Southwest Ninety-Niners Newsletter

contributed by

- Tom Wills -

SW99ers User Group President of Record

compliments of

TI99ers On-Line User Group

GENEVE 9640

www.ti99ers.org

Southwest Ninety-Niners

February 1989

TEXAS INSTRUMENTS
99/4A HOME COMPUTER

SOUTHWEST NINETY-NINERS

ATTENTION NEWSLETTER EDITORS

There is NO TUCSON 99er Users Group! In many of the newsletters, sponsorship of the Fest West has been credited to the Southern California Computer Group with support from the Los Angeles 99er User Group and the Tucson 99er User Group. Somewhere along the way our group name has been confused with the name of our city. We are the SouthWest Ninety-Niners. Anyone looking for a TI User's Group in Tucson needs to be aware of the correct name!

ATTENTION MEMBERS!!

Next meeting, Thursday, February 4th at Devon Gables Health Care Center in the Executive Dining Room at 6150 E Grant across from the Price Club at 7pm. Look for the BLUE AWNING!!!

FESTWEST '89 PREP MEETING

Final preparations for our trip to San Diego for Fest West. Please plan to attend Tuesday, February 7th at 7:30pm - Mathis home 5941 E 26th - 747-5046
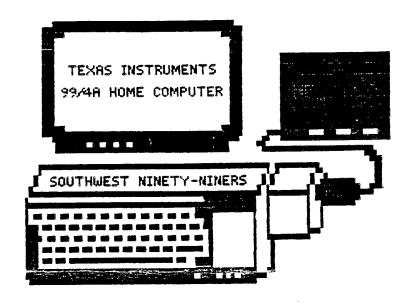
GENEVE USERS WORKSHOP

Second Tuesday of each month at 7:30pm (February 14th). David Ormand's home - 2227 E Drachman - 795-2005

GENERAL USERS WORKSHOP

Canceled this month due to Fest West.

ADVANCED LANGUAGES WORKSHOP

Fourth Tuesday of each month at 7:30pm (February 28th). Includes: FORTH, A/L, etc. Rod Stallard's Home - 7575 E Logan - 745-6071

( ) THE SOUTHWEST 99ERS USER GROUP
( ) PRESENTS
( ) THE CACTUS PATCH BBS

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BY
MIKE KIMBLE
&
TRAVIS WATFORD

300/1200 BAUD - PARITY 8N1
24 HOURS A DAY, EVERY DAY

SYSOP: DAVE ORMAND
CO-SYSOP: TOM WILLS
(602)795-1953

FEST WEST 1989

Fest West 1989 will be held at the Clarion Hotel in San Diego, CA on February 18th and 19th. Members of the SouthWest Ninety-Niners will in charge of registration, and design and distribution of the name tags. SouthWest Ninety-Niners will also have a booth at Fest West. Membership information in the SouthWest Ninety-Niners will be available at the booth.

PRESIDENT'S CORNER

New officers elected at the January meeting are listed on the front page of the newsletter. Ed Hallett and Al Armstrong were instrumental in the continued success of the SouthWest Ninety-Niners and I wish to thank them for the services they have rendered to the group.

We had a total of six members willing to run for four offices. Rod Stallard and John Hale are to be commended for their willingness to serve. Many groups in the TI community have trouble finding anyone to run for each office, let alone more than one!

An Executive meeting took place on January 23rd. Several ideas were discussed for the coming year. Les Neff proposed finding a way to allow members a chance to try out a national BBS. David Ormand would like to see the group develop a program of interest to the entire TI community. These and other ideas will be brought to the group at future meetings.

Ed McCullough and David Ormand plan to put together their various extra equipment for an expansion system to be brought to group meetings without taking down the Cactus Patch BBS each month.

Please check the bulletin for the new meeting place for the Geneve Workshop, and notice the General Users Workshop has been canceled for the month of February due to the proximity of the Fest West.

The demonstration of TI-Base has had to be postponed, neither Bob Broomfield nor Ed McCullough feel familiar enough with it to give a good demonstration. Tom Wills will demonstrate TI-Artist this month. In March you can expect a report on the Fest West and we will have a guest speaker, Tom D'Angelo who will demonstrate the Star Micronics NX-1000 Rainbow printer, and answer questions about other computer equipment.

