The Paper Peripheral

August 1984

Putting you Online with the Central Texas 99/4A Users Group

From the President's Keyboard

Hello again! As usual there's a lot to talk about in this issue of *The Paper Peripheral*. so let's get started.

At the last meeting I described what an RS232 card was and demonstrated Denise Allison's CorComp RS232 card. There will be a review of the card later in this newsletter.

Just a reminder: the programming contest entries are due at the next meeting.

At the last meeting I took a preference poll on which programming language members would like learn in a class. The result was dead even between Pascal and Assembly Language. I am thinking that this class will be a good way to get a SIG started on these langauges, so the final decision may be based on which SIG can get organized first. I'll try to let you know at the next meeting.

Also at the last meeting we discussed changes to the constitution that would be necessary to allow for more than one vice president. Alan Caldwell (who is a lawyer) made the following suggestions to allow multiple VPs:

Constitution

Article 5

a. The officers shall consist of: President. one or more Vice Presidents. Secretary, and Treasurer.

Article 7

e. The third line should read ". . . active members. present in person or .

g. A Quorum for the transaction of business at an Officers's Meeting shall consist of a majority of the duly elected or appointed officers.

Operating Procedures

Article 1

b. VICE PRESIDENT(S) -- The Vice President(s) shall exercise all of the functions and shall be vested with all of the powers as the President may from time to time direct.

If other changes are needed for any reason, they will be proposed by the constitutional committee that was formed at the last meeting.

In the same vein, under the powers granted in the operating procedure, article 3, section d, I have appointed Susan Donaldson as vice president for the remainder of the year.

So. with that out of the way, what's happening at the next meeting? There WILL be a presentation of CorComp's double sided. double density disk controller card. we will vote on the constitution changes, and much. much more.... See you there.

Mike Schultz

A Few Bytes and Nibbles

Well. you've probably figured out already that the newsletter is *very* late this month! See. we've had various relatives in town and various family members ill. then we got the new disk controller card and I used its disk manager to completely wipe out my newsletter disk. then our disk drives got ill....It's just been one thing after another. So, if you didn't get to the meeting because the newsletter didn't make it in time, I'm sorry. Summers are like that, I guess.

By the way, please be smarter than me, y'all. and benefit from my stupidity. Always, *always*, keep a backup copy of what you're doing!! I had always put last month's newsletter files on an archive disk when I started the current month. But I didn't have any more disks last time. so I didn't. As a result. when I misread the menu on the disk manager (my fault, not theirs). I lost the June and July newsletters. And I hadn't made a backup of the disk since April! New procedure: whenever I end an editing session. I backup the work disk. It's worth the few extra minutes!

You will find within the newsletter one flyer and one ad. The people from the W.O.R.D ad are new members in the group as well. so we welcome them to the group and the newsletter.

You will also find in the newsletter the first of a new series of articles by Ken Mathews. I hope everybody enjoys it. That was the file I was trying to copy when I wiped out my disk. Not Ken's fault, though. (At least. I don't *think* it is.) You will also find a fragment of an article from Charles Watkins. It was all he left behind before he mysteriously disappeared from work--well. that and a sign that said he was going on vacation. Let's all hope he turns back up!

Adventuring with Ken

*I'm in a flat in London. Visible items are: Flight of stairs, Sign says: 'Bring *TREASURES* here, and say: SCORE', Bottle of rum, rug. Safety sneakers, Sack of crackers. I'm carrying: Nothing.*

This is. of course, the opening description of Pirate Adventure, the first of the Scott Adams' adventure games available for the 99/4A. In this new column, I plan to tell you the premise of each adventure, along with general strategies for solving adventures in general. (Scott Adams. by the way, is responsible for most of the Adventure games for microcomputers. The story is that he was introduced to an early Adventure game on a mainframe computer. and decided to put it on micros. He was either the first or one of the first to do so. and he is certainly the most commercially successful at it. All of the Adventure games TI sold are Scott Adams games.)

In case you're not familiar with adventure games, they are puzzles in story form. You are put in a specific situation (anything from a flat in London to outer space) and you need to solve puzzles to recover treasures. You move to different locations (or rooms) throughout the game. How well you do depends on the number of treasures recovered. Therefore, you need to use your wits and think logically. These usually are not simple puzzles. They can range from getting out of a locked room to foiling an iron statue who wants to kill you. You might not even know when you are confronted with a puzzle, such as falling to your death because you neglected to wear the right kind of shoes. You have many options in adventure. Using the opening description of Pirate Adventure as an example. you could either eat the crackers, wear the sneakers, drink the rum. take the rug, say 'Score'. or climb the stairs.

