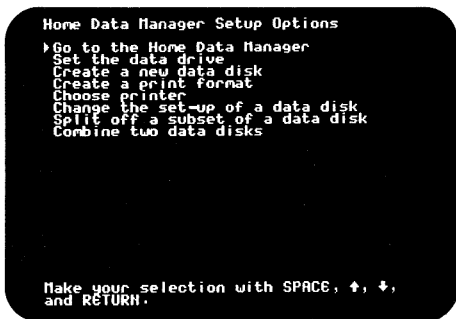


figure 1

To choose one of the options, use the **up and down arrows** or the **SPACE** bar, and press **RETURN** when the arrow points to your choice. This method of selection is used throughout most of *Home Data Manager*.

SET THE DATA DRIVE

This lets you choose whether you want to run the program with one or two disk drives. If you have two disk drives, you will save a little bit of disk swapping when you use the special options. The program is set up to be as easy as possible to use if you only have one disk drive, though, because that's what most people have. When you choose to set the data drive, you will be asked DO YOU HAVE 1 OR 2 DRIVES? Type in the appropriate answer (**1** or **2**), and this information will be saved onto your *Home Data Manager* Master disk. Once saved, this option will not be needed unless you add or take away a disk drive.

CHOOSE PRINTER

Choose this option to select the type of printer you have. This is used so that the print formatting can automatically set 80 or 132 column mode on your printer. Choose the printer that you have by pressing the **SPACE** bar until the arrow is pointing at your printer, then press **RETURN**. Like the disk

drive information, this will be saved to your Master disk, and you will not need to use this option again unless you change printers.

CHAPTER 1 (creating a data disk)

CREATE A NEW DATA DISK: This lets you format a data disk on which to store your records. There are four elements to defining what your data will look like: *Heading Name*, *Length of Item*, *Whether or not the Item is Numeric*, and, if so, *How Many Decimal Places?* These elements are listed at the top of the screen.

We'll create our Music file now. First, you need to figure out what information you want to store. We want an index to all the songs in our record collection, which album each song is on, who the artist is, and who the composer or composers are. We'll also put in whether the particular album is a record, tape, or CD (compact disk). Maybe later we'll want more information in each folder, but we can handle that then. So for now, we'll need headings for SONG, ALBUM, ARTIST, COMPOSER1, COMPOSER2, and FORMAT. (That leaves room for two composers in case we want to put in collaborations. Most songs have only one composer, so the second composer space will be left blank.)

Now we need to decide how much space each item might take. The less space they cumulatively take, the more folders we can fit on our data disk. We don't have to be too picky, but we also don't

want to waste a lot of space by making things much bigger than necessary. The maximum length for each item is 28 characters (letters, numbers, punctuation, and spaces).

Since SONG and ALBUM titles vary a lot, we'll leave the full 28 spaces for them. Names are a lot shorter, so we'll leave 15 spaces each for the ARTIST and two COMPOSER headings. Of the three FORMATS, "record" is the longest at 6 characters, so we'll leave 6 spaces for the FORMAT item.

None of the items are numeric, so we don't have to worry about that now. Numeric data is handled, formatted, and totalled by *Home Data Manager*, and that will be explained later in Chapter 4.

Now, we're ready to put in the information that will create our data disk. The first thing you will be asked is to name the data disk. Okay... type in the name "Music", then press **RETURN** (don't worry about your **CAPS LOCK** key... the *Home Data Manager* works fine with both upper and lower case letters).

Our choices now are to *Add a New Heading*, *Redo the Last One*, or *Done*. The **SPACE** bar moves the arrow from choice to choice, and the **RETURN** key selects what you want to do. To start, of course, we'll add a new heading, so press **RETURN** when the arrow points to that choice.

Now we start entering the heading information. The first heading will be SONG, so type in "Song" and press **RETURN**. The cursor will move over to the length column. Type "28" and press **RETURN**. Now the cursor moves to the "Numeric?" column. Since none of these are numeric, press **N** for NO. The decimals column is skipped since it's not numeric data.

When done with this line, you get the same three choices: *Add*, *Redo*, or *Done*. If you made a mistake in the previous line, simply choose *Redo*. Otherwise, to proceed, choose *Add* again.

Repeat the same procedure for ALBUM, using the same length, 28. Then repeat for ARTIST, COMPOSER1, and COMPOSER2, using a length of 15 for each item. Finally, enter the heading FORMAT with an item length of 6.

When finished with the headings, select *Done*, and you will be asked HOW MANY

CHARACTERS SHOULD SORTS AND FINDS USE (5-9)? This is for the length of the key that will be recognized. When *Home Data Manager* is searching or sorting, it will "look" at the first 5, 6, 7, 8, or 9 characters (letters or numbers) of the key. The shorter you make this length, the more data you can fit in your computer.

For our Music file, we'll use 8 characters, since a lot of song titles start with the same word. Eight characters will give us more to distinguish them with.

We've now mentioned two things that affect how many folders you can eventually fit on your data disk. The total combined length of all your items determines how many folders will fit physically on the disk. The length of the key (the number of characters that are sorted and searched upon) determines how many folders can fit in your computer's workspace. During use, the "keys" are put into the computer workspace (actually, the number of characters from each key that you specify). If there are 5 characters from each key, you can fit a lot more keys into that workspace than if there are 9 characters from each key.... almost twice as many!

After giving the key length, *Home Data Manager* will ask you to wait while it formats the data disk. Previous information on the data disk will be erased while it's being formatted, so **DO NOT** use a disk that has information on it that you want to keep. After formatting the disk, the *Home Data Manager* will tell you the number of folders that can fit on that disk based on the information you gave. Then you are all set to go back to the actual *Home Data Manager* program and put in your data.

NOTE: Once you create one data disk with a certain set-up (specific headings, lengths, numerics), you CAN duplicate that set-up onto other data disks without "re-creating" it. See chapter 5 about "Splitting a Data Disk".

CHAPTER 2 (after choosing GO TO HOME DATA MANAGER)

When you go to the *Home Data Manager*, insert your data disk, wait for its information to load in, and you will be given the choices in figure 2. These are the *Main Choices*, and you can always get back to here by pressing the **ESC** (escape) key.

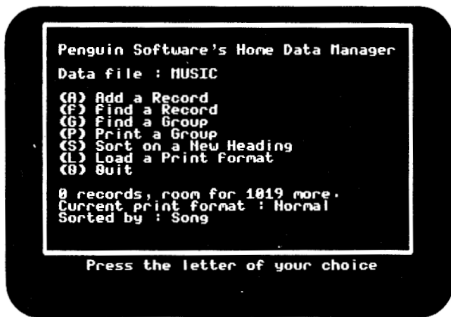


figure 2

Note that this is one of the only screens where you choose your choice by pressing a letter. That's

because this screen is one of the most frequently used, and pressing just the letter of your choice saves a lot of keystrokes.