Bill Yanneck, a new SouthWest Ninety-Niner found a place to order half height TEAC 355BR 5 1/4" disk drives for $69 each plus shipping. Jack recommends these drives. Two can be installed in the expansion box with some modifications. If you are interested in ordering these drives please contact Jack or me. Jack will help you get them installed and can provide the necessary cables for approximately $10.

Ida McCargar is working on updating the group's fairware library. Contact her if you think you have fairware that is not in the group library. We would appreciate a copy in time to include it in our fairware box at the Fest West on February 18th and 19th.

BJ Mathis - 747-5046

JANUARY - DISK OF THE MONTH

1. Scarborough Fair- song hit of Simon and Garfunkle, words and music. No graphics, try your hand at adding some.

2. Care/Bear- A Happy Birthday song.

3. Fairware- suggestions from Jim Swedlow of the Orange County Users Group.

4. House Adventure- text adventure for use with the Adventure cartridge.

5. Max-RLE-2- updated version of Max-RLE, courtesy of Barry Traver. This is an example of the nice things you get when you subscribe to Genial Traveler - the biggest bargain in software. This is an EA/3 program--you need Editor Assembler or Funnelweb.

6. PForm- I had to include this! Downloaded from GEnie. GEnie description "Tired of dumping long DV80 files to your printer that spill over page boundaries and generally look ugly? PFORM (for Geneve or 4A) will put top and bottom margins, a wide left margin for holes, and optional page numbers. Source included."

GEnie Sysop noted that this EA5 pgm will run only on the 9640 and only in MDOS Mode. You might see the author (D. Ormand) about adapting it for TI.

7. Solitaire- a familiar card game for one person.

8. Whl_Puzz2- additional file to use with the Wheel of Fortune Game that appeared on August DOM.

9. Law_P & Romans_P- files to try with the new Max-RLE.

10. Boot, Charal, Load- usual Menu program.

I use FUCAT to do the catalogs. I like it, because I can do a 3-col. cat. and it identifies the EA/opt 5 pgms. That reminds me, FUCAT is Fairware and I must get my payment sent to:

    Rick Grissom
    379 Antelope Cr SE
    Albuquerque NM 87123

Have you paid for your Fairware?

Ida McCargar t 294-3024

THE LENDING LIBRARY

The following items are available to be checked out from the SouthWest Ninety-Niners Lending Library, requests may be posted on the Cactus Patch BBS (795-1953) or by calling Ida McCargar (294-3024).

Books

101 Programs, Tips, & Tricks
36 Texas Instruments TI-99/4A Programs for Home, School & Office
BASIC: A Simplified Structural Approach
Best of 99er
Best Texas Instruments Software
Bunyard Hardware Manual
Computer Playground
Compute's TI Collection
Compute's Guide To TI-99/4A Sound & Graphics
Compute's Beginner's Guide To Assembly Language on the TI-99/4A
Data & File Management For The TI
Easy To Understand Guide To Home Computers
Fundamentals of TI-99/4A Assembly Language
Get Personal With Your TI-99
Home Publishing
How To Use The TI-99/4A Computer
How To Feel At Home With A Home Computer
How To Build Your Own Working 16-BIT Microcomputer
Innermost Secrets of The TI-99/4A
Introduction To TI BASIC
Introduction To Assembly Language FOR THE TI HOME COMPUTER
Kids & The TI-99/4A Computer
Last Word on The TI-99/4A
Learning TI-99/4A Home Computer Assembly Language Programming
Programs For The TI Home Computer
Programmer's Guide To The Best of 99er

Programming BASIC With The TI Home Computer
Programmer's Reference Guide To The TI-99/4A
SHUGART 400L Service Manual
Smart Programming Guide For SPRITES
Software Development Handbook
SOURCE User's Manual
Starting FORTH
Technical DATA
Terminal Emulator Protocol Manual
Texas Instruments Users Encyclopedia
Texas Instruments Computer Program Writing Workbook
TEXNET Information Service User's Manual
Things To Do With Your TI-99/4A
TI Beginner's BASIC Manual
TI Extended BASIC Manual
TI FORTH Manual
TI User's Reference Guide
TI-99/4A Intern
TI-99/4A User's Guide
TI-99/4A Printer Manual
TI-99/4A BASIC Quick Reference Guide
TI-99/4A Console & Peripheral Expansion System Technical DATA Manual
TI-Writer Tips & Tricks
Tool-Kit Series-TI-99/4A ED.
Tutor: Assembly Language Tutorial
Understanding BASIC
User's Guide To TI Computer Software, Peripherals Etc.
Using & Programming The TI-99/4A, What Every Programmer Should Know