The premise of Pirate Adventure is to bring various pieces of treasure back to the flat in London. Since few pirates buried their treasures in England. you'll have to travel to a desert island to find most of it.

I'll end this column with my first rule of adventure gaming: save the game after every ten rooms! It is very easy to do the wrong thing (and get killed) when you are adventuring. If you are killed, you can restart the game from the room where you last saved it. If you didn't save the game, you have to start all over again (which can ruin your entire day if you're halfway through the game). You should also save the game if you are going to do something that could be dangerous. This could be anything from pressing a button to entering an unknown room. These games have the irritating quirk of killing you when you least expect it!

Next month. I'll tell you about Adventureland.

Ken Mathews

Ken is a technical editor in the Technical Publications department at Texas Instruments, a long-time /4A owner (when they were just /4s!). and the author of our column on programming languages. He is also the veteran of many battles with adventure games.

From the Business End of the Mailbox

The mailbox has been busy this month! Before we get to it, let me list the prices for the CorComp products involved in the User Group review program. The review copy price is listed first, with the suggested retail prices (when I know them) in parenthesis. 32K expansion card, $89.95; RS232 card, $78.95; disk controller card, $145.95 ($199.95); RS232 standalone, $109.95 ($149.95); RS232, 32K RAM and disk controller standalone, $289.95; 99000 expansion system, $399.95.

You should find enclosed in the newsletter this month a flyer from Skandinavia Contemporary Interiors that describes discounts for User Group members for purchases of computer furniture. Members will receive a 10% discount off the cash and carry (un-assembled) prices on all home computer-related furniture from *Skandinavia Contemporary Interiors*, 7940 Shoal Creek Boulevard (one block north of Anderson Lane near Mopac). Show this bulletin (newsletter) as proof of eligibility. The cash and carry prices for some of the computer furniture are: computer table (48x24x26.5 inches), $149.00; hutch, (48x11x12 inches) $69.00 (this is necessary to put a monitor at eye level--an expansion box will fit beneath it ((I think)); pencil drawer, $87.00; typing table, $119.00; printer table, $125.00; one piece, $67.00 (this is useful for making two tables into one unit); and last, but not least, the Balans chair, $179.00. The chair comes in various stains and fabrics and in rocking and adjustable styles. None of the furniture appeared too difficult to assemble. Mostly it appeared to be simply broken into pieces for easier shipping and storage.

Moving right along, an article appeared in the *MICROpendium* that described an addendum to the Gemini 10X printer manual--the addendum deals specifically with the 99/4A. The address is Star Micronics; No. 3 Oldfield; Irvine, CA 92714; (714) 768-4340. I called them myself and they are going to send me a copy for my printer (FREE). (Let's hope they clean their copy machine before they make your copy!) While I had them on the phone, I asked about the print quality on my printer. They told me that some of the eary printers had a defective printhead. I had to call them back with my model and serial numbers, but I think they're going to replace the printhead free. I'll let you know.

Several months ago I told you about a telephone number that you could call and get InfoCom games for the /4A, well FORGET THEM! I have never received my game, although I ordered it right after Memorial Day. The games are now available thru TexComp. ZORK I, II, and III cost $29.95; all others are $34.95. TexComp's address is: P.O. Box 33084, Granada Hills, CA 91344. See me at the meeting for more details and further developments.

We've ordered a copies of the TE1200 and the spelling checker program. They'll be reviewed here next month (barring major accidents and postal strikes.) If it arrives in time, we'll demostrate the TE1200 program at the next Telecom SIG meeting. The TE1200 costs $49.95 on disk and is available from Softmail Inc.; P.O. Box 745; Rockwall, Texas 75087; (214)722-1079. The Spelling Checker costs $52.95. and is available from Dragonslayer ASC; 2606 Ponderosa Drive; Omaha, Nebraska 68123; (402) 291-8323. (By the way, this information also comes from the *MICROpendium*--a great magazine, and worth the $12.00 it costs for 12 issues. Published in Round Rock, too!)

(Editor's Note: I spoke with the man behind Dragonslayer Software--a wonderful name, that--to order the spelling checker program. If you wish to order on a credit card (Visa, MasterCard) over the phone, please call in the evenings. He does have a group discount program, which will be discussed at the meeting. He will take names, and maybe checks.)

