THE GUILFORD 99'ER NEWSLETTER

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The Guilford 99'er Users' Group Newsletter is free to dues paying members (One copy per family, please). Dues are $12.00 per family, per year. Send check to 3202 Canterbury Dr., Greensboro, NC 27408. The Software Library is for dues paying members only. (George von Seth, Editor)

OUR NEXT MEETING

DATE: October 4, 1988 TIME: 7:30 PM PLACE: Glenwood Recreation Center 2010 S. Chapman Street.

Program for this meeting will be presented by Bob Carmany. He will show how to write and program music as well as demonstrating some that are availabe from our library. Bring your blank initialized disk so that you can download whatever you wish.

MINUTES

The September meeting of the Guilford 99er Users' Group met at the Glenwood Community Center in Greensboro, N.C. on the 6th. There were 11 members present.

The meeting was called to order at 7:45 PM by the Secretary as I was the only officer left in the club. The minutes of the August meeting were read and accepted as read.

There was no old business discussed.

Under new business, Scott Hughes has volunteered to take the office of President for the remaining months of 1988. There is still a vacant office of Vice President open. There were no members of the Winston Salem group at the meeting even though all were sent invitations to attend our meeting.

The program was conducted by "old faithful" Herman Geschwind who gave us a good demo of his Horizon Ramdisk. Also, Herman brought his GramKracker along to demo it also. I think all who attended enjoyed the demo. It is remarkable how fast the ram will access files. Herman gave an example of the speed by loading Telco with Extended Basic and then loading it from the ram. It was almost as big a difference as comparing tape and disk! Thanks Herm, for a very good job.

The meeting was adjurned at 9:40.

Respectfully submitted,
L.F. "Mac" Jones, Sect./Treas.
Guilford 99er Users' Group

RAMBLING BYTES

By: "Mac Jones"

The big news around about now is the upcoming Chicago Faire in November. The actual site will be in Rolling Meadows, Ill., however it is sorta small so it is advertised as Chicago. We got a letter recently from the Faire Manager, Marcy Brun. The actual date of the Faire will be Saturday, November 12, 1988. It will be held at the Holiday Inn. Starting time will be 9:00 AM. to 6:00 PM. The admission will be $4.00 with a Social Mixer Friday from 8:00 - 12:00PM with a price of $4.00. Dinner on Saturday, 7:00 - 9:30 P.M. at a price of $10.00.

Room rates go at $55.00 for either a single or double, and $65.00 for the tower.

I have an application blank if anyone is interested, and if anyone is, you need to reserve a room now. I learned recently how very convient it is to know your room is waiting for you even if you arrive at midnight. By the way, if you need to talk to Marcy, the Chicago TI User Group's hotline telephone number is 312/755-0051.

Also, the Milwaukee TI-Faire will be on the 13, so it would be great to go to both.

Well, George V. and I jumped on the stand alone drive again Monday and like George said, "like the blind leading the blind" we tried once more to get the thing going, but to no avail. Herman had donated a cable for hooking it to the PEB drive and upon careful inspection, we found some contacts missing. So, I took the one that came with the PEB drive and we carefully sawed a new keyway on the card of the stand alone card so the plug would fit. I tried accessing it but kept getting a device error. I tried calling George McCormick who has done quite a bit of this type of thing, and George says the cable has to be flipped...eg: one does not go to 1 like we thought. He says 1 goes to 26 etc. I had some chores to do today so I haven't had time to try it, but if it finally does work, we will build a case for it and bring it along.

Since November is always voting time it seems, Mrs. Bonnie Jones invited the members to meet at her home in Thomasville for the November meeting. This is a very nice offer, and since our meeting place is always filled with voting machines at that time, we accepted. Thanks for the invite Bonnie.