Magazines

99er Home Computer Magazine Nov 1982-Jul 1983
Home Computer Magazine Vol. 4 and Vol. 5
Micropendium Oct, Nov, Dec 1984, 1985-all except Feb, 1986-all except Apr, Jun, Jul, Dec, 1987-12 issues, 1988-Jan, Feb, Mar, Sep
Asgard News, v.1 #2, #3
Compute Magazine - Selected articles & programs in folders
PC Computing Dec 1988, Interview with BJ Mathis

Cassettes

TI-99/4A: 24 Basic Programs
TI-99/4A: 51 Fun Educ. Programs
Best of 99er-5 cassettes
HCM v.5 #3
Oldies but Goodies
Teach yourself Basic

Newsletter index on diskettes

4 Boxes of Approx. 950-100 Newsletters

Modules

Home Financial Decisions
Household Budget Management
Personal Record Keeping
Personal real Estate
Tax Investment Record Keeping
Super Extended Basic, Manual
Editor Assembler
Microsoft Multiplan
TI Writer
Plato Interpreter
Programming Aids II (disk)
Teach Yourself Basic(disk)

Folders

Miscellaneous Technical Data
Technical Diagrams
Bit map Mode on TI
Let's Talk Ram Disk
List of Books for the TI

NEWS NOTE

Harry Brashear, Interface, Western New York UG, 12/88

From the reliable land of the Pennsylvania hardware hackers comes an interesting possibility. It seems that you can take the GROM chips that are in your console and stack them up, then fill the empty sockets with the Editor Assembler, and maybe Multiplan. All you have to do is play around with a couple of connections and add a switch in the side of the console to go back and forth between them. I'm supposed to be getting some more info on this and I'll publish it when it arrives.

HOW ACCURATE IS THE 99/4A'S SOUND CHIP?

Charles Good - Bits, Bytes, Pixels - Oct '87

Some musical programs sound just a bit off, with an occasional sour note. This is particularly true of songs played as single notes rather than chords. You don't have to a music expert to detect these sour notes. Either the programmer programmed the wrong frequency, or perhaps the sound chip is less than totally accurate.

Reading about the CALL SOUND statement in the User's Reference Guide makes one believe the sound chip is very accurate. The frequency portion of a CALL SOUND statement can have a frequency between 110 and 44733 hertz (cycles per second) suggesting there are 44623 separate sound possible! Of course, many of these frequencies are beyond the ability of most monitor speakers or exceed the limit of human hearing, but the numbers suggest the possibility of great accuracy.

The User's Reference Guide, on page III-7, gives the frequencies for the four octaves of commonly used musical notes. In order to check the accuracy of the musical frequencies listed, I wrote the following program:

```
100 INPUT F
110 CALL SOUND(4000,F,0)
120 GOTO 100
```

I entered various frequencies, including those on page III-7 and then used an ARION HV8000 Micron Chromatic Tuner to measure the resulting sounds as they came out of the speaker on my monitor. This chromatic tuner is used by musicians to tune stringed instruments, including pianos, and is quite accurate. I played around with different CALL SOUND frequency values and found those that, according to my chromatic tuner, were closest to being perfectly "in tune" for all of the notes listed. The results are shown in the table below and were identical on each of two 99/4A consoles I checked.

Not all the frequencies listed on page III-7 actually produced the desired note, these are noted in the COMMENTS section of the table. The inaccurately published frequencies are theoretically correct values, but are one hertz too large to give the correct sound. Music programmers take note! This may be the source of some of the "off" sounds in some songs. It's possible these frequency errors are due to the speaker used in the test, rather than the TI sound chip, but I doubt it.

For some notes, it isn't possible to get a sound that is perfectly in tune, particularly true of the higher notes. Values in the table show which CALL SOUND frequency gives the closest approximation of a note, and the percent of error from perfect "in tune." Again, a better quality speaker might make these apparent errors disappear, but I doubt it. It is possible the magnitude of the high frequency errors (10%-15% off true "in tune") would be reduced with a better speaker.