Also from the mailbox, Tachyon Systems announced a 32K standalone memory system for about $110.00. A company called Tuttle Products (P.O. Box 26981; Tamarac, FL 33320-6981) announced a board game designed to help kids learn the fundamentals of LOGO (note that this isn't a computer game). The game cost $14.95. And finally, Software Specialties, Inc. announces a new computer game, and its on a cartridge! The game is called Midnite Mason, costs $29.95 and they sent some order forms to order it. They are promising more cartridges in the future. This should be good news for people with systems without disk drives.

I'll bring the ads that the above companies sent so you can look at them at the meeting.

One other thing arrived in the mail that is of note: the *Home Computer Magazine* (you remember them, right?) has announced that, starting with their September 1984 issue, they'll no longer carry outside advertising!! This sounds pretty weird to me, but we'll see. See me at the meeting if you'd like to read the press release.

Mike Schultz

Tunnels of Doom

(Extensive and Explanatory Editor's Note: Back a couple of weeks ago, Charlie was going to get me his article. He was going to get it to me every day. However, I had to miss a day and was unable to harass him. When I got back, there was a sign on his office that said he was going on vacation! It said to contact a certain ex-tech writer (among other disguises) for any problems. Well, I figured I had a problem! So, this ex-tech writer found this article fragment on Charlie's computer and printed it for me. And that's why it stops at the most important part. (That'll teach you to think you can outwit me, Charlie!)

Up until now, this column has been aimed at new players who need a little help getting started with TOD. Starting this month I'd like to get into some advanced topics that should be of more interest to experienced players of the game. Somewhere around the office I have material for a couple more columns--one dealing with monsters and another with scrolls--but the creative juices are beginning to ebb. I'd really like to hear from you advanced adventurers out there in TPP-land (The Paper Peripheral) so I'll know what topics you'd like to see covered. There's not much chance I'll turn up at at club meeting, since my softball team plays on the same night, but I bet Diane would pass along any suggestions you might want to make.

This month we're going to take a crack at vaults, so all you Rogues gather round and I'll tell you how to get the cash out without cashing in. Most of you have the basic skills you need, but you lack the proper technique. As a result you get wasted by a vault somewhere around the eighth floor. Don't expect much sympathy from the Fighters--even though they're going to miss your steady crossbow firing from the second rank. They're going to have their hands full with the dragons and devils that the party meets on the lower floors. And your pal the Wizard, he's just going to urge you to do more and more reckless things in hopes he'll get a scroll good enough to make him respectable in a fight. (Besides, if you use the Wizard as your official fountain taster as I suggested last issue, he's not going to have many hit points to spare for opening vaults.)

To get into a vault you have to guess the combination. Depending on which floor you're on, the combination will have three to five digits with up to eight possibilities each. Each time you guess wrong you take some damage, but you also get two pieces of information--the number of digits you got right and whether your overall guess was high or low. The trick to opening vaults is knowing how to use those two clues to the best advantage. If you've played Mastermind, you probably have some grasp of the deductive process involved with the right-wrong score. For example, if you guess 1-2-3 with one right and then 2-2-3 with none right, you know that the combination begins with 1 and does not have a 2 in the second place or a 3 in the third. Therefore, you're next guess might be 1-3-3. If you get one right on that guess, you know it must be the 1, so you can conclude that the combination is either 1-1-1 or 1-1-2. If you guess 1-1-1 and get only two right, you know the combination has to be 1-1-2.

Programmer types will probably be quick to recognize that the high-low clue makes it possible to find the combination using what they call a binary search. You start with a guess near the middle of the range of values, 2-2-2 in the example we looked at before. This guess is high, so again you split the difference and try 1-3-1. This is also high, so you try 1-2-1. High again. There are only three combinations left: 1-1-3, 1-1-2, and 1-1-1. This time you guess 1-1-2 and hit the combination on the nose.

Notice that both methods took four wrong guesses before arriving at the right combination. Even on the first floor that's going to be enough to kill your typical Rogue, and as you go deeper and the combinations become more complicated, the vaults become far more dangerous. Even using my optimized technique, I find it very difficult to deal with more than three vaults on the tenth floor--where the King is being held--and still make it home alive. There are 390,625 possible combinations for a vault on the eighth floor that has five digits with eight possibilities per digit. If you were to rely on the binary search method by itself it would take you eighteen guesses to find the combination, unless you happened to get lucky. I don't have the math to figure the odds for the Mastermind method, but I would expect at least ten or twelve wrong guesses would be necessary....