ADD A RECORD

This is where you start once you have created a file disk and are ready to type in information. The cursor will be positioned at the first heading of the record. Type in the information requested under each heading, pressing **RETURN** each time to continue on to the next heading. If you have no information for a particular heading, press **RETURN** to move on to the next one and leave that section blank (leaving the item blank that the file is sorted on... the key... will cause that folder to be filed at the beginning of the file "drawer"). When you are done entering the information, the record will be displayed in its folder format. If everything is okay, press **RETURN** to continue. For other options see the next section.

NOTE: If an error message is displayed while entering numeric information (described later), you must press the **SPACE** bar to continue, then enter the correct information.

THE FILE FOLDERS (changing information, deleting folders, printing a folder, flipping through the file drawer)

Once your folder is filed (after it's been added and you've gone back to the choices), you can tell approximately in what area of the "file drawer" your folder is by where the tab is located. Tabs at the left end of the folder are filed toward the beginning of the "drawer", tabs at the middle of the folder are filed toward the middle, and tabs at the right end of the folder are filed toward the end.



figure 3

When you are using your file disk and have a folder on the screen, there are several things you can do. At the bottom of the screen, below the folder, is an option window that gives your choices. A sample is shown in figure 3.

CHANGE

To alter a single item under one of the folder headings, position the arrow with the **up/down arrow keys** or the **SPACE** bar until it is pointing at the heading and item that you want to change, then press **C**. The item under that heading will be replaced by a blank white bar. Now just enter the new information and press **RETURN**. You can use the Change option to insert data that you left blank when you first created the folder, or to change or correct data previously entered.

DELETE

Press **D** or the **DELETE** key to delete an entire folder. When you choose this option, *Home Data Manager* will ask "DELETE THIS RECORD?" to make sure you really want to erase the information in the displayed folder. Answer Yes or No (just press **Y** or **N**). If you answer yes, the record will be erased from the file. Answer no, and the folder will not be altered in any way.

PRINT A RECORD

To *print* a record that is currently on the screen to your printer, hold down the **CONTROL** key and press **P**. This will print out the folder in whatever format is listed as the *Current Print Format* (on the main screen of the file disk). There is a standard format that is usually used, but you can create your own print formats, too. Creating a new print format is described later in Chapter 3.

FLIPPING THROUGH THE FILE FOLDERS

The **right and left arrow keys** allow you to flip through your folders one at a time any time a folder is displayed on the screen. The **left arrow** shows the folders that appear before the displayed folder (in front of it in the “file drawer”), the **right arrow** shows folders that appear behind it.

GETTING BACK TO THE MAIN SCREEN

Either the **RETURN** key or **ESC** key will return you to the file’s main screen. **ESC** always goes directly to the main screen. **RETURN** continues what you were doing, so if you told the computer to find a group of folders, **RETURN** tells the computer to get the next one. Otherwise, **RETURN** just takes you back to the main screen.

FIND A RECORD

This option will quickly find any folder in your file from the information on the folder tab (the “key”). A folder will appear on the screen with the heading name of the current key under which the files are sorted. Type in the information on the tab of the folder you are looking for (the first 5-9 characters will do, depending on how many you kept for the key) and press **RETURN**. The *Home Data Manager* will look for the first folder tab with those exact characters and then show it to you.

NOTE: Records are *not* sorted on the disk nor are they stored on the disk in the same order as they were entered. Instead, they are automatically stored in a sequence that compresses the file to maximize disk space.

If it couldn't find a folder tab with those exact characters (upper or lower case does not matter), a message will tell you "THAT WASN'T FOUND... PRESS ANY KEY". When you press **SPACE** (or almost any other key), the folder that is filed immediately before where the one you are looking for should have been will be shown. Use the right arrow key to "flip" through the following folders to try to find the one you wanted... or use the left arrow to flip through all the surrounding folders. This is handy if you're looking for a name like "Pelczarski" but forget how it's spelled. Just tell *Home Data Manager* to find "Pel", or even just "P", then flip through the folders in the vicinity to find the one you want. Or, in our Music file, you can easily find all the song titles starting with the word "You" by "finding" the first one and using the right arrow to flip through all the others.

FIND A GROUP

This option lets you look for a group of folders with some type of information in common. You can give a list of SEARCH CRITERIA from which the computer can find folders that meet your specifications. With our Music file, for example, you could have the computer find all the songs written by Carole King.... or all the songs performed by Buddy Holly.... or all the versions of "City of New Orleans".

You'll be shown a list of the headings for your file. Select which heading you want to search for information under with the **SPACE** bar and press **RETURN**. Then select whether the information under that heading you want found should be *LESS THAN OR EQUAL TO*, *EQUAL TO*, or *GREATER THAN OR EQUAL TO* the comparison item that you'll type in. Less than, when using names or letters, means coming ahead of something in the alphabet.

For example, "Abba" is less than "Beatles" since Abba comes first in alphabetical filing. Likewise, "ZZ Top" is greater than "Zevon, Warren", since "ZZ" is filed after "ZE". Equal means exactly the same, except there is a way to make it mean "almost the same".

How to make it "almost the same": if you say you want something equal to "Z", *Home Data Manager* will find every item starting with Z, including "ZZ Top", "Zevon, Warren", "Zappa, Frank", and "Zep-pelin, Led". Of course, to just get Zevon and Zep-pelin, you could ask for everything equal to "ZE*": Using an asterisk after a character or characters means that anything following those characters is acceptable.

FINDING A GROUP — EXAMPLE #1

Here is one example using our Music file:

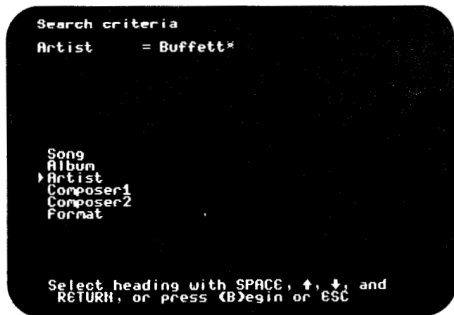


figure 4

After you press **G** to find a Group, the six headings for the file "Music" will be listed on the screen. To search for all the Jimmy Buffett songs in your file, move the arrow to point at Artist and press **RETURN**. Then, for the comparison, say you want the information to be *EQUAL* to what you type in, then, for the comparison data, enter "Buffett, Jimmy", or just "Buffett", and press

RETURN. To start your search, press **B** to begin. This search will take a little longer than just a "Find", since the entire disk is being searched for the information. When you do a "Find", the computer just looks for the *Key* information, which is stored inside the computer.