Beginning with E above middle C (330 hertz) more than one adjacent frequency number produces EXACTLY the same sound. Thus the apparent tremendous accuracy of the TI sound chip with its 44623 different sounds is a myth. The number of possible sounds is much less. This particular characteristic of the TI sound chip would not be affected one way or another by a higher quality speaker. For A above high C (theoretically 880 hertz), any frequency number between 878 and 884 in a CALL SOUND statement produces the EXACT SAME in tune sound. If you go one higher to 885 you get a distinctly higher sound. You don't need a sound meter to detect this change of sound between 884 and 885. The difference can easily be heard with normal hearing. The above small BASIC program lets you input a new frequency before the old one quits, so you can listen to frequencies with only instantaneous pauses in between. Try it. Type in the program and RUN it. Input frequencies 878, 879, etc. up to 884, then try 885 and notice the difference.

Hopefully, this article will help music programmers to appreciate some of the limitations built into the TI sound chip and correct some of the sour notes published on page III-7 of the Reference Guide.

TI-994A Sound Chip Accuracy Chart

NOTE	CALL SOUND Frequency reported page III-7 of Users Ref. Guide.	Measured CALL SOUND frequencies that generate this note.	COMMENTS
A	110	NA	Vol too soft to meter
A#	117	NA	Vol too soft to meter
B	123	NA	Vol too soft to meter
C(low C)	131	131	
C#	139	138	Off 1HZ, & 5% flat
D	147	147	
D#	156	156	5% sharp
E	165	165	
F	175	175	5% sharp
F#	185	185	
G	196	196	
G#	208	207	Ref Guide high 1HZ
A	220	220	5% sharp
A#	233	233	
B	247	247	
C(mid C)	262	261	Ref Guide high 1HZ
C#	277	277	
D	294	293	Ref Guide high 1HZ
D	311	311	
E	330	329-330	
F	349	349-350	
F#	370	369	Ref Guide high 1HZ
G	392	392-393	
G#	415	415-416	
A	440	440-441	
A#	466	466	
B	494	491-491	Ref Guide high >=1HZ
C(high C)	523	522-523	
C#	554	553-555	
D	587	584-587	
D#	587	584-587	
E	659	656-659	
F	698	697-701	
F#	740	738-743	
G	784	780-784	
G#	831	826-831	
A	880	878-884	
A#	932	929-935	
B	988	986-994	
C	1047	1041-1050	
C#	1109	1102-1112	
D	1175	1172-1183	5% sharp
D#	1245	1236-1249	
E	1319	1309-1323	
F	1397	1389-1406	
F#	1480	1462-1481	10% flat
G	1568	1565-1586	5% sharp
G#	1661	1657-1681	10% sharp
A	1760	1734-1761	15% flat

LET'S GET ACQUAINTED

by Tom Wills

A short time ago I was approached by BJ Mathis who asked me if I would do a little article for the newsletter about myself. As I have always liked the idea of members getting to know each other better, I said "Why not!", so here is my life story... well, maybe not quite that much.

My name is Tom Wills. My wife, Carol, and I live at 3950 East Blacklidge Drive, Apartment #225, Tucson, Arizona 85712. I have 4 children (3 girls, 1 boy) and 5 grandchildren (4 boys, 1 girl). I am 44 years young, and a new resident of Tucson having moved here this past December from Sheboygan, Wisconsin.

I am employed at Pima County as a Programmer/Analyst. I have been in data processing for 11 years now. I spent my last six years working for Sheboygan County in Wisconsin, starting as a P/A and finishing up as a Systems Analyst.

I have been a member of the SouthWest Ninety-Niners User Group for almost two years now, but only in the past month have I been able to be an active member. But, in Sheboygan, I was very active in TI activities. I was Vice-President of the Sheboygan Area 99'ers User group in 1986 and 1987, and President in 1988. I also operated a part-time BBS for the SA99UG named Nearer The Lake for the past 1-1/2 years. For almost 3 years I was a delegate from the SA99'ers to the Wisconsin 99er Computer Council. I also was Chairman of the Lakeshore Computer Users Coalition and one of the SA99er representatives on that board. I am also the TI/Geneve section Chairman (SysOp) on American People/Link (national service out of Chicago) and The Daylight BBS (a local Sheboygan BBS). Even though I gave up most of my duties, I am still doing the SysOping.

My system now consists of the following: TI-99/4A (w/32k built-in), speech synthesizer, P.E. Box, CorComp disk controller, Horizon Ram Disk (DSSD), 2 DSDD 5-1/4" floppy drives in a 100 amp power supply, 1 3-1/2" combo floppy drive (DSSD to 1.44 meg) in the P.E. Box, monitor, 2400 baud Anchor modem, SG-10 printer with a 64k print buffer, Geneve 9640, Myarc hard disk controller, 20 megabyte hard disk, Radio Shack power center, more software than I know what to do with, and many odds and ends. I mainly use my computer for word processing, telecommunications, and hacking.