And there he left it, folks. Since I've always used the binary search method myself, I too am sitting on the edge of my computer chair waiting to find out what the "optimized technique" is! Surely he won't leave us hanging here! Right Charlie?

Charles Watkins

Programming In BASIC

This month I would like to discuss strings. As you know, programming languages like BASIC provide several ways of processing numeric information: you can store it, calculate with it, display it, or input it. But what of nonnumeric information like names, street addresses, descriptions? BASIC handles information of this type with strings. To get a better idea of what a string is, let's compare them to the way numbers are handled in BASIC.

When a programmer wishes to use a numeric constant, like say the number twenty, in a program, she simply uses the digits of the number desired, which in this case would be 20. It is easy for BASIC to see that it is a numeric constant: it begins with a digit, ends with a digit, and has no spaces within it. Things are not quite so simple with string constants. We would like for them to be able to begin with digits and have imbedded spaces. So to tell BASIC where a string begins and ends we use quote marks: "11620 Thundercreek Drive".

Now in BASIC numeric data that is being processed is stored in memory in a thing called a variable. The idea behind a numeric variable is that it is a named memory location that contains a number that the program wishes to save for later processing (which could be a part of a calculation in progress, for example). In the classic example of a program that calculates averages, variables are needed to keep a count of the number of grades processed, and another for the running total of the grades.

The name that is given to a variable is totally up to the programmer. Whenever a BASIC instruction assigns a value to that name, that is the value that is returned whenever BASIC references that variable's name again.

It is the same with strings. String variables store a string in memory for later retreival. (Which is why they are called string variables instead of, say, woodwind variables or percussion variables.) BASIC stores strings in memory slightly differently than it stores numbers. To facilitate this, BASIC insists that string variables have a $ as the last character of the name.

As with numbers, the assignment statement (the "=" sign) is used in BASIC to make an actual assignment to a string variable:

        ADDR$="11620 Thundercreek Drive"

Or else an INPUT statement may be used:

        INPUT ADDR$

There are many operations that BASIC can do with numbers, such as addition, subtraction, division, and so on. Operations are available for strings also, but they are different from the type used for numbers. These operations are used to manipulate the strings, build bigger strings, extract smaller strings from bigger one, or find information within a string. We will talk more about these operations next month but to demonstrate how this works, here is an example of the "&" operation in action. This operation takes the strings on either side of the ampersand and puts them together to make a bigger string.

```
10 PRINT "City";
20 INPUT CITY$
30 PRINT "State";
40 INPUT ST$
50 PRINT "Zip":
60 INPUT ZIP$
70 ADDR2$=CITY$&", "&ST$&" "&ZIP$
80 PRINT ADDR2$
90 GO TO 10
```

Mike Schultz

Newsletter Exchange

Our users group exchanges newsletters with several other recognized TI Users Groups. The exchange is made with the understanding that, with proper credit to both the newsletter and author (if listed), your users group can reprint articles from our newsletter and, with proper credit, we can reprint articles from exchanged newsletters. (Please feel free to correct any typos, misspelling, bad grammar, etc.; we will do the same.)

CorComo's RS232 Card

CorComo's RS232 card is not a new product, even though it is being offered through their User Group review program (silly me thought that they were limiting it to their new products).

The card, as was explained at the meeting, is used to convert the electronic signals of the computer to a standard set of electronic signals. The standard was given the name RS232 by some committee many years ago. The important thing about this standard is that it allowed computer manufacturers to not have to worry about making a special printer that could understand the electronic signals of each of their computers. Instead, other companies that wished to specialize in printers could make them to be used by many machines. A happy consequence of this, of course, is that the owners of computers could by printers that fit their needs and price range.

This, then, is the purpose of the RS232 card. It converts the signals of the /4A into a set of signals that the printer understands. Perhaps it should be stated here also that the RS232 standard has not changed much over the years and that a better interface to printers has been developed: it is known as a parallel interface. The RS232 card supports this interface also, and it is the one I recommend for using with a printer. The RS232 interface is still important when using a modem and some printers still use it, which is why it is available on the card.

The Hardware. The card itself fits nicely into the expansion box and has the same connectors on the back as the TI card. It is as easy to connect a device to the system as it was before. The only unfortunate thing about the card is that it doesn't have the little pull tabs on the top, making it difficult to remove from the expansion box. At the meeting, they had to remove the surrounding TI cards in order to coax the RS232 card out.