When the first folder that contains a song by Buffett is found, it will be displayed on the screen. Press **RETURN** to continue the search. You can also press the **ESC** key at any time to quit the search and escape back to the main choices.

FINDING A GROUP — EXAMPLE #2

It is possible to search for a group with a whole list of search criteria — up to 8 different categories. Suppose you wanted a list of all Beatles' songs written by George Harrison alone. First, you choose **G** to start a group search. Move the arrow to artist, and press **RETURN**. Then tell the program that you want the artist to *Equal* "Beatles". At this point, all the songs performed by the Beatles will be found.

Instead of pressing **B** to begin the search, move the arrow to Composer 1 and press **RETURN**. Then tell it you want Composer1 to *Equal* "Harrison". Besides finding all the songs performed by the Beatles, *Home Data Manager* will also find all those written by Harrison.

You can now press **B** to begin the search. But you'll be asked one more question. Since you've specified more than one search criteria, *Home Data Manager* will want to know if it should find folders that match *ALL* the criteria, or match *ANY* of the criteria (in computerese, these are equivalent to ANDING the tests or ORing the tests, respectively).

If you tell the computer the folders should match *ANY* of the criteria, it will find every song performed by the Beatles (each of those songs does meet one of the criteria you set), and it will also find every song written by George Harrison (yes, he did write some songs for other than the Beatles).

If you tell the computer the folders must meet *ALL* the criteria, only the folders that match both criteria that you set will be found. In other words, to be displayed, a folder must have a song performed by the Beatles *AND* written by George Harrison.

FINDING A GROUP — EXAMPLE #3

Let's look at an example of where you'd use the "ANY" match option. We now want to find all songs that Carole King wrote or co-wrote. Since many of her early songs were written with Gerry Goffin, sometimes she'll be listed as Composer1 and sometimes as Composer2.

Select **G** to search for a group. Then move the arrow to Composer1, press **RETURN**, and tell it you want to find everything *equal to* "King, Carole", or "King, C*" (if you want to avoid typing 5 more letters). Repeat by selecting Composer2, and saying you want everything with that *equal to* "King, C*". When you begin your search, tell the computer to match *ANY* of your criteria. Now it will find every song with Carole King listed as Composer1 *OR* as Composer2.

FINDING A GROUP — EXAMPLE #4

The one use of *ALL* and *ANY* that seems most confusing to a lot of people is when you want to find some names or numbers in a range. For our Music file, suppose we wanted all the songs by artists with names beginning with L through R (roughly, Lauper through Ronstadt...). Press **G** to find a group, select Artist *greater than or equal to* L. This will find all songs by artists whose names are L-something or greater... all the way up to ZZ Top. Then select Artist *less than or equal to* RZZZZZ. This will find all songs by artists with names R-something or less, all the way down to Abba. (You could have actually said less than or equal to “S”, since to our knowledge there is no artist named S, and the next thing below that in the file is R-something...)

Now begin the search. Tell the computer it should match *ALL* the criteria! If you were to tell it to match *ANY* of them, it would give you every song in your file! “Abba” meets the second criteria (less than RZZZZZ), so it would be chosen, and “ZZ Top” matches the first criteria (greater than L), so it, too, would be chosen. You’d get everything in between, also. So tell the computer to match *ALL* your criteria. It’ll work better.

FINDING A GROUP — EXAMPLE #5

There are other times that you “find groups”, such as when you want to “print a group”, or in the option that lets you split off a subset of your file. Sometimes you may even want to just print out the entire file automatically... every folder, with no special criteria for anything to meet. To do that, when you get to the part where you are asked to select a heading for some criteria, don’t. Just press **B** to begin. With no specific criteria to meet, everything in your file will be printed! Simple.

SORT ON A NEW HEADING

This option lets you re-file your folders by changing the folder tabs to a new *key*. Tell it which key you now want your file arranged by, and the whole file drawer will quickly and automatically be reorganized with the new tabs on your folders.

When you press **S** to re-sort your folders, you will be asked which heading should now be the *key* for sorting. You can also choose, if you want, the tabs sorted in *ascending order* (alphabetic, or lowest number to highest) or *descending order* (reverse-alphabetic, or highest number to lowest).

For example, say you're using your Music file and you decide you'd rather file the records by Artist instead of Song. Choose **S** to Sort on a New Heading. You will see all of the headings that make up your Music folders and the current sort or key heading.

Choose the new heading on which you wish the folders to be sorted with the **SPACE** bar or **arrows**, and press **RETURN**. Then decide whether the folders should be sorted in *ASCENDING ORDER* (from lowest to highest, or A to Z) or in *DESCENDING ORDER* (from highest to lowest, or Z to A). *Home Data Manager* will automatically re-sort your folders according to the new information. It will stay that way until you tell it otherwise.

LOAD A PRINT FORMAT

This lets you replace the current printing format with a print format that you have created. *Home Data Manager* will ask you to type in the name that you gave the print format you want. Type it in and, after it is loaded into the computer, it will become the "current print format." Any record you print will be in this format unless you use this option again to load a different one. If you want to go back to the standard print format that *Home Data Manager* starts with, just press **RETURN** when you are asked for the name. Creating a new print format is discussed in the next section.

QUIT

When you quit, you leave your current data disk. You can either restart *Home Data Manager* (to load another file disk, or go to the other *Home Data Manager* options), boot another program, or turn off your computer. You will be asked "ARE YOU DONE WITH THIS DATA DISK?" (Y/N). Answer Yes or No (Press **Y** or **N**). If you answer no, you will go right back to the main choices. If you answer yes, you will be told to insert the disk you want to boot. It can be *Home Data Manager* or any other disk.

CHAPTER 3 (creating a print format)

CREATE A PRINT FORMAT

When you startup *Home Data Manager* and press ? to get to the options, you can create a new print format. This allows you to design the format in which your folders are printed on your printer. The new format is saved, and you can use it anytime you use your data disk by loading it from the main screen as described in the previous chapter.

A format is like a template for printing the contents of a folder. You tell it where to put everything on the printed page so that when you actually print something from your data disk, if that format has been loaded, the printout will look exactly like you defined it. The “normal” format (the one used automatically) looks just like your folder as it appears on the screen. If that is okay, you don't have to make any kind of special print format.