I hope this gives you a good idea of who I am. I would like to see this type of information published on a regular basis on ALL of the SW99UG members. That way we can all get to know each other better. The more we know each other, the better friends we can be. If BJ gives me the go-ahead, I would like to do this on a regular monthly schedule.

REVIEW OF BILLY BALL

Adapted from a review in Western NY's Interface

I don't know whether this review was written by Harry Brashear or Bob Coffey. Whoever wrote it did such a good job that I decided to use their review rather than try to write one myself. - Ida

There is a new fairware disk of Extended Games being distributed by Tex-Comp called The Best of the U.K. The games were written by Roland Trueman from Cheshire, England.

1-Billy Ball plays catch- played with joysticks, a puzzle of floor levels and ladders. Billy has to catch items dropping from the sky, and must navigate the floors and ladders to do it. To complicate matters, a nasty-looking critter is patrolling the floors and if it touches Billy, Billy dies. At the bottom of the screen is a row of boxes, each time Billy catches something, one box gets filled. When the entire row is filled, Billy advances to the next level.

2-Billy Ball at the Hatchery- Billy is in a more complex maze which changes with every level advance...No monsters here, you are fighting the clock. The screens are made up of many small floors connected by elevators. Beneath the floors are "eggs" which, if allowed to incubate, will hatch aliens to eat Billy. One at a time, the eggs light up, and Billy has 50 seconds to reach the egg that is hatching and jump up and down on it. The eggs light up randomly and Billy may be at the opposite corner of the maze. However Billy has 2 secret weapons. Each screen has 2 hammers which, when Billy touches them, will shake the framework, dislodging the eggs. When all the eggs are destroyed, a new, more complex screen appears. Hint: Make sure the up and down connections of your joystick are working well.

3-Billy Ball to the Rescue- The most challenging of the Billy Ball games. It is played from the keyboard and is a mini-graphic adventure game. At the top of the screen is a small diagram showing the entire playing field and where Billy is in relation to the castle tower at the end. Each screen moves Billy closer to the tower. Billy meets many monsters and they get progressively more difficult to avoid. If he touches ANYTHING but the ground he dies. *(My grandson spent hours playing this game and finally succeeded in rescuing the princess! -Ida)*

4-Flooraway- Two versions on the disk, keyboard and joystick, are equally difficult. The character in this game must traverse a maze of bricks and disappearing floors to collect jewels and get to the teleporter. The only way to go from one room to another is to use the disappearing floors. If you drop more than one level you are dead. When you are standing below a disappearing floor, you can jump straight up through the floor.

5-The 2nd Floor- Seems to be a continuation of the previous game, only trickier. There are no disappearing floors, and you must collect jewels scattered around. The only problem is that ALL of the floors seem to be made of quicksand ...and you must keep jumping to unstick your feet. Further complications are Blue Beams running vertically--they mean instant death.

6-Noteworthy- Billy Ball again, played with the keyboard. ...pick up as many musical notes as possible and each time one is picked up, a corresponding tone is sounded...it's almost like playing music on your computer. Things are made difficult by monsters and triangular hazards attached to the level above Billy. These hazards randomly thrust down and if Billy Ball happens to be under one he gets squashed.

If you like games, these just might be worth your while. The disk is in our Fairware Library. Have you read WNY Interface lately? They have an excellent newsletter, mostly original articles, on a variety of subjects. It's in the Library for you to borrow and read.

FAIRWARE ADDITIONS

Southwest 99ers Library

134. PANORAMA by Karl Romstedt. A drawing program complimenting TI-ARTIST and runs in XB.

138. TERR#WARE Games by Terry Staph. Included are Blackjack, Poker and Wheel of Fortune. Wheel of Fortune appeared on one of our DOMs. If you have played the game and used up all the puzzles, this disk includes an Editor so you can create more puzzles and add them to the game.

173. THE 12 DUNGEONS OF REMZAK! by Ray Kazmer. Includes a Dungeon and Dragons type game, 2 useful utilities: Charpat and Keycodes, his popular game Texas Ranger and Cannonball Chess, where learning the instructions is as entertaining as playing the game. Plus, a couple more games, a nice Menu, and other surprises.