I was reading over the QB Monitor from SCCG today, and was intrigued by an article by Mr. Ed Machonis on how to remember a telephone number by using the letters associated with the numbers to spell out something you can remember easily. Now that is a novel idea. With his permission I would like to print the program for you and see if you can use it to remember a seldom called number, or just fool around with your own.

```
1 !***NAME THAT PHONE*****
* NO 1'S OR 0'S PLEASE*
* A TINY GRAM *
* BY ED MACHONIS *
**QB-99'ERS BAYSIDE NY*
-------------------------
2 DEF S$=SEG$(G$,1,LEN(G$)-1
):: A$="***###ABCDEFGHIJKLMN
OPRSTUVWXY" :: FOR C=1 TO 7
-------------------------
3 INPUT "ENTER DIGIT "&STR$(
C)&" OF PHONE # ":D :: E$=E$
&SEG$(A$,D*3+1,3):: NEXT C
-------------------------
4 PRINT :"0=SCREEN":"1=PRINT
ER":"CHOICE (0/1)",:: INPUT
P :: IF P THEN OPEN #1:"PIO"
-------------------------
5 FOR T=1 TO 3 :: G$=""&SEG$
(E$,F,1):: FOR H=1 TO 3 :: G
$=G$&SEG$(E$,3+H,1):: FOR J=
1 TO 3 :: G$=G$&SEG$(E$,6+J,
1):: FOR K=1 TO 3 :: G$=G$&S
EG$(E$,9+K,1):: FOR L=1 TO 3
: 6 G$=G$&SEG$(E$,12+L,1):: FO
R M=1 TO 3 :: G$=G$&SEG$(E$,
15+M,1):: FOR N=1 TO 3
: 7 G$=G$&SEG$(E$,18+N,1):: PR
INT #P:G$,:: G$=S$ :: NEXT N
:: G$=S$ :: NEXT M :: G$=S$
:: NEXT L :: G$=S$ :: NEXT
K :: G$=S$ :: NEXT J :: G$=S
$ :: NEXT H :: NEXT F
:-------------------------
```

Well, I hope you like it. I can't seem to ever think of the clever little things like "Memory Full" so I will just say....enjoy the good TImes. See you at the meeting.

SOUND TUTORIAL

LET THERE BE SOUND
ASSEMBLER TUTORIAL
by Mack Mc Cormick

As you know from your BASIC programming sounds can be from 110 Hertz to 44,733 Hertz plus 8 noises may be generated. Durations may be from 1 to 4250 milliseconds. (.001 to 4.25 seconds). The volume can be from 0 (loudest) to 30 (quietest). Up to three tones and one noise may be generated simultaneously by the TMS9919 sound generator controller chip.

Three steps must occur to produre a sound using assembly language:

1. Load the Sound Table which begins at VDP address >83CC with the sound data.

2. Set the least significant bit of the byte at CPU address >83FD to indicate to the computer that the sound table is in VDP RAM.

3. Enable interrupts by using the LIMI 2 instruction.

Once each of these conditions are met you can start the sound generator by placing a value of >01 at CPU address >83CE. This address is used by the interrupt routine as a count down timer during sound generation.

The Sound Table

You must produce a sound table which describes the characteristics of the sound you wish to produce. The sound generators are numbered 1, 2, and 3. To produce a sound you must enter the following information:

1. Specify the tone generator
2. Frequency
3. Volume
4. Duration

Noises:

1. White or Periodic
2. Shift Rate
3. Volume
4. Duration

All bytes are specification bytes except duration. It takes three specification bytes to hold the generator, volume, and frequency. The frequency must be entered as a code.

Specification Bytes for Tones

Byte Bit# Contains

ONE 0 Always set to 1
1-2 Specifies the sound generator
3 Always 0
4-7 Contains the 4 least significant frequency code bits

TWO 0-1 Always 00
2-7 Contains the 6 most significant frequency code bits.

THREE 0 Always 1

1-2 Indicates sound generator used.
3 Always 1
4-7 Volume level

Bits 1 and two of all bytes indicate the tone generator: 00 is generator #1. 01 = #2. 02 = #03. 11 = noise.