When you select “Create a Print Format”, you will be instructed to put in your data disk. Since the format is tailored to your data (headings and lengths), that information is read into the computer. The screen that appears will show the headings for your data disk and an “empty” page with a single-dot cursor in the upper-left corner. The bottom half of this screen contains the information and choices for creating a new print format as in figure 5.

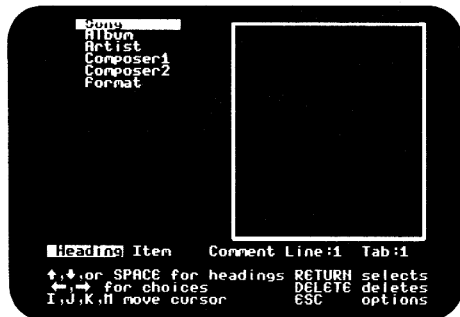


figure 5

Press the **up/down arrow keys** or the **SPACE** bar to change which heading is highlighted. The **right/left arrow keys** are used to select *HEADING*, *ITEM*, or *COMMENT* by showing them in inverse. The **I J K M** keys are used to position the small, flashing-dot cursor on the layout of the page. As you move around the page, the *LINE* and *TAB* counts will change at the bottom of the page, telling you exactly what line of the page you are on and at which tab field. Each page has 66 lines down, and either 80 or 132 columns across. The number of columns can be set by you.

When you press **RETURN**, you place the selected information on the page at the cursor location and to the immediate right. What is the selected information? The highlights on the heading and on *HEADING*, *ITEM*, or *COMMENT* determine that. Suppose the heading "Album" is highlighted (by pressing the **up/down arrows** or **SPACE** bar). If the word *HEADING* is also highlighted below, what goes on the page is the actual heading name... the word "Album". If *ITEM* is highlighted, the information under that heading (the actual data) goes onto the printed page. This will be the album name for the folder you are printing (when you do go to print). Depending on which folder is being printed, you'll get something like "Abbey Road" or

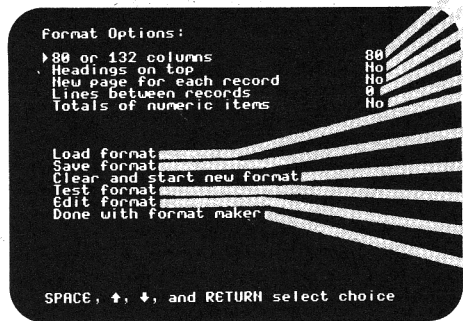
"The Stranger". If *COMMENT* is highlighted, you can enter anything that you want to put there. Your entry will appear on every record that you print out. This is handy if you want to title or label something with other than a heading or information . . . something like "Polarware Invoice." You can use the *COMMENT* option to help create any kind of form for printing out your data, and you can have up to 20 different "comments" per page. The maximum length for each individual comment is 30 characters.

When you select something to put on the screen, a white line will appear on the page layout where that item will appear on the actual printed page. If you selected a *HEADING*, the white line will be the actual length of the heading (for "Album", five spaces would be reserved). If you selected an *ITEM*, the length you defined for the item when you created the data disk will be reserved (we reserved 28 spaces for album titles, so 28 spaces would be reserved on the page). If you enter a *COMMENT*, the actual length of the comment will be reserved.

If you want to go back and check exactly what one of those white lines on your page is, just position your cursor over it. The highlighted information automatically changes to tell you what is there.

If you make a mistake, or want to move something that you already put on the page, put your cursor on top of it and press the **D** or **DELETE** key. It will go away.

You can press the **ESC** key to get further options as shown in figure 6. These will be discussed individually in the following text. To choose one of these options, as usual, use the **updown arrows** or **SPACE** bar and **RETURN**. To get back to the editing screen, choose "Edit Format".



print in 80 or 132 column format

place headings at top of page

print each record on a single page

of lines inserted between records

total all numeric items

load in a format so you can edit it

save a new format to disk

clear screen and start new format

test a format by printing out a sample

go back to the editing screen

go back to Options

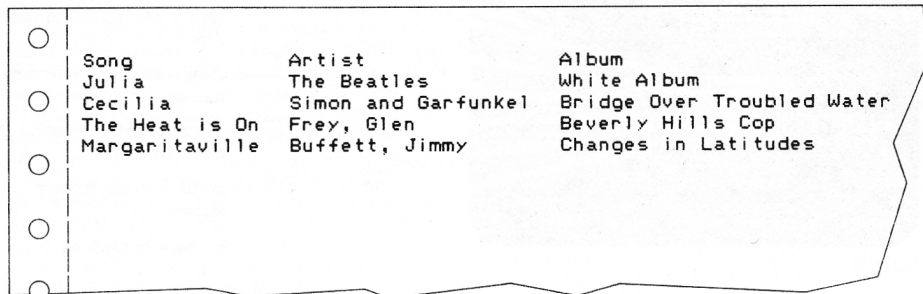
figure 6

CREATING A FORMAT — EXAMPLE #1

Suppose you want to create a format that will print your data like figure 7. In this case, the information we want from each folder is printed in a single line, and all that is printed is the actual item information. There are no comments and no headings, except for the ones printed at the very top.

To create this format, first leave your cursor on line 1, tab 1 (remember, the actual line and tab location is shown in the lower right corner of the screen). Move the highlights to *SONG* and *ITEM*, then press **RETURN**. A white line 28 dots long

will appear on the screen to the right of your cursor (28 is the length we gave for the item under "Song"). Keep pressing the **K** key (or hold it down on a //e or //c, or hold it and the **REPEAT** key down on a // or //plus) to move your cursor to column 32 (TAB=32). Move the highlights to *ARTIST* and *ITEM* and press **RETURN** again. This time a white line 15 dots long will appear (the item under Artist had 15 characters reserved). Keep pressing the **K** key until you are at column 50 (allowing a couple spaces between items), move the highlights to *ALBUM* and *ITEM* and press **RETURN** once more.



Song	Artist	Album
Julia	The Beatles	White Album
Cecilia	Simon and Garfunkel	Bridge Over Troubled Water
The Heat is On	Frey, Glen	Beverly Hills Cop
Margaritaville	Buffett, Jimmy	Changes in Latitudes

figure 7 column report
CREATE A PRINT FORMAT

You've now defined one line of your format. That is all you need. Each folder, when printed, will look exactly like this. Now press **ESC** to go to the rest of the format options (as shown in figure 6) and to save the format. This list of options gives extra information for your format and choices to load, save, go back to editing, and go back to *Home Data Manager* options. The second line down says "HEADINGS ON TOP", and at the right says "No". Ordinarily, the headings are not printed at the top of the printout. Move the cursor to point at HEADINGS ON TOP and press **RETURN** to change the "No" to a "Yes". (This choice toggles. Each time you press **RETURN** it switches between "yes" and "no".)