The Software. The CorComp card, like the TI card, contains the necessary software to drive the hardware on the board. The actual software behaves exactly the same as the TI card, so BASIC, TI-WRITER, TE II, and all the rest of the software have no problem using the card.

The Manual. The manual is very complete. Much of it appeared to be lifted from the TI manual.

The Extras. I have been saying that the card is the same as the TI card. I feel that I should mention that the card can be modified so that more than one RS232 card can be placed in the box and used by the system. (There are many devices other than printers that use the RS232 standard, and it is possible that there are people who wish to use more than 2 of these devices on the machine.) CorComp wishes to supervise any such modifications, however, so they don't document the modifications in their manual. Instead they request that you contact them or an authorized dealer to find out how to do it. (I suspect that it may be as simple as setting a switch within the box.)

The Price. The price of the RS232 card is $79.95. Since we don't have an authorized dealer in town anymore (that I know of), I am quoting the price from TexComp.

The Conclusions. Given its compatability with existing software, this interface card appears to be a good purchase if you are interested in adding a printer or modem (or other serial or parallel interface device)to your system.

Kaptain Kluge

The Kaptain volunteered to do this article for Denise Allison, as she was on vacation when it was due.

Current Officers

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TI-Writing

This month we begin to get into the subject of files. This may take a while, folks, so fasten your seat belts!

After you've started up the editor in TI-WRITER, give the computer the command f for Files. You will notice that the computer responds by giving you more commands to choose from. The Files command is really the title of a menu.

The commands offered you are Load File, Save File, Print File, Delete File, Purge, and Show Directory. At this point we need to define a couple of terms, file and directory.

People who teach computer literacy are fond of saying that a computer file is much like a file in a filing cabinet. This conceit is fairly useful, and even partially accurate. A computer file is where you store the results of your work, such as a program, database information, or a newsletter article. You can (usually) change the contents of a file, put it in a different place (on a different disk), use it to refer to only, and many other things. Files are the basic building blocks of TI-WRITER, and you really need to know how to manipulate them.

A directory is, in the same way, sort of like a telephone directory. It is a list of files. The concept of directory is more useful on a large machine than on the /4A. For example, where I work we use TI' minicomputers, 990s. Our 990 has a system disk and a data disk (along with several floppy disk drives). On the data disk we store the text of many, many manuals. There are probably thousands of files on that disk alone--if we had to look through the whole list of files evertime we wanted to find one specific one...it doesn't bear thinking about! So that disk has many different divisions, which are called directories. On that particular disk most of the directories contain all the files pertaining to a specific manual. So if I want to edit the preface of a manual I can go directly to the directory for that manual and find the file named PREFACE. (Or sometimes not, if the writer decided to name it something cute. One writer a few years ago hid a manual under the name of AMADEUS!)

Which brings us to the subject of file names. If more than one person is going to be using a file, it is extremely important that your file names make sense! In fact, even if you are the only one who will ever use them, it can be important. I tend to name my newsletter files after either the author (as in KEN) or the subject (as in BASIC). These are names that are obvious to me and easy to remember.

There are several things you are going to be doing with files. TI-WRITER put Load Files first in their menu, but we are going to start

with a simple one, Save Files. You are typing along and you finish your letter (or whatever). However, that letter is still only in the computer's memory. You need to put it on the disk. How? Save File! (You're all *so* bright!) You can do it the long way--use the command key, type *F, ENTER,* then *SF* and *ENTER.* However, it TI-WRITER it is possible to type *SF* directly in the first menu. Now, however, the computer is going to insist you name that file. If this is the first time you have specified a file name in this editing session, the line for this will be blank. The correct form for a file name is *DSKn.nnnnnnnnnn.* This translates to *DSK1.TI-WRITING.* If you have more than one disk drive you can have your disk in drive 2 or 3, of course. (This is all assuming that your disk is properly initialized and so forth!) You can, if you are so inclined, specify merely that the file is to be on disk, give the disk name, then the file name. The form is *DSK.NEWSLETTER.TI-WRITING.* Personally, I find it easier to remember which disk drive my disk is in. By the way, file name can have as many as 10 characters in them and the first one must be a letter.

Next in the Files menu is Print File. Now there are two ways of printing a TI-WRITER file, the *PF* command or the text formatter. *PF* is much the simplest and the least flexible of the two.