Frequency vs. Frequency Code

The frequency code is defined as half the period of the specified frequency. Here's the formula:

111860.8
-------- = Freq Code
Frequency

Example: To find "middle C" which has a frequency of 523.25. 111860.8/523.25=213.8 . This rounds to 214 or >0D6. Bits 0-5 are placed in bits 2-7 of the second specification byte. The four least significant bits of the freq code are placed in bits 4-7 of the first specification byte. Example to enter a tone of 392 Hz in generator 1 this equates to a frequency code of 285 or >11D.

1000 XXXX 00XX XXXX = >8---

Here we have selected generator 1. Now we take our freq code >11D and place its 4 least significant bits (>D) in bit position 4-7 of the first specification byte:

1000 1101 00XX XXXX = >8D--

Finally we take the most significant 6 bits of the frequency code (>11) and place them in bit positions 2-7 of the second specification byte:

1000 1101 0001 0001 = >8D11

We have created the first two specification bytes to generate a tone on generator 1.

Volume Specification Byte

Volume is held in bits 4-7 of the third specification byte. It can range from 0 to 30. The 0-3 bits contain the generator number. You must pad the volume on the right with 0 always. For example: A volume of 0 on generator 2 = 1011 0000.

Duration

Not a specification byte. How long the tone or noise will last. Measured in 1/60 of a second. Can be from >00 to >FF.

Loading the Sound Table

You must indicate the number of specification bytes you are going to feed the sound generator. For example:
>03,>89,>3F,>91,30
>03 indicates three specification bytes. Second and third bytes mean generator 1 with a tone of 110 Hz. The forth byte sets the volume at 2 on generator 1. The 30 indicates 30/60 of a second duration.

Provided is a table for generating tones quickly.

So go FORTH and make music!!

FILE TUTORIAL

FILE HANDLING

File specifications describing a file's record length, length format, data and file format, and mode of operation are accumulated in a block of memory known as the Peripheral Access Block (PAB). The writing,reading and updating of file data is handled by resident routines called Device Service Routines (DSR's). For every file you must open, read or write, and close it.

You must first define the file characteristics. The actual number of bytes in the PAB are variable. PAB byte zero

instructs the DSR which operation you wish to perform.(e.g. open, read, write, close). Here are the available opcodes for PAB byte zero:

You cannot use opcode >08 (scratch) with disks. The number one byte defines the files open mode, record type, type of data, and sequential or random. Bits 0,1, and 2 are used to report error conditions as they occur. Here are the available opcodes for PAB byte one:

Bytes 2,3 (1 word) contain the address in VDP RAM to be used as a buffer as the data is read or written. Byte 4 defines the logical record length in bytes. For variable length records this value is the maximum length. The largest value is >FF (255). Byte 5 defines the number of bytes to be written for a write operation, or the actual number of bytes to be read for a read operation. For fixed length records PAB byte 4 and 5 should be set equal when writing and will always be equal when reading. For variable length records PAB byte 5 can be tested to determine the actual record length on a read and can be dynamically changed for each write. PAB byte 5 can never exceed byte 4. PAB bytes 6 and 7 are only used for relative records. This word contains the relative record number to access. The MSB is ignored so the range of values is 0 to 32,767. Byte 8 is only used for files to be stored on cassette tape. Set byte 8 to >60 (screen offset) for cassette access. Byte 9 is the file descriptor length. Byte 10 i the file description. Here's an example PAB:

PABs are coded in your program and then placed in VDP RAM with VMBW. The first free address in VDP RAM for PABs is usually >F80. VDP RAM free space extends through >37D6. Lines 5,6,10,21-24 in our program place the PAB in VDP RAM. Actual access is obtained by the DSR routine. REF DSRLNK must be included in your program. The pointer need by DSRLNK is the address of the file descriptor byte. This value must be placed at >8356. Line 54 and 55. DSRLNK is then envoked with a BLWP instruction. Lines 56 and 57. When errors occur the equal bit of the status byte is set.