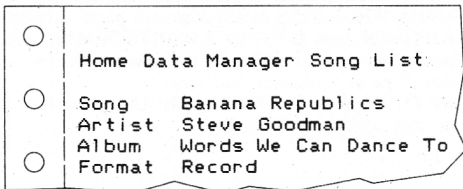
If you have your printer hooked up, test how your format will look on an actual piece of paper. Move down to "TEST FORMAT" and press **RETURN**. One simulated record will be printed out. Instead of actual data, the heading name will be repeated over and over to fill out the length given to the item. For example, the test will print 15 spaces of "ArtistArtistArt" for the item under artist.

Now move the cursor to "SAVE FORMAT", press **RETURN**, and you will be asked for a format name. Give it some name (something creative like "Columns"), press **RETURN** and it will be saved.

Choose DONE WITH FORMAT MAKER, press **RETURN**, and a prompt will appear, "ARE YOU DONE WITH THIS FORMAT AND HAVE YOU SAVED IT?" Y/N. Press **Y**, then a prompt will appear, "PUT YOUR HOME DATA MANAGER DISK IN AND PRESS RETURN". Put in *Home Data Manager* and choose "GO TO THE HOME DATA MANAGER". Put the data disk in and press **RETURN**, then **L** "LOAD A PRINT FORMAT". A prompt will appear asking for the name of the format. Type in "Columns" and press **RETURN**, then **P** "PRINT A GROUP". Press **B** (Begin), and it should work.

CREATING A FORMAT — EXAMPLE #2

Now we'll try a format that uses more features. Take a look at figure 8. This format prints some of the actual headings and also includes a comment at the top. We'll print these one per page and use up a lot of paper. Or you can just skip a few lines between records and cut them apart. What you do with them after cutting them apart is your problem, but this type of format comes in handy for generating notices, long form data, labels, or separate sheets that go to different places.



	Home Data Manager Song List
Song	Banana Republics
Artist	Steve Goodman
Album	Words We Can Dance To
Format	Record

figure 8

form report

To create this format, boot *Home Data Manager* and choose **CREATE A PRINT FORMAT**. Go to the format maker and start with a blank page. First, do the comment line at the top. Leave your cursor at line 1, tab 1, move the highlight to *COMMENT* (the position of the other highlight by the headings doesn't matter) and press **RETURN**. You can now type in the comment you want and it will appear at the bottom of the screen. When done, press **RETURN** and the length of the comment will be reserved on the page layout.

Now use the **M** key to move down to line 3, tab column 1. Position the highlights over *SONG* and *HEADING*, and press **RETURN**. Four spaces are reserved now for the word "SONG". Then, using the **K** key, move your cursor out to tab column 15. Move the highlights to *SONG* and *ITEM*, and press **RETURN**. 28 spaces will be reserved for the data under "Song".

Use the **M** key to move down a line and the **J** key to move back to column 1, and repeat the previous steps for *Artist* (select *ARTIST* and *HEADING*, press **RETURN**, move to column 15, select *ARTIST* and *ITEM*, and press **RETURN**). Move down again to do *Album* and again to do *Format*.

Remember, if you get confused about which information is where on the page, move your cursor over the white lines and the highlights will automatically move to tell you what each stands for. And if you accidentally put something in the wrong place, just move your cursor over that white line and press the **DELETE** or **D** key, and it will be removed.

Once you are done laying out the page, press **ESC** to go to the other choices for formatting. This time we don't want the headings on top, but we do want a new page for each record (or folder). So use the **up/down arrows** or **SPACE** to point at "NEW PAGE FOR EACH RECORD" and press **RETURN**. The "No" turns to a "Yes". If you have your printer hooked up, you can now go down to "TEST FORMAT" and print out a sample of what this format will look like. Then you can save the format with whatever name you want, and go back to the *Home Data Manager* program to try it with some real data.

ALL THE OTHER FORMAT OPTIONS

To review the other options for formatting and to go over a few not yet mentioned, go through the format options in order. These are the options you see when you press **ESC** from the layout screen. They're shown in figure 6 (pg. 21).

80 OR 132 COLUMNS

Sometimes, particularly with column reports as in example #1, 80 columns wide is too little to fit everything across a page. Most printers can also print in a 132-column format with condensed type. By moving your cursor in front of this option and pressing **RETURN**, you toggle between 80- and 132-column print format.

If you lay out a page for 80-column format (as in the two examples), then use this to toggle to 132-column mode and then go back to the Editing page, you'll see that all your text gets scrunched together toward the left half of the page. The result is a lot of extra space on the right side. If you lay out a page using 132 columns you can sometimes toggle to 80-column format, but **ONLY** if nothing was put beyond column 80. In other words, you cannot accidentally drop something off the right side of your page layout.

HEADINGS ON TOP

This was used in example #1. If you want all the headings listed first, before any data is printed, toggle this option to "Yes". Whenever you "Print a Group" anything on your page layout that lists an *Item* will have its *Heading* printed in its place before any records are printed. This is used most often for column reports, where all that will go into your page layout is one row of *Item* information and nothing else.

NEW PAGE FOR EACH RECORD

This was used in example #2. When you design your format, no provision is made for spacing between two consecutive records; you have to tell it how much space, if any, to leave between records on the printed page. If you toggle this option to "Yes", each record will print on a new page. The next option lets you choose just a few blank lines if you want.

LINES BETWEEN RECORDS

This lets you choose how many blank lines to put between records that are printed out. If you chose to use a new page for each record, this wouldn't apply. For a more compact printout and readability, though, you might choose to leave one line or more blank between records. Sometimes with col-

umn reports, you may not want blank lines (0) between records. When you point your cursor at this option and press **RETURN**, you will be asked how many blank lines you want, (0 to 9). Just press the number you want.

For mailing labels, the standard variety of label has room for four lines of type, with two lines blank between labels. (Of course, if you only use three lines of type, leave three lines blank between records, etc.)

TOTALS OF NUMERIC ITEMS

Numeric items are discussed later, but if you have numeric items in your format, toggling to "Yes" on this option will cause every numeric item printed out to be totalled. Whenever you "Print a Group", all the records will be printed. After they are done, the totals of each of the numeric items will be printed at the bottom of the report, in the same format as each of the records. So a column report would have the column totals at the bottom for every item that is numeric.

LOAD FORMAT

This lets you load in a format that you previously created so that you can modify it or just view it.