When you enter the command *PF,* the computer is going to prompt you for a device name. If you have a gemini-10X (or 15X) printer hooked up to a parallel interface port, the device name is PIO. If you have some other configuration, you're on your own! I only know the one device name. However, this will be the same device name you'd use for your printer with other programs, if that helps. The computer does *not* ask you for a file name--it prints whatever is in your editing buffer.

PF prints exactly what you see on your screen. That's why you want to set indentions and left and right margins exactly where you want them if you are going to use *PF.* If you've been looking at the TI-WRITER manual or Quick Reference Card and have been using carets (the SHIFT-6 character) for placeholders or @ or & for bold or underline, you're going to get carets, at signs, and ampersands instead. You can get bold and underline using escape codes to send the commands to the printer, but that's extremely complicated! Also notice that you will not get even right margins (unless you want to enter the extra spaces in each line by hand!). You could, if you wanted, use escape codes to set your printer in a different type face or type size, but generally speaking you're going to use the printer's defaults for these. So you get plain vanilla stuff--however, you can print this file from another program or just through a BASIC command.

The next command is Delete File. This is fairly obvious. If you have a file on your diskette you no longer want, use the *DF* command, type in the file name, then *ENTER.* That's it. It's gone. It's too late to change your mind now!

Next is Purge. This command wipes the computer's memory of whatever you're editing. Actually, you should be able to get most of it back with a command called Recover Edit. I wouldn't count on it. Use this command only after you have saved your file. It is useful, though, if you want to start a brand new edit. When you enter *P,* the computer gives you a chance to change your mind. It says "Are You Sure" and you must answer yes or no.

The last file command is actually a directory command--Show Directory. This will show you a list (like with the Disk Manager) of the files you have on your disk. However, all you can do is look at them. You can't print them out or anything. But it is useful if you can't remember what the file name (or the disk name) is. When you enter *SD,* the computer asks you for a disk drive number. It want just 1, 2, or 3. You don't need to add the DSK in front. Nor will it take the disk name. Enter that and the computer beeps (its equivalent of sticking its tongue out, I guess), and gives you back the original command line.

Next month we tackle Load File!

Diane Schultz

Commercial Ads

Commercial advertisements are welcomed by our newsletter. This newsletter can provide a select, specialized audience for advertisers. Advertisements also help our group by offsetting the printing and mailing costs of the monthly newsletter.

The cost of placing a full-page ad is $20. The cost of a half-page ad is $10. The ad should be camera (actually photocopy) ready. Some flexibility is allowed in the size of half- and full-page ads--but let's not overdo it!

Classified ads are free for both members and non-members. Send your ads to Central Texas 99/4A Users Group, Box 3026, Austin, Texas 78764.

Classified Ads

FOR SALE--99/4A console, peripheral expansion box, speech synthesizer, Pro-Writer printer, monochrome monitor, and desk. Asking $750. Call 261-6413 after 5:00 pm.

WANTING TO BUY a Speech Synthesizer. Call Pat Pound: 473-2684 (work) 345-4981 (home).

EDUCATIONAL SOFTWARE--Looking for used or unneeded educational software, primarily for children entering the 5th and 3rd grades. Call Judy Bowman at 255-6299.

Meetings Calendar

The meetings of the Central Texas 99/4A Users Group are held on the second Thursday of each month at 7:00 pm, at the downtown Austin Public Library, on the fourth floor in the auditorium.

Dates of the meetings for the rest of 1984 are:

    August 9
    September 13
    October 11
    November 8
    December 13

Software Library Order Form

The following form is an order form for copies of programs which are now available in our software library. You will find a list of the in the February newsletter and at each meeting. Each program in the list is numbered and, where possible, a short description is given. Programs written in console BASIC are listed separately from those in Extended BASIC. Any hardware or software required is also listed. There is an additional list and description for special programs available from the library; to order any of these, please make special arrangements with either Arden or the group's president.

Please use this form to order copies of the software. First, circle the number of the program for which you are requesting a copy. Next, remove this sheet from the newsletter and mail it to:

Arden Huffstutler
1811 Sam Bass Road
Round Rock, Texas 78664

255-2794

Arden will bring your copies to the next users' group meeting. Money will be collected at the time you pick up your copies. (If you are unable to come to the next meeting, or if you need a special arrangement, please make those arrangements with Arden.)

Remember, we are now selling copies (instead of renting them). Copies on cassette tape are $2.00 per copy. Copies on disk are $2.00 per copy, plus $1.50 for the disk. *If you do not indicate disk at the bottom of the page, your copies will be made on cassette!*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	
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78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	
97	98	99	100	101	102	103	104	105	106										

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