You must design the layout of each file. (Enclosure 1).

Recommend you read the following references in your editor assembler manual:

Section 16.2.2 page 251
Section 16.2.4 page 262
Section 16.5 page 270 through Section 16.5.4 page 271

EDITORIAL

The only way to become a proficient programmer is to write programs. For extra practice try converting this BASIC program to assembler. You have had all the programming pieces in previous tutorials, you just have to put them together. All you lack is confidence. Try this program and bring it with you to the next SIG. Call me if you need help working out bugs or getting started. (AA2-1490).

```
100 CALL CLEAR
200 OPEN #1:"PIO",SEQUENTIAL, DISPLAY, OUTPUT, VARIABLE 80
300 REM SUBSTITUTE YOUR PRINTER NAME FOR "PIO"
400 FOR I=1 TO 10 500 PRINT "YOUR NAME"
600 PRINT #1:"YOUR NAME"
700 NEXT I
800 CLOSE #1
900 END
```

DID YOU KNOW?

The MAX-RLE program has more uses than one would think. For starters, it will load VID-TEXT files that have been created by other brands of computers. These files are D/F 128 files without a file header --- just the same as the RLE pictures. That means that you have access to a vast library of artwork that has been painstakingly created on some of the "big" machines. Once you get them downloaded, MAX-RLE will allow you to convert the files into a format that is compatable with your favorite graphics package. In fact, MAX-RLE will read graphics created with the two major graphics generaters for the TI --- GRAPHX and TI-ARTIST.

The most stable (and general) version of TELCO is Vn 2.0. In his quest to make TELCO "everything to everybody", Charles Earl created some "bugs" in Vn 2.1 that make it difficult to use. Version 2.1 is designed for use with TIBBS (TI Bulletin BoardS) and the Y-modem doesn't work properly with our ROS BBS and several others. You will find problems in downloading and uploading programs if you use it. Version 2.0, however, works just fine. In fact, although it is more generalized in

application, it is as "bug free" a program as you will find. The most recent may not always be the best.

You can double your storage capacity per disk with ARCHIVER III Vn 3.02. Previous versions made it difficult to take full advantage of the archive/squeeze facility in the program. There were intermediate files on disks and it was not possible to extract a single file or group of files from an archived/squeezed package. This has been remedied with Vn 3.02! Now you can extract a single file or group of files without having to go through an intermediate disk and file. The archive/squeeze and de-ARC/decompress facilities have been combined into a single step process. This means that you could take the contents from two (or more) disk and archive and squezze them onto a single disk. Thus, a SSSD system has the equivalent of DSSD storage capacity and DSSD has the storage capacity of a DSDD disk. You could archive and squeeze some of your least used programs and free up a pile of disks.

That with the newest versions of F'WEB, you can "force load" the UL (Users List). That means that you could,in effect, create a transparent loader for A/L programs by using the F'WEB configuration files. Since F'WEB will load virtually anything ---GPL environment, program image, load and run (in many variations) and script load multiple programs, the possibilities are almost endless. In fact, when you edit the UL file and get ready to save it, you are asked if you want it to "force load". See the F'WEB docs for more. If you are having trouble configuring F'WEB, there are some excellent text files on ROS that will explain everything!

Have you ever wondered why you couldn't use a space in a filename when accessing a disk drive?. Well, the TI interprets an empty character (a space) as the end of the filename. That means that, if the filename of a TI-Writer text file is shorter than the old one, you don't hav to delete the excess characters or space over them all. A space after the last character in the new file will work just as well and you save a bunch of keystrokes besides.

That TI made some "hybrid" consoles between the black-and-silver and the beige models. Most of the beige models are Vn 2.2. That means that they won't run a lot of the third-party cartridges like CENTIPEDE and PAC-MAN. Between the two versions, there were some beige consoles produce with the cool-running power supplies and the black-and-silver "guts". I managed to find one at "give-away" prices. If you want to find out when your console was produced, there is a LATA number on the bottom of the console -- the first two digits are the week of the production run and the last two are the year. The non-Vn 2.2 models were produced from approximate week 40 of 1983. Thus the LATA number is 4083 or higher.

INFOCOM

by Jack Sughrue

You know, it's so great when you can finally save up your pfennigs and francs until you can buy something you really have been wanting instead of squandering it on this and that until you've enough left to buy something second-class instead of first-class.

Well, for those of you who want the best in adventure games - the very best! - whip out your piggy bank and save awa\ The best is here! INFOCOM.

For a long while INFOCOM has been known as the best in the business for intellectual, challenging text games. While we 99er-types slavered over such marvels on the TI Professional or the Apple or the IBM, those friends who owned those machines would look askance or, worse, invite you in to try out these games on Their computer as if you were some poor relative left to starve in the snow (and They were filled with the milk of human kindness.)

No more!

Now I feel like the guy in the ad who said "They laughed when I sat down to play the piano..."

All the INFOCOM games are now available for our superb computer!!! And it's about time. I'm sure TI owners will be able to play them all better than anyone else anyway.

In case you're not familiar with INFOCOM, I'll give you a little background. The text games are disk-driven only. You'll need memory expansion, too. (Zork I, for example, uses up 534 sectors on the two disks.) But these things are almost worth purchasing all the peripherals just to play.

They're expensive when compared to lesser materials (You can look around and get the games for under $40), but the IBM and other versions, for some reason, run $10 to $20 more for each game.

These games are worth it.

The ZORK series (I,II,&III) are the most famous of the lot, and I'll discuss those in a second.

INFOCOM also puts out some other unusual adventures:

ENCHANTER is similar to Zork in that there is magical evil you must overcome in this fantasy world.

DEADLINE is a mystery. It is a real-life adventure similar to those bizarre "novels" of Dennis Wheatley and J.G. Links (which are police dossiers full of telegrams and packages of pills and human hair and fingerprints and police interviews which you must interpret to find the doer of the dastardly deed). Deadline is like this. You must solve the mystery.

WITNESS is an equally exciting mystery. Only this time you have only 12 hours to solve the thing or you'll be taken off the case. This package contains a magazine (pulp-style, as it takes place in the 30's - the time of Sam Spade).

INFIDEL takes you, a small-time explorer, into the Egyptian Desert in search of a lost pyramid. If you like Indiana Jones, this is your chance to use your computer to transport yourself into cliffhanging adventures.

STARCROSS is the first of the science-fiction adventures. You are about to have a space rendezvous.

SUSPENDED awakens you from cryogenic suspension into an insane world of the future. This is even bizarre for an INFOCOM game!

PLANETFALL is a hilarious science fiction adventure (not that all these INFOCOM programs aren't filled with wit and fun) that has an infantile robot named Floyd who has to assist you.

SORCERER continues where ENCHANTER leaves off. It is even more goony and more difficult than its predecessor. Your back in Frobozz again and dealing with a lot of characters remarkably unlike your next-door neighbor.

HITCHHIKER'S GUIDE TO THE GALAXY is my favorite. If you've ever read the amazing four-book trilogy by England's Douglas Adams, you will love this game. He was one of the two writers of this hilarious program. I've already begun a review of this adventure which is going along as I struggle through it. Hopefully, a review will come eventually.

That's the lot, so far. And an ingenious lot it is, too. The premise of all these adventures is a good one. Each is a novel - a full-fledged novel - and you are it's leading character. Early programmers dreamed of such a thing. The unlikely has become real.

These adventures are not like Tunnels of Doom. Nor are they like Devil's Dungeon or Haunted House. They may be a little like Scott Adam's Adventures, but not much. Adam's work is like a primer by comparison. You have to use two clue words (Take Book, Go Rock, Talk Bird). You speak English to INFOCOM. In Zork, for example, you can type "Look in the bag. Take out the message. Read the message. Drop the bag." all at once. Everything will be done. You can even use complex sentences: "Throw the newspper, the red book, and the magazine into the chasm." And thy will be done.

I'd recommend you buy the maps for Zork. The empire is so huge with so many places to go and so much to do before you even get to the underground empire that it might be a tiny bit frustrating. (It was more that a tiny bit with me.) Helpful hints books are also sold for each of the games, but hold off for a few months. And play the games with family or friends. The more the merrier. You will get sarcastic answers if you swear (and different sarcastic answers for different swears).

I guess what it really comes down to is the MASSIVENESS of the programs. They are immense. The thought and the time that goes into them is amazing. They are packaged by a genius. The stuff that comes with Deadline and Witness is unbelievable.

If you want months of pleasure. If you like adventure like Indiana's or mystery or fantasy or science fiction, I would highly recommend the best: games from INFOCOM.

NO-NO of the Day: The Consumer Guide people are a bit over their heads when it comes to the stuff they do with electronics (stereos, computers, stuff like that). I don't think they have the technical know-how or equipment to truly test electronic equipment in intelligent ways. Though I admire their no-nonsense approach to testing consumables of all types. Their LEARN HOW TO USE YOUR COMPUTER series was weak. THE USER'S GUIDE TO TEXAS INSTRUMENTS TI-99/4A COMPUTER, SOFTWARE, AND PERIPHERALS is an example of this weakness. But you have to admire the powerful title. The book is a primer for people who can't read manuals. It is filled with photographs of every KEY! to begin with. Then each screen from turn on to type (4). It is the most basic basic I've ever almost read. It is for people who use bookmarks in the PEOPLE Magazine.

I gave it to a friend of mine who does EVERYTHING wrong that can be done wrong to a computer. He is a literary genius but a computer klutz. Of the highest order. Always messes up everything and appears to have no understanding of anything (when it comes to computers). You've undoubtedly run into the type.

I gave him the book. He spent weeks with it, loved it, felt it was worth ten times the investment. "At last I understand how my TI works. This is a wonderful book. Please say that in a review." I just did. And Bob is still the biggest computer klutz let loose in an electronic society. "For-Next Loops are my next project," he told me earlier this week. He has owned his computer for four years and has more software than I do. He's spent more time sitting next to me to learn word processing than I did getting my Masters. But he hasn't been able to "get the hang of it" enough to even write a letter.

In short, though this book was made for people like Bob, it didn't even help him. For everyone else: you'd learn more

about your 99 by just playing with the keys and seeing what happens.

VIEWS

Long, long ago, in what seems like a galaxy far away, a company called TI let me borrow their brand new computer, as yet undistributed, called a 99/4 (no A then). My fifth-grade students and I played with it for the year we had it on loan. No software but what we could devise. No textware. No fancy peripherals. Just us and the computer. We all learned a lot in those electronic dark ages. I learned mostly from the kids, those uninhibited kids who are probably all grandfathers by now.

There was a considerable amount of joy with computer discovery in those days because everyone knew nothing. There were no experts. At least not out in the real world.

Then we had to give it back while TI geared up for production for their $1500 994 with the chicklet keyboard and all-caps format.

Centuries passed before our school again had computers to play with. But the playground had become more crowded and the playmates more sophisticated. Loss of innocence (electronically) had happened in the interim. Homes had game-players and computers and new push-button gadgetry.

But when I bought a couple of the new 99/4As (one for home, one for school), the wonderstuck innocence returned. And is still with me, I hope.

These articles, tutorials, programs, and reviews are part of a five-year writing experience relating to the TI-99/4A. These pieces appeared originally in some educational newsletters in 1981. Later there were some pieces written for a writing project that included word processing. Later, still, there were some pieces written for educational journals and one for a literary journal. But the emphasis has been on user-group newsletters, the home and hearth and bread and butter of our worldwide TI family.

Most of these articles were written in the last three years for M.U.N.C.H. (Massachusetts Users of the Ninety-nine Computer for the Home) in Worcester. A few were rewritten or were original to other group newsletters.

Mainly, the intent in writing these articles was to inform and entertain. Myself, first; and, hopefully, the readers. I feel I have learned quite a bit about our 99 and about the people who have done something with it, to it, for it. I hope some of this knowledge was shared through these writings.

The old adage "Give a man a fish and he eats for a day; teach a man to fish and he eats for a lifetime" is probably truer among home-computerites than it is with the population at large. For those who want a lifetime of being a part of this Electronic Age, user groups have probably done more to "teach fishing" than any groups in any other fields, and the newsletters have been a considerable part of this learning environment. Still is.

Basically, the structure of most of the articles has been to develop a theme or to focus on one kind of book/software item. Within that theme/focus I tried to point out the usefulness and the creative potential of the products. And the flaws. If possible, I included a small program sample to give the reader an example of style. Sometimes NO-NOs were described to help the reader avoid the pitfalls I had experienced. All of the products were purchased and used by me, so I had no cause to be prejudiced by freebies or friends.

Sometimes there were tutorials. Overall, I tried to stress that the 99 is still the superb machine it always was, that it can be an incredibly creative tool and toy now and forever. Just because it is no longer produced does not mean it is no longer productive. The amount and variety of materials available today is mind-boggling - undreamed of when TI was still producing these computers.

Although I use other computers in my teaching profession (Apples, Commodores, Timex/Sinclairs, TRS-80s), personally and professionally I use the TI as often as I can (which is very often). My students and most of the other teachers in my building also prefer the TI to the other machines available in school. For LOGO, for word-processing, for educational software, for fun and games, for graphics (such as GRAPHX), for adventuring (Infocom and Scott Adams), for just about any school use the TI cannot be beaten. The speech-synthesized educational software is still excellent. The texts (like KIDS AND THE TI-99/4A) are still exciting to a new generation of programmers.

And the user groups! That's where the action is. To just use the free and inexpensive library materials (texts, disks, cassettes, peripheral items) that most groups have would take a lifetime right now. There is a surfeit of good material, almost to the point of being overwhelming.

Every so often it is wise to look back at what was good a few years ago. In most cases, the items are still good. It's just that we've seen so many items since that we've neglected some of the best from the past. These articles sometimes explore the past to help us in the present.

And the Fairware/Freeware market has brought us unimagined treasures: PRBASE, FUNLWRITER, CM1000, for three superb

examples.

Granted, the textware has slowed to a trickle, and the number of large distributors and stores carrying TI goodies has diminished, but what we have left is operating at full scale. And the quality of the products keeps increasing (MICROpendium, GENIAL TRAVELeR, ASGARD SOFTWARE, for three more superb examples). Australia, Germany, Canada, Belgium, Italy are all adding ingeniously to this marvelous mountain of materials.

Our computer is still in an onward and upward movement, so long as there is an involved, committed community. Let's hope this is for a long, long time.

1986 J.S.

Try this with your morning coffee and see how many you can find...

T S E V I R D K S I D A M U T
I C A E T E S X A R S S T E I
W A T I N G O V V C U D X T O
R U N N I N G N I T I A W A V
I L A L P E R I N S S T R O M
T A L A E T A N G C I A I O K
E P P I B O M U O T N C B E M
R T I B O R A M O D E E Y D E
C O T E X A P U O L W B O I D
I P L U M U T M X L O V A V O
H O U S T E X I E A R A D O M
P W M E E R E N R A K T E X O
A E R E X M N D R O I N I T D
R R M O A U T I O S N A G N U
G R E I F T U V R N G A S R U

ASCII
DISKDRIVE
ERROR
FUNNELWEB
GRAM
GRAPHIC
KEYBOARD
LAPTOP
MODEM
MULTIPLAN
PEBOX
POWER
RANDOM
RUNNING
TEXASCOMPUTER
TIWRITER
UNIT
VIDEO
VOICE
WAITING
WORKING