SAVE FORMAT

This saves your format to your data disk. Remember to do this always, whether you have just created a new format or modified an existing one. If you don't, your layout will be forgotten. Give your format a name and then, when using *Home Data Manager* with actual data, you can load in the format by name. Everything printed will be in that format until you specify otherwise.

If you have two data disks with exactly the same definition (same headings, same lengths, same numeric items), you can load a format from one of the disks, remove the disk and put in the other data disk, and save the same format to the second disk. This way, with identical data formats, you do not have to recreate existing formats.

CLEAR AND START NEW FORMAT

If you choose this, you are first asked if you really want to clear the format on which you are working. If you answer yes (by pressing **Y**), the page layout is cleared and you can start over. This lets you restart if things seem to be getting messy, or lets you create more than one format at a time (create one, save it, clear, create another, and save it).

TEST FORMAT

As discussed in example #1, this prints a simulated record to your printer in the current format displayed on the layout screen. No data is actually used. Instead, heading names are repeated over and over to fill the length of the items.

EDIT FORMAT

This takes you back to the screen with the page layout so, if you want, you can do further editing.

DONE WITH FORMAT MAKER

This goes back to the other *Home Data Manager* options if you are done creating and saving your format. You are asked to verify that you have saved the format on which you were working before going on.

A TRICK WITH SPACING

When you design your format, in most cases TABs (like on a typewriter) are put in by the computer so your printout will come out in the columns you chose. Sometimes that does not create the kind of format you want. An example where the TAB is awkward is with an address label. Consider the following address labels, created with TABs (the headings in the file from which this was made are Name, Company, Address, City, State, and Zip Code):

```
Sam Smith
General Gerbil Co.
15 Ackerman St.
Clarendon Hills IL 60514
```

```
Diane Jones
Zxzy Marketing
2300 Union Place
Geneva IL 60134
```

Note how the Clarendon Hills IL address is spaced nicely, but the Geneva IL address has a wide, gaping hole in it. That particular label would be much better as:

```
Diane Jones
Zxzy Marketing
2300 Union Place
Geneva IL 60134
```

This kind of spacing can be done. When creating your format, leave exactly one blank space between "things": Only one space will be left in the printout, not a TAB. (By "things", we mean *Headings*, *Items*, or *Comments*.) If two or more spaces are left between things, a TAB is generated. With *Headings* and *Comments*, this never really makes a difference because they are always fixed lengths. But with *Items* that vary in length, it means different results.

In our example, the "City" items, Clarendon Hills and Geneva, have very different lengths. When creating the format, if you position City at the left edge of the page (Tab=1), move to the right, leave *exactly one blank space* after the white line, then put State, move to the right and again leave exactly

one blank space before Zip Code, you will get the results of the second "Diane Jones" label. If you leave two or more spaces, your results will be like the first "Diane Jones" label. See figure 9 for examples where TABs are handy and where just single spaces are handy.

WHEN TABS ARE HANDY

One space only:

<input type="radio"/>	Name Phone
<input type="radio"/>	Fred 212-1111
<input type="radio"/>	George 311-9999

Tabs used:

<input type="radio"/>	Name	Phone
<input type="radio"/>	Fred	212-1111
<input type="radio"/>	George	311-9999

WHEN SINGLE SPACES ARE HANDY

Tabs used:

John Dilly
200 Main Street
Westmont IL 60559

One space only:

John Dilly
200 Main Street
Westmont IL 60559

figure 9

CHAPTER 4 (numeric data)

THE DIFFERENCE BETWEEN CHARACTER AND NUMERIC DATA

So far, our examples have used only “*character*” data; that is, information that is treated only as characters printed on a page, whether those characters are letters of the alphabet, symbols like commas and parentheses, or numerals. *Numeric* information can also be stored; numbers that can be printed in decimal format, used in computations, and totalled.

There is a distinction that must be made between numerals used as *character data* and numbers used as *numeric data*. Sometimes a data item will always contain just numbers, as in a zip code, social security number, or, if parentheses and hyphens are omitted, a phone number. These are examples of items that you would NOT want to have as numeric. On the other hand, items containing dollar values or quantities of things WOULD be good things to treat numerically.

Why the difference? Well, first of all, if an item is treated numerically, leading zeroes are always left off. So if a zip code is treated numerically, zip codes like “01824” would always be displayed and printed as “1824”! The leading zero would always be dropped automatically. If the zip code is not treated as numeric data, exactly what you put in is what is always displayed and printed. The “01824” is not treated as a number, but as the characters you typed in.

If an item is treated numerically, though, certain things are done automatically. You can specify that an item should always contain two decimal places, such as a dollar amount. Then, no matter what you enter when adding or changing an item, it will always be formatted in displays and printouts with two decimal places, automatically adding zeroes if necessary. For example, you could enter “12” when putting in the data, but in printouts and displays, it will be shown as “12.00”.

Something you might not expect also occurs when sorting numbers as numeric data or character data. Suppose a *key* item contained the data 12, 7, and 321 on three different folders. If this item is numeric, sorting on this key will correctly put them in the order 7, 12, 321. If the item is not numeric, all sorting is done character by character. That is, the first characters are arranged in order, then the second, and so on. That works fine with putting things like *George*, *Jeff*, and *John* in order. But with the numbers in the example used, they'd be put in the sequence 12, 321, 7, (1 comes before 3, which comes before 7). This is okay with zip codes, phone numbers, and the like, since they all have the same number of characters, and contain leading zeroes. But with dollar amounts and quantities it could present a problem. That's why they should be treated numerically.

The third difference with numeric items is one of convenience. When entering numeric items, you can use calculations to arrive at values. Suppose that when you add or change an item you enter $47+58$. The actual value that is stored is 105! You can use addition (+), subtraction (-), multiplication (*), division (/), and parentheses to group calculations.

Calculations are done by the usual computer priorities. Multiplication and division are done first, from left to right. Then addition and subtraction are done, again from left to right. Anything in parentheses is done first. Figure 10 has some examples of calculations and their results.

Calculation	Result
$12+3$	15
$12-3$	9
$12*3$	36
$12/3$	4
$4+8/2$	$4+4 = 8$
$(4+8)/2$	$12/2 = 6$
$6+2*3$	$6+6 = 12$
$(6+2)*3$	$8*3 = 24$
$(4+5)*(14-12)/6$	$9*2/6 = 18/6 = 3$
$4+5*14-12/6$	$4+70-2 = 74-2 = 72$

figure 10

You can tell the difference between numeric and character items by the prompt when you are asked for input. If it is a character item, the underline character () is used, if it is a numeric item, the number sign (#) is used. If you make a mistake while entering numeric data (pressing a letter key, entering too large a number...) you will be told what the problem is at the bottom of the screen. Press **SPACE** to continue.