205. TEXTLOADER and OPT5LOAD by Curtis Provance. An incredible program! Imagine making your own MACROS on the TI! It's possible with this program. Also included is a Loader for EA Option 5.

MYARC HFDC REVIEW

by Steve Mickelson - Oct '88
West Penn 99ers, Jeannette, PA

One of the main reasons TI users abandon their 4A has been the limited size of space available to store data files. The problem has been addressed through double and quad density floppy controller cards, as well as RAM disks with battery backed memory, up to one full megabyte in size. The price however ($590 US for an assembled one meg Horizon RAMdisk) has made many TIers balk at such prices, and tough it out with a limited system. Enter the Myarc Hard and Floppy Disk Controller, HFDC Card, and we see a whole new world of data storage.

The Myarc HFDC card, (approx. $325), is a multi-function card which will permit either the TI-99/4A or Geneve computers to interface and control up to three hard drives, four floppy drives and one tape streamer. The streamer can be used to back-up the hard drive(s). Hardware requirement for the HFDC are 99/4A console or Myarc 9640 card, monitor, TI Peripheral Expansion Box (or equivalent), Myarc or TI 32K expansion memory (not needed for Geneve), one or more floppy disk drives and cables, and hard disk drive (including cabinet and power supply).

The HFDC can support up to three hard drives, each having a capacity of 134 megabytes. The drive must be ST506/412 compatible.

The Floppy controller will support up to four drives, either 3-1/2" or 5-1/4" single/double sided; single, double or quad density, with 9, 16, or 18 sectors per track. The head step can be set to 16, 8 or 2 sec. The memory capacity of each drive can be either 360K or 720K with 40 or 80 tracks. All settings for each of the four drives can be set by means of DIP switches on the board, allowing mixing of various types of drives in your system. Provision has been made also for 80-track, 36 sector, 1.44 meg capacity drives (possible future expansion).

The card comes in a standard plastic clamshell, along with a TI-style three-ring binder, containing a well written user's manual. My compliments to Walt Howe for a job well done. In addition are two cables, one 34-pin edge connector and another 20-pin cable with edge connector on one end and a slotted pin connector on the other. This will enable the user to connect the HFDC to any standard hard drive, (e.g. Seagate ST-251).

The software consists of Myarc Disk Manager V, for use with both the TI and 9640, with upgrades for the Geneve software to permit the 9640 to access and use hard drives. The 9640 software, namely MDOS, V1.06; GPL, V1.01; and MY-Word, V1.20, will enable access to the hard drive(s),

but at present, not floppies. This necessitates keeping your old floppy controller card and setting the CRU address of the HFDC at 1000, until an update of the MDOS operating system is complete. This review will be restricted to use of the controller with a 99/4A, as this is the most complete application of the HFDC card.

The manual is well-written, with a very useful trouble-shooting section. It guided me through several problems I had initially, with formatting the hard drive. Formatting the drives, unlike other computer systems, does not have a low and high level of formatting; rather a single format command results in the software and firmware going through a format and verification process, similar to that found with standard 99/4A floppy disk manager software. It appears both low and high level formats are performed at the same time. However, with a large capacity drive of more than 30 megs, be prepared to have a coffee or two during first initialization.

There are two sections, in the manual, covering selection of drives, setting of the DIP switches to configure the card, command sets supported by the card and software, connecting the cables. Also, included is an addenda sheet for the manual.

For the software writers, a chapter covers Basic and Assembly Language support for the card, with full memory map, CRU definition, internal disk data structures, and software interface specs.

One useful feature is DSK1 and DSK emulation, which enables the HFDC to have programs normally restricted to residing on DSK1, or a specific DSK, (e.g. DSK.TIMP for Multiplan), located on the hard drive with the same name. When software, such as Multiplan, looks for the disk called "TIMP", it finds it on the hard drive under the root directory TIMP, containing all the pertinent files, which are loaded, as if from a floppy of the same name. For such specific disk directory access, the HFDC looks in the hard drive first to see if the specific disk is emulated on the hard drive. If not, the HFDC will look through the floppies for the disk specified by the software.

The card comes with an optional extended warranty, which may be purchased by the user, for up to four years, at about $25 per year. This entitles the user to any updates of the software, released during the warranty period. I would highly recommend this option for a card which is relied upon so heavily.

The complaints I have with the Myarc HFDC