YESTERDAY'S NEWS

VOLUME 5 NUMBER 2 Established 2016 FEBRUARY 2020

30 Years Ago...

Historical Information taken from Bill Gaskills TIMELINE

FEBRUARY 1990:

MICROpendium publishes issue Volume 7, Number 1, consisting of 48 pages.

Fest-West '90 takes place on the 17th and 18th in Tucson, Arizona, with the SouthWest 99ers User Group as sponsors.

Asgard Software releases the Asgard Mouse, designed by Mike MaksimiK. It makes its first public appearance at Fest-West '90 in Tucson, AZ.

The Boston Computer Society offers a P-Code Manual and disK to the general public for $9.00.

Asgard Software releases RocK Runner by Eric LaFortune.

Texaments releases The Missing LinK by Harry Wilhelm of Groton, NY.

DDI Software (Jim Uzzell) releases MY-BASE for the Geneve.

Jerry MacDonnell of KirKwood, New YorK begins publishing the Swan's Song newsletter for owners of the Myarc Geneve 9640 computer.

The Coriopolis, PA TI-99/4A User Group disbands.

Asgard Software (Chris Bobbitt) announces the impending release of Spell It!, a fast, assembly language coded spelling checKer for TI-Writer, that is written by Cornell, IA College student Jim Reiss.

Douglas Davis of ALL-CARE+ Computing, announces the availability of Texas Cooler fans for the TI99/4A Peripheral Expansion Box.

Although he does not release the name, Alexander HulpKe of Aachen, West Germany informs the TI Community that he is writing a graphics program similar to My-Art , but with many improvements. HulpKe reports that the program will run on the Myarc Geneve or the TI-99/4A with a DIJIT AVPC or Mechatronics GmbH 80 column card. *(Editor's Note: The program is ultimately released in November 1990 through Asgard Software's YAPP (Yet Another Paint Program)).*

Bill GasKill releases Reminders!, a date and appointment tracKing program written in TI Extended BASIC. It is officially released at Fest-West '90, but the program is withdrawn from the marKet a short time later after failing to sell more than 10 copies.

Page Pro 99 v1.5, a desKtop publishing application created by assembly language programmer Ed Johnson of Minnesota, is released by Asgard Software.

Asgard Software announces FILE16, a DisK Manager 1000-liKe program, that is designed to allow file copies between Corcomp, Myarc and TI disK formats. Unfortunately, the program never actually appears on the commercial marKet.

Alexander HulpKe's XHi (Extended High Resolution Graphics Support) fairware utility is reviewed in MICROpendium by Charles Good.

J. Peter Hoddie (James Peter Hoddie) announces the impending release of a Myarc Geneve 9640 version of Wayne Stith's TI-99/4A Triad program. The application is a combination disK manager, terminal emulator and text editor rolled into a single program. The program would appear later in the year as Gen-Tri, also written by linguistic specialist and accomplished assembly language programmer Wayne Stith.

Richard Lindway of the Central Pennsylvania Users Group reports that Richard Roseen of Alexandria, VA is rewriting the Myarc Personality Card software so the legacy Myarc WDS-100 hard drive system can be used with the Geneve 9640 computer.

INSIDE INFORMATION

TI CLASSROOM

TIPS FROM THE TIGERCUB

NUMBER 9

By Jim Peterson

Last month's challenge was to write a program in two lines of Basic, or one line of Extended Basic, to compose and play random music in 2-part harmony in the Key of C. I did't hear from anyone else, so here's my solution-

```
100 REM - TIGERCUB 1-LINE MUSIC COMPOSER
110 CALL SOUND(-999,VAL(SEG$("26226229433034939244049452358765969878
4",INT(12*RND+1)*3-2,3)),0,VAL(SEG$("131175196",INT(3*RND+1)*3-2,3)),5)
120 GOTO 100
```

Here's a tip for those who have my Tigercub Keyboard Organ program - try holding down the space bar while you play on the Keys. In most of the voices, the Key response will be so greatly improved that you can really make music!

Just another challenge - can you write a one-line program in Extended Basic which will take only 70 seconds to scramble the numbers from 1 to 255 into a completely random sequence without duplication?