CREATING NUMERIC ITEMS

When you set up a file disk, as you recall, you give the heading and length for each item, then you are asked if the item is numeric. In our example, we pressed **N** for "No". If you press **Y**, the item then becomes numeric, and, if it is long enough, you are asked how many decimal places you want when that item is printed. You can choose from 0 to 9. The largest number you can store is 9,999,999. If you set up the length and decimal places so that larger numbers would fit, you'll be notified and asked to shorten the length.

When you create a numeric item, one space is automatically added to the length in case a minus sign is needed. If you tell the computer the length should be 5, numbers from 99999 to -99999 can be stored there. Note that the minus sign in -99999 takes a space. That is handled automatically.

When you allow for decimal places, you **MUST** allow an extra place for a decimal point. If you give a length of 5 and allow for 2 decimal places, you can store numbers between 99.99 and -99.99. One of the 5 spaces is taken by the decimal point! Remember to allow for that.

NUMERIC ITEMS IN THE FOLDERS

When entering and browsing through data, numeric items show a number sign prompt (#). They are usually shown one space to the right of character items because the space where a minus sign is inserted for negative numbers.

NUMERIC ITEMS IN PRINT FORMATS

Numeric items are always right-justified in print-outs. That is, they are put at the right end of the space reserved for them on the page. This is so that in column reports and other similar formats, the decimal points will always line up correctly. Character items are always left-justified.

AN EXAMPLE USING NUMERIC DATA

A simple example of one use for numeric data is keeping track of expenses from a checkbook, by category. With a file like that, you can easily list and total all bills paid to any company, all expenses in a certain category, or all expenses in a certain period. Figure 11 shows the information you could use to create this type of file.

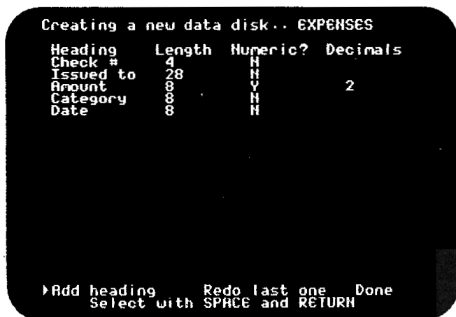


figure 11

With this file, you can set up a column format with the format maker, and tell it that you DO want totals for the numeric items, and you DO want the headings printed on top (the column format is just like example #1 in the format chapter). When you *Print a Group*, the total of all checks in that group will be printed at the bottom of the report. So if you search for all items with the Category equal to "Medical", all checks written out for medical expenses will be printed out with the total at the bottom.

HINT: If you want dates sorted correctly, use the input format Year/Month/Date, such as 85/10/23 for October 23, 1985. If the year is at the end, it is the least important part of the sort (month would be organized first, then date, and then the year). Of course, it's likely that with an expense file like this, you would start a new file drawer (disk) for each year, so it wouldn't matter.

CHAPTER 5 (changing, splitting, and combining file disks)

Home Data Manager also includes options that make handling your information and data disks more versatile. Suppose, for example, after using your data disk for a few weeks you realize that you'd like some extra information in your file (with our Music file, for example, we decide we also want the date of each album included). Or suppose you wanted to drop off some information to make extra room in your file (in the Music file, maybe you find you never use "Composer2", or you really don't care about "Format"). Or maybe you want to combine names and addresses from several different data disks (with different types of information on each) into one, large mailing list. Or maybe your file outgrows a single "file drawer", and you want to split it between two disks....

Most data managers don't let you adjust for situations like these. But with *Home Data Manager*, there is a "Change the Setup of your Data Disk" option that lets you rename headings, add new headings, delete unwanted ones, and change the lengths and types for your data. There is a "Combine Two Data Disks" option for combining two disks with exactly the same type of data (minor variations can be fixed first with the "Change" op-

tion). And there is an option to "Split off a Subset of a Data Disk", which creates a new data disk with just a portion of the data from the original.

These features are all easier to use if you have two disk drives, but they will work with only one. Depending on how much data is on your disk, you may have to swap disks several times to transfer all your data with one disk drive. The swaps are held to a minimum to make it as easy as possible.

CHANGE THE SETUP OF A DISK

This option lets you change the set-up information for any data disk you've already created. You can change a heading name, the length of an item, whether an item is numeric or character data, or you can even add or delete entire headings.

After you put in your data disk, you are shown the exact set-up of the disk when you originally created it (sometimes this is handy in itself, whether you wind up changing it or not). The keys that affect what you can do are shown at the bottom (see figure 12).

```

Changing file MUSIC

Heading      Length  Numeric?  Decimals
▶ Song        28      N
Album        28      N
Artist       15      N
Composer1    15      N
Composer2    15      N
Format       6       N

←,→,↑,↓, and SPACE move cursor
C to Change item, S to Save, ESC to exit
I to Insert line, DELETE to Delete line

```

figure 12

Pressing the **up/down arrows** or **SPACE** moves your cursor up or down among the headings. The **right/left arrows** move the cursor from "heading" to "length" and back. Since length, numerics, and decimals are all intertwined, when you change one, you change them all.

You can press **C** to change whatever your cursor points at. If you press **D** or **DELETE**, the entire line on which the cursor is can be deleted (you are asked to verify that you want to do this). Or, you can press **I** to Insert a new heading on the line after the one your cursor is on.

If you just wanted to inspect your disk's set-up, press **ESC** to get out of the editing functions and back to *Home Data Manager* with no changes. If you do make changes, though, press **S** to Save the changes you made. You can now change, if you want, the length of the "key" item for your file (the length on which it is sorted and searched). Most changes, other than renaming headings, require you to format and create a new data disk. You'll be asked to insert a new disk, it will be formatted, then all the data from the original disk will transfer to the new one.

COMBINE TWO DATA DISKS

This option lets you add the contents of one data disk to another. *The set-up of the two disks must be exactly the same...* all items must be exactly the same length, and numerics and decimal places must match. If they do not match, you will be told. Go to the "Change Set-up" option to fix them so they do match.

The "first" disk becomes your "master" data disk. All the information from the "second" disk will be copied onto the first disk. The result is that the first disk contains the combined contents of both disks, and the second disk still contains copies of what it originally had. If the heading names are not exactly the same, it is acceptable, but you are shown exactly how the transfer will be made and asked to verify that it is correct.

You will be prompted when to insert the "first" disk and when to insert the "second" disk.

SPLIT OFF A SUBSET OF A DATA DISK

This lets you copy a portion of your data disk to a brand new disk. It does not change the contents of the original data disk at all. This choice can also be used to duplicate the set-up of a data disk without transferring any actual folders.

By copying each of two halves of a data disk to two new disks, you can split a data disk into two subsets that contain all the same data. For example, if you have a large mailing list, you may want to split zip codes 00000-49999 onto one disk and zip codes 50000-99999 onto another. This requires two "splits", and the original disk remains unchanged.

After you choose to split off a subset, you'll be asked to put in your original data disk. Put in the original data disk and press **RETURN** (it will be read), then a prompt appears asking to name the subset disk. Put in a blank or unused disk, press **RETURN** and it will be formatted. Then a prompt appears "PUT YOUR ORIGINAL DATA DISK (name) IN D1. PRESS ANY KEY". The search criteria screen will appear.

If you press **ESC**, you will leave the "split" option, but you'll now have a new data disk with no folders in it that has the exact same set-up of the original data disk.... all the same headings, lengths, and numerics.

If you want to split off some of your records, choose your search criteria the same way you would when you "Find a Group", then press **B** to Begin the transfer. The Group that is found will be put onto the new data disk.

APPENDIX (programming notes, and computing how many records will fit on a disk)

In case you want to access your data from other programs or by other means, this section describes how it is stored. The computation used for figuring how many records will fit on disk and in RAM and a description of how new printers can be added to the list of those supported is given. And for the brave, here are some details of how the *Home Data Manager* program was written, along with some considerations you may need if you want to try to modify it.

DATA FORMAT

The data on each disk is stored in a set of three files. The disk is a formatted DOS 3.3 disk with no operating system on it, freeing up three extra tracks. *Pronto DOS* by Tom Weishaar is used on the program disk to speed up access to the data disk.

The three files that make up the data are the *HEADING* file, the *NUMBER file*, and the actual *Data file*, which is stored under the name you give.

The *HEADING* file contains the information that defines the data file: its name, the number of headings, maximum number of headings, the length of the key, and for each heading, its name, its length, and its data type. *HEADING* is a standard sequential text file, and is only modified during creation of a file disk and "Modifying the Set-up".

Here is the specific information about its contents:

- 1) Name of the file (character string)
- 2) Number of headings minus 1
- 3) Maximum number of items allowed
- 4) Length of the key field for sorts and searches
- 5) for each heading:
 - a) Heading name (character string)
 - b) Length of the data field
 - c) Data type: 0=character string
1-10=number of decimal places
plus 1

The *NUMBER* file is short and is modified frequently by the *Home Data Manager* program. It contains the current number of records, the current heading number for the key, and the order of sorting (ascending/descending). It is also a standard sequential text file. All three items are stored numerically:

- 1) Number of records minus 1
- 2) Current heading for key minus 1 (0 to number of headings minus 1)
- 3) 1=Ascending sort, 0=Descending sort

The *Data* file, which is stored under "Name of File" (from *HEADING*) is a random access data file

that contains all the information for your file. A random access file contains records that are defined as having the same length, so any record can be accessed quickly. The length of each record is the sum of the lengths of all the items (as defined) plus the number of headings (each item has a CR following it to separate it from the next) plus the number of numeric items (allowing a place for a negative sign in each). Both the R (record) and B (byte) indices from DOS are used. The first item in a record starts at the 0th byte. Add the length of the first item plus 1 to find the start of the second item. Then add the length of the second item plus 1 to that to find the start of the third item, and so on. If an item is numeric, don't forget to add one extra to its length for the minus sign.

The records are not sorted on disk, nor are they on disk in the order in which they were entered. They are stored in a sequence that compresses the file to minimum space at all times. When you "load in" your file disk, all that is loaded into RAM is the key item for each record. These are quickly sorted, with an index that points to the record number for the rest of the data for each record. That way, any record is quickly retrieved by matching the key item.

MAXIMUM NUMBER OF RECORDS

To compute ahead of time how many records will fit on a data disk, there are two considerations: the length of each individual record (for disk space), and the length specified for the key, or how many characters should be on the file tabs (for RAM space).

To compute disk space, use the following computation:

(The total lengths of all items, as given when creating the disk) + (Number of headings) + (Number of numeric items)

Then divide that number into 115,200. The integer part of the result is the number of records that will fit on disk.

NOTE: the number of numeric items is added because an extra place is automatically added to each numeric in case of a negative number's minus sign.

To figure the amount of RAM space, look for the length of your key field in the following chart:

Key Length	Number of Records
5	1720
6	1563
7	1433
8	1323
9	1228

Now, from the two numbers you just found (disk space and RAM space), take the smaller, and that's how many records will fit in your file.

The variable A\$ should always be kept as the first variable in each BASIC program. The command CALL CP capitalizes any lower case characters stored in A\$, and is used so that any disk names, commands, and comparisons can be dealt with correctly, regardless of whether the **CAPS LOCK** key is down or not.

All PRINT commands are intercepted and sent through a graphic character generator that creates the graphic-format displays. Control characters are used for the special graphics characters that make up the folder graphics, arrows, and other symbols not normally accessible.

PLEASE: any modifications you make or try are at your own risk. **NEVER** modify the master disk... always use a backup so you don't mess up the original. The above information is included for the benefit of those who really want to try to modify things and try to see how things tick. We cannot offer much programming assistance for those modifications via our tech support staff. This program is not meant to be modified, and this information is only given as a service for those who are curious and enjoy tinkering. Our staff is well-versed on the nitty-gritty details of our programming utilities, but this is not among them. Thanks.

HOW YOU CAN HELP OTHERS

When creating any applications program, there is ALWAYS more that can be done. Specifically, with this program, there are more different printers out there than we can ever find (although we've covered what 95% of the Apple owners have), and there are lots of data manager programs with data that can be transferred to and from *Home Data Manager*. If you have information about printers that can help our other customers, let us know. And if you devise a program that will transfer data from another program to ours or back, we'd like to make it available to our other customers as part of *Home Data Manager*. Of course we'll give you full credit for your routines.

A lot of things have changed in the last few years in the computer industry. We're one of the few companies that keeps things open and shares information. We believe that doing so helps everyone. We still make the most sophisticated graphics routines out there, and make them available to anyone, free-of-charge, whether a "competitor" or not (only an acknowledgement is required in our licenses). We really believe in trying to get you and all our customers the most out of their computers. So if you can help us, wonderful. We always want to give people the best possible.

— Mark Pelczarski

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