Who needs line numbers, anyway? Try Keying this in- (in Extended Basic)

```
DIM S(36):: F=262 :: FOR N=1 TO 36 :: S(N)=F*1.059463094^N :: NEXT N (Enter)
FOR J=1 TO 1000 :: CALL SOUND(-99,S(INT(35*RND+1)),0):: NEXT J (Enter)
```

Here's another one - Key this in to your friend's computer while he is getting you a beer-

```
M$="0018243C425A667E"(Enter)
FOR C=128 TO 143 :: FOR L=1 TO 6 :: C$=C$&SEG$(M$,INT(8*RND+1)*2-1,2):: NEXT L :: CALL CHAR(C,"00"&C$):: C$="" :: NEXT C :: CALL CLEAR
```

Now, when he gets back with the beer, rest your left pinkie on the CTRL Key while you type in any of the letters A through O, and show him that his computer has a built-in Mongolian alphabet!

One More-

```
FOR CH=65 TO 79 :: CALL CHARPAT(CH,CH$):: FOR J=1 TO 16 STEP 2 :: X$=SEG$(CH$,J,2)&X$ :: NEXT J :: CALL CHAR(CH+64,X$:: X$="" :: NEXT CH Enter)
CALL CLEAR (Enter)
```

Again, hold down the CTRL Key while you type letters between A and O. You can also change that to read FOR CH=33 TO 90 and CALL CHAR(CH,X$), omit the CALL CLEAR, and watch the fun on the screen.

If you are programming for speed, don't use DEF! Put a stopwatch on this routine and see why -

```
100 DIM N(100)
110 FOR J=1 TO 100
120 N(J)=RND*10
130 NEXT J
140 INPUT DUMMY$
150 DEF RD=RND*10
160 FOR J=1 TO 100
170 N(J)=RD
180 NEXT J
```

Here's a one-line GOSUB for your business programs, to give you the number of days (D) in any month (M) of the year (Y) including the extra day in February of Leap Year -

```
100 D=VAL(SEG$("312831303130313130313031",M*2-1,2))+(ABS(M=2)*ABS(Y/4=INT(Y/4)))
```

If you accidently hit a letter Key in response to an INPUT N request for a numeric variable value, you get a nasty burp and a severe reprimand -

```
WARNING INPUT ERROR IN.....
```

This is annoying to a user disconcerting to a non-user, and even frightening to a child.

If you program INPUT N$, the computer will accept anything as the value of a string variable, and the VAL function will change a string of numeric value - but if the string contains anything non-numeric, the program will crash- which is even more annoying. disconcerting, and/or frightening! The solution? Tigercub presents-

```
100 REM - THE TIGERCUB POLITE COMPUTER
110 INPUT "TYPE A NUMBER, PLEASE":N$
120 FOR J=1 TO LEN(N$)
130 IF POS("1234567890",SEG$(N$,J,1),1)<>0 THEN 160
140 PRINT "THAT IS NOT A NUMBER"
150 GOTO 110
160 NEXT J
170 N=VAL(N$)
```

If you want to accept decimals and negative numbers, change the string in line 130 to "1234567890.-"

Do you like to work those letter substitution puzzles in the newspapers and puzzle books? Why not let your computer make them for you? Just get anyone to type a message to be encoded.

```
100 REM - TIGERCUB CRYPTOCODER by Jim Peterson
110 CALL CLEAR
120 T$="THIS PROGRAM WILL CREATE A  CRYPTOGRAM BY SUBSTITUTING  ONE LETTER FOR ANOTHER."
130 GOSUB 450
140 DIM A$(26,2)
150 M$="ABCDEFGHIJKLMNOPQRSTUVWXYZ"
160 FOR T=26 TO 1 STEP -1
170 A$(T,1)=CHR$(T+64)
180 RANDOMIZE
190 X=INT(T*RND+1)
200 A$(T,2)=SEG$(M$,X,1)
210 IF A$(1,2)="A" THEN 150
220 IF A$(T,2)=A$(T,1)THEN 190
230 M$=SEG$(M$,1,X-1)&SEG$(M$,X+1,LEN(M$))
240 NEXT T
250 FOR J=1 TO LEN(T$)
260 D=ASC(SEG$(T$,J,1))-64
270 IF (D<1)+(D>26)THEN 300
280 C$=C$&A$(D,2)
290 GOTO 310
300 C$=C$&SEG$(T$,J,1)
310 NEXT J
320 T$=C$
330 C$=NUL$
340 GOSUB 450
350 IF FL=0 THEN 370
360 GOTO 360
370 FL=1
380 FOR D=1 TO 500
390 NEXT D
400 CALL CLEAR
410 PRINT "TYPE YOUR MESSAGE OF NOT":"MORE THAN 4 LINES. USE EXTRA":"SPACES TO AVOID BREAKING A":"WORD AT THE END OF A LINE.":" THEN ENTER"
420 INPUT "
          ":T$
430 CALL CLEAR
440 GOTO 150
450 R=5
460 C=3
470 FOR J=1 TO LEN(T$)
480 CALL HCHAR(R,C,ASC(SEG$(T$,J,1)))
490 C=C+1
500 IF C<31 THEN 530
510 C=3
520 R=R+1
530 NEXT J
540 RETURN
```

ALMOST OUT OF MEMORY, so

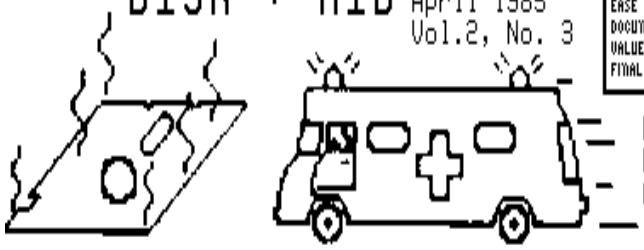
HAPPY HACKIN'

Jim Peterson

DISK + AID

MICROPENDIUM
April 1985
Vol.2, No. 3

REPORT CARD	
PERFORMANCE	A+
EASE OF USE	A
DOCUMENTATION	A
VALUE	A
FINAL GRADE	A



By
Ron
Albright

Successful software development is a pot of gold to which there are many paths.

A product may be developed for a computer because it was successful for another computer; it may be written as an entirely new idea, or it may be written as an improvement of an already-existing product. All are valid reasons for new software development and examples of success in each category easily come to mind.

An example of an existing category of TI software in which there are several rival products is disK sector editors, i.e., programs that allow direct reading and writing to individual disK sectors. DisK Fixer (Navarone), DisK Surgeon 99 (Amerisoft) and DisKo (public domain) are examples of this type of software. Each has its own unique features and drawbacKs. For example, DisK Fixer is perhaps the best documented and full featured of these versions. It allows for string-search (reading each disK sector to find a single hexadecimal string), the single most powerful function available in this program class, and on-line help screens. However, it also has several drawbacKs, the major one being that it has only hexadecimal displays and printouts and the commands are quite complex and difficult to master.

DisKo (or DisK Patcho) is a public-domain program which is popular because it allows one to read or write to sectors in either hexadecimal or ASCII. Thus, you can see the sector contents in alphanumeric characters instead of their hexadecimal bytes. It is limited in that it will not print to any device or search for strings.

DisK Surgeon 99, a relatively new product, is much liKe DisK Fixer in that it is full-featured but allows hexadecimal and ASCII display and print-out. It is disK-based, while DisK Fixer is in a module. Both of the commercial programs are relatively expensive - (DisK Fixer retails for about $35; DisK Surgeon 99, about $27). Each sector editor has its proponents, but we have had to settle for the inadequacies of each. Further, due to the nature of the programs (one in a cartridge, the other extensively protected), backups are difficult, if not impossible, to maKe, to me a. major drawbacK in commercial software at this price. A new program exists which I feel now combines not only the best features of each previously-existing program, but also adds new features and strengths which are unique.

DisK + Aid is a new product from a new producer, M & T Utilityware. The company itself is as different and refreshing as its product. M & T Utilityware is the first software producer for the TI computer (at least, that I am aware of) that has a money-backK guarantee policy. If you are not satisfied with their product, return it with documentation to them and your purchase price (less shipping) will be returned. Further, DisK + Aid is sold UNPROTECTED so that you may maKe a back-up copy. Even more, while the assembly object code retails for $20 ($1.75 shipping), you can have the entire source code on disK for an additional $7. Thus, you may learn exactly how the author wrote this marvelous utility. Even if this program were no better than the existing versions, these factors alone would maKe it an incredible buy. DisK + Aid, though, is more than just equivalent.

Performance: The program comes as 149-sector object code on disK and requires 32K memory expansions, which can be loaded through Extended BASIC, Editor/Assembler or Mini-Memory. After a title screen and second "warning" screen (i.e., paraphrasing "Know what you are doing before you write new sector data to a disK!"), you are presented with a menu screen with 28 options. This menu screen can be accessed at any time during the program run by simply pressing ? (FCTN I).

At the top of the menu screen is the status line which displays 1) the last area of memory accessed (C for CPU, G for GROM, V for VDP), 2) the DisK Drive currently being accessed (1, 2, 3 or 4), 3) the current disK sector or memory address, 4) and the last mode (command) used. The commands are easily understood and almost all mnemonic. "0" allows you to specify the output device (printer or disK) to be implemented by the "P"rinting command. Printouts to disK are in convenient Display/Variable 80 format for viewing with TI- Writer or Editor/Assembler. Let us looK at the two different program aspects this packAge permits.

Besides the disK sector editor functions to be discussed next, DisK + Aid is a powerful exploring tool to study the various memory locations in the TI computer. It accesses the Central Process Unit memory (CPU), the GROM memory and the VDP memory with equal ease. You may toggle memory output to printer or disK as well as hexadecimal to ASCII with a single Key stroKe. Further, you can "A"lter any memory location (except GROM, of course) at any time. Thus, as a bonus to editing sectors, you have a second tool for memory mapping the entire computer! The display for the memory locations is in 256 byte pages which you can scroll through forward (by simply repeated stroKes of either "C", "G", or "V" for the three locations, moving ahead in 256-byte increments) or backwards (by Keying FCTN 9 ("BacK"). Another feature: At any time during this memory stroll, you can get an instant screen dump to whatever device was specified by the 0 command by a single press of "D" (for Screen Dump). These features, even

alone, would make the package worth the price. But I save the best for last.

The disk editing features are simple, fast, and full-featured. "N" allows you to input the sector number you desire to view. "R" then reads that sector. "F" moves the sector address by one, "B" moves the sector address back by one. "T" toggles the sector display from hexadecimal to ASCII. "A" places the cursor in the upper left corner of a sector displayed for "altering". If you are in an ASCII display, you edit in ASCII; if in hexadecimal display, input is in hexadecimal. FCTN W (~) writes the sector back to disk. Why Function W? This is a "safety" device to make two keystrokes necessary for the possible disastrous writing out of a sector to a disk! You can compare two sectors with the "E" command. You will then be prompted to enter two sector numbers which will then be read and compared in memory. The information displayed on the screen will then be the contents of the first sector entered that is different from the contents of a second sector entered. This is an invaluable feature if you have made a backup of a disk and neither the disk nor the backup runs correctly any longer. By comparing the disks, sector by sector, one can find the errors. Once the sector errors have been found, you can, with Disk + Aid, write the correct sector over the errored one to obtain a workable disk.

Another powerful feature is the "S"earch String function. You will be prompted to enter either a hexadecimal or ASCII string of up to 40 characters and then the range for the search. If the screen update mode is "On", each sector will be displayed as it is searched until the string is found or the range completed. If the update mode is "Off" the search is much faster (about the speed of disk initializtion with Disk Manager II) and the screen will not change until the string is found (at which time the sector will be displayed), the range is completed without the string being found or you press "CLEAR" (FCTN 4) to stop the search prematurely. Again, a useful feature to find where a program file begins on a disk or certain data is stored.

The most attactive, functional and novel function of Disk + Aid is its hard-copy format. If you have previously entered an "O"utput device, the "P"rinting command will prompt for starting sector and ending sector. It will immediately execute. It will pause at the press of any key and restart with same. You may stop the printing at any time with FCTN 4, at which time you will be returned to the command mode. The speed of the printout to disk or printer can be achieved only through efficient assembly code. The format for the printout is innovative. Both hexadecimal AND ASCII sector dumps are printed side by side for easy comparison and interpretation. The entire 256 bytes of each sector are presented and labeled. If you dump to disk, again, the file format is Display/Variable 80, so the disk output can be viewed and printed out by TI-Writer/Editor modules. The simple beauty of this presentation of data, I think, speaks for itself.

If I sound totally enthralled with this fine bit of software, I'm glad. That's the exact feeling I wish to convey. By the way, the documentation comes as a clearly-printed, 8 1/2-by-11-inch booklet, bound with a vinyl covering. Though almost redundant because of the ease with which the program runs from the menu prompts, the first 20 pages clearly explain each menu function. The remaining 13 pages are a tutorial on the TI DOS and disk formatting which will get you started in recovering improperly closed files and lost programs. So, if you are looking for a company with remarkably reasonable prices, a satisfaction-guaranteed customer policy and software which is in a class totally by itself, check out Disk + Aid from M & T Utilityware. You WILL NOT be sorry and if you are, you get your money back!

YN

By
Bill
Gronos

Enthusiast'99
Sep 83, Vol. 1, No.3

This is the type of program that makes TI cringe. Disk Fixer allows you to probe the inner mysteries of the 99/4 disk format and learn many things that TI would quickly tell you were "proprietary information" should you dare to ask about them on the technical hotline. Disk Fixer is a must for the serious 99/4hobbyist who wants to do more than shove command modules into the GROM port and also for anyone who has a "sick disk" which suffers from a damaged directory. Disk Fixer lets you recover unscathed information as if you were sorting out the broken eggs from a carton that had been dropped. This is done by reading the disk by sector number rather than file name.

Don't waste your time looking through your Editor/Assembler manual to see how sector reading is accomplished: this is an undocumented feature that TI would rather you didn't know about. I have been interested in sector reading ever since seeing a not-for-public-release Command Module that could do this trick. However,that module was coded in Graphics Programming Language, which effectively concealed the secret from prying eyes such as mine. I must take off my hat to the Navarone programmer who wrote Disk Fixer; it was either a remarkable job of system sleuthing or someone has a good source of inside information.

Documentation supplied with the program consists of a ten page booklet that is well written and easy to understand. It takes only a few minutes familiarization to become proficient in the use of Disk Fixer. Appendix

A of the booKlet tells you how files are stored and indexed, how the spaces left from deleted files are re-used and how fragmented file sections are linKed together.

The program is executed via the LOAD and RUN option of the Editor/Assembler. Eight commands provide the following functions: Read sector, Print sector to external device, Write sector, Alter data, Display buffer, Inspect/Change memory, Help and Quit.

You are able to modify entire sectors or a single byte with just a few entries. As an example, to change the disK name you would enter the command "RO,1" (read sector 0 on drive 1 - the documentation tells you where on sector 0 the name is located). Sector 0 is then loaded into the RAM buffer. Next you would use the "A" command (alter sector buffer contents) to change the ASCII values of the name and then use the "W" command (write buffer to disK sector) to maKe the change on the disK.

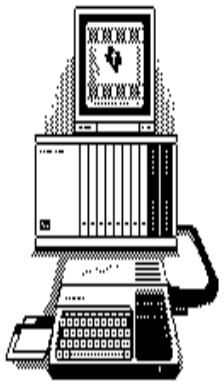
Changing a disK's name with DisK Fixer merely duplicates a function that can be done with the DisK Manager module. The true power of DisK Fixer is that it allows you to do things that are impossible to do with your system as supplied from the factory. For example, I was using TI-Writer to maKe an automatic log-on file to use with my Terminal Emulator II module. I needed to enter a Control "L" character so that my monitor screen could be cleared. TI-Writer uses the control characters to perform special functions, so these characters can not be entered directly. I entered a "Z" where I needed the Control "L" to be and then saved the file to disK. I then (1) used my "Widgit" (which, coincidently, is also made by Navarone Industries) to change over to my Editor/Assembler module, (2) loaded up DisK Fixer, (3) used the R(read) command to scan the directory sectors to locate the log-on file, (4) located "SA" (the hex value of "Z") on the first sector of the file, (5) used the A(alter) command to change the "SA" to "OC" (the hex value of Control "L" - the Form Feed character), and finally (6) used the W(write) command to save the altered sector backK to disK. This process only sounds complicated; it actually tooK less than two minutes. There are many other practical uses for DisK Fixer, some of which are quite devious!

A caveat is in order at this point: with indiscriminate use, DisK Fixer can render your valuable disKs unusable. TaKe to heart the moral given in Walt Disney's story "The Sorcerer's Apprentice", where an unKnowing MicKey Mouse causes havoc when he plays around with a wizard's wand. However, there is little danger if you first experiment with backK-up disKs.

In the hands of a Knowledgeable hobbyist, DisK Fixer is a very powerful tool. The curious experimenter will have many hours of enjoyment with this soft-ware; the recKless user could reduce his disK library into a Tower of Babel.

I discovered only one very minor flaw in DisK Fixer: when you want a printed record of a disK sector and you first enter the device name of the printer, DisK Fixer does not checK to see if the specified device exists. Since you are only prompted one time for the name of the output device, you must quit the program and reload it in order to correct an improperly entered device name. Other than this one slight problem, the program is very well done.

Navarone Industries is one of the most innovative companies maKing hardware and software for the Home Computer. I looK forward to their next product release.



TI-99/4A
THE LEGEND LIVES ON

DISKODEX

Barry Traver & Jonathan Zittrain COMPUTER SHOPPER OCT 89

Appearing at the TI MUG Conference in Lima, OH was Gary Bowser, author (along with Cecil Chin) of a new disK cataloger called DisKodex 2001. As with other such programs, this one is "designed to maKe upmaster catalogs of all your disKs, and allow you to print, update, delete, sort, display catalogs of all or some of your files/disKs". There is a difference with DisKodex 2001, however: it fully supports the DisK Utilities(DSKU) comment system created by John Birdwell. That is, this new cataloger stores the file comments and disK date put on by DSKU, allowing for a more meaningful listing (much more helpful than bare filenames).

This new program (USD $15, CAD $20); maKe checKs - or cheques - payable to Gary Bowser) is published by OPA (Oasis Pensive Abacutors). I thinK OPA is my second favorite company name. My favorite is the publisher of Fortran for the TI-99/4A and Geneve, viz., Al Beard's LGMA, which stands for Little Green Men Associates. Why the"2001" in the title of the DisKodex program? It's because the product has been "designed to have enough power and use to help the TI live past year 2001."

It is a very useful program, one that I expect to be using myself. It can handle up to 256 diskettes per data disk, so those who have more disks than that should first divide their disks up into smaller categories(although that may not be necessary for many people). The program is in assembly and is easy to use, and will work on both 99/4A and Geneve.

One nice feature is that it allows you to use the traditional "*" and "?" characters to do searches with wildcards. Note well: do not use the standard "*" (SHIFT 8) and "?" (FCTN I) for this. What you need is to use FCTN 6 and FCTN 7 to get *" and "?" in inverse video. (This is covered in the 8-page manual as well as on-screen, but you may overlook that important fact as I did.) As customary, the question mark represents only one character in a name, while the asterisk may represent multiple characters. Another fact to note: if you abort the program while the printer is going you should use FCTN 9 (as directed on the screen) rather than the FCTN 4 to which we are a bit more accustomed

You can send printer codes to your printer for special purposes. For example, I like my printouts to be in elite type with the left margin set to 10 (allowing a three-hole punch to be used, so that I can keep such things in a standard three-ring notebook). For this I need to send >1B4D1B6C0A to the printer, and, DisKodex 2001 allows me to do this.

My very minor complaint with the program is the inconsistent defaults shown when you choose the file or disk name for which to search; but I suspect even that complaint may have gotten taken care of by the time that this review appears. At any rate, it is purely a cosmetic matter, and does not affect the running of the program, which seems to work flawlessly.

Gary, already well-known as the author of TASS (Tri Artist Slide Show), has been working on several other worthwhile projects as well. One of these is a GROM extension device, which has eight slots, six chips, and a 20" cable to a dummy cartridge (thus not interfering with the use of the keyboard). Unlike the Widgit, this device allows the computer to have access to more than one module at the same time (e.g.,Extended Basic or Terminal Emulator II). By the way, Gary had a model of this project with him at Lima, so the project is not merely theoretical.

Gary - like Steve Mickelson - is a member of the 9T9 User Group, Toronto, once again showing the wealth of talent present in Canada. We can look forward, I believe, to a number of helpful products from this creative young man (e.g., perhaps an enhanced sound card with more potential usefulness than the earlier FORTi card owned by some); in the meantime, you may want to order a copy of his DisKodex 2001 to keep your own disk collection in better order. YN

COMPUTE!
Sep. 83, Issue 40
Volume 5, Number 9
By Steve Davis

Funware

Last year, a young man named Michael Brouthers left his job at Texas Instruments in Dallas and boldly began a venture to develop game software for the TI home computer, a market that he felt was ready to blossom. When TI announced the $100 rebate on the 99/4A, the market for the machine did indeed grow rapidly.

Until now, Texas Instruments has been the only source of software packaged in the convenient Command Module, which TI invented for the 99/4. The module can contain ROM or GROM chips which contain a program (usually written in Assembler or GPL), and, in the case of TI's Mini-Memory Module, the cartridge can be used to add RAM to the console.

The main advantages to using program modules are:

Ease of use. A person needs no peripheral devices or programming knowledge; just plug in the module and turn on the computer.

Security. Programs cannot be copied or pirated easily since they reside in GROM or ROM chips. This also prevents accidental erasure of the program.

Memory. An application program in a module takes up little or no console memory (RAM), so the computer's memory is available for data storage.

Using most third-party game software for the TI requires either Extended BASIC, Memory Expansion, Mini-Memory, Editor/Assembler, cassette or disk.

Now, Funware has introduced a line of game modules, Henhouse, Rabbit Trail, and Video Vegas, for the 99/4A. All use the sprite graphics capability of the TI.

Henhouse
In Henhouse, you have five prolific chickens that lay eggs which roll down into five chutes. Each time a chute fills with eggs, you must take them to your truck without dropping them, all the while watching for wolves and poachers.

You get points for each poacher you shoot. Birds fly overhead, and you get points for shooting them, too. You play, using joysticks or the keyboard, until a wolf gets in the henhouse or you break six eggs.

The game may not seem as fast as some of the space or maze games in the arcades, but there are enough distractions that it requires concentration and the ability to do several things at once. It is simple enough to be enjoyed by users of all ages. The retail price is $39.95.

Rabbit Trail
This game is a cross between the DonKey Kong and Frogger type games. You are a hungry bunny who must hop along the trails and burrow through tunnels in search of carrots. You must not be eaten by a weasel or a hawK, be run over by a speeding car, or get caught in a trap.

Eating all the carrots without being caught advances you to the next level. You receive bonus points based on how fast you complete the level. If you are quicK (as a rabbit should be), you may earn bonus bunnies.

Each of the seven levels presents a more challenging screen. If you complete all seven screens, the game repeats from the first screen but with increased difficulty. Funware says that so far no one has been able to get higher than 24 screens, but to maKe it even that far would be an accomplishment.

Because of the graduated levels of difficulty, this game is suitable for both beginners and experienced game players. The Keyboard may be used, but joysticKs are recommended. The retail price for the module is $42.95.

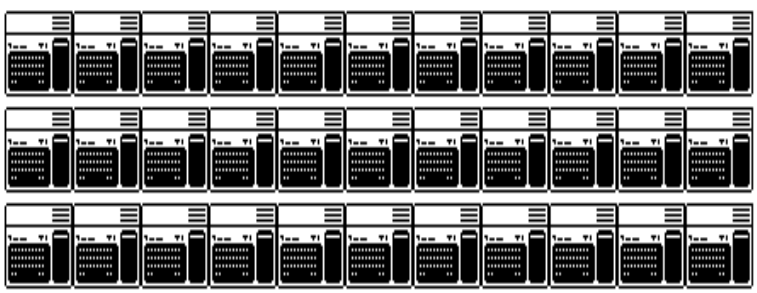
Video Vegas
Anyone who has been to Las Vegas recently Knows that some of the slot machines have been replaced by video versions. These operate liKe the mechanical ones except that the figures (bells, bars, cherries, lemons, etc.) are displayed on a video screen that simulates the rotating cylinders on a conventional slot machine.

Such is Video Vegas, a slot machine game that allows you to place $1, $2, or $3 bets by merely pressing Keys on the computer console. This is not nearly as tiring as pulling those big levers in Vegas.

The color graphics of the figures are excellent; in fact, they looK better than the graphics on some of the machines in Vegas and are a good example of the high-resolution pictures that can be drawn on the 99/4A.

There is nothing challenging about the module, which sells for $29.95, but people who liKe to play the slots will enjoy it.

Funware prefers that its modules be purchased from software dealers, rather than by mail order from the company. YN



THE CASTLE

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By Charles Good

This is a really good game that is somewhat similar to TI RUNNER in that it has multiple levels (screens) that you reach as you progress. My at home testing panel (ages 8, 13, and 15) each individually spent at least 2 hours playing The Castle. The 13 year old spent about 6 hours spread over several days before he finally tired of the game. These are really good times! The attention span of these Kids, who have access to a 386 PC and a Sega Genesis, usually isn't very long when it comes to TI games. I spent several hours myself getting lost in The Castle in preparation for this review.

The game is written in extended basic with CALL LOADed assembly routines. The graphics are great and the game play is fast enough to suggest that it was totally written in assembly, which it isn't. You start outside in a hail storm and duck inside a handy castle to get away from the precipitation. There are treasures in the castle which you are supposed to find as you travel through all the rooms in an attempt to get to the last room where the exit is located. Each room (screen) has lots of doors and various brick barriers. One door leads to the next room, one door goes to the previous room, and most of the doors take you to another location within the same room. It is very frustrating trying to find the "next room" door, and part of the frustration is physically getting to all the doors you can see in order to try them out. Those brick barriers get in your way. However some of the barriers are fake. You can walk or fall right through what appear to be solid walls or floors.

There is no instruction book, but there is a very well done on screen interactive tutorial on how to play the game. You actually play an abbreviated version of the game. You see the graphics and you get to experiment with all of the various types of on screen movement. Everything is nicely explained. My 8 year old had no trouble running the game, going through the tutorial, and then playing the game, all with no help from me.

The Castle comes with a bunch of predefined rooms. When you have them all memorized, you can make a custom game by creating your own rooms. You put doors, true and false barriers, etc. where you want them. A documentation text file explains how, since the tutorial does not cover custom room creation.

The music, speech, graphics, and interest holding ability of The Castle are first rate. I give it a thumbs up.

Yesterday's News Information

Yesterday's News is a labor of love offered as a source of pleasure & information for users of the TI-99/4A and Myarc 9640 computers.

TI-99/4A HARDWARE

TI99/4A COMPUTER
MODIFIED PEB
WHT SCSI AND SCSI2SD
MYARC DSQD FDC
MYARC 512K MEMORY
HORIZON 1.5 MEG HRD
TI RS232
CORCOMP TRIPLE TECH
1 360K 5.25 DRIVE
1 360K 3.50 DRIVE
1 720K 5.25 DRIVE
1 720K 3.50 DRIVE

TI-99/4A SOFTWARE

PAGEPRO 99
PAGEPRO COMPOSER
PAGEPRO FX
PAGEPRO HEADLINER
PAGEPRO GOFER
PAGEPRO FLIPPER
PAGEPRO ROTATION
PIXPRO
PICASSO PUBLISHER
BIG TYPE
TI ARTIST PLUS
GIF MANIA

PC HARDWARE

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COMPAQ ARMADASTATION
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PC SOFTWARE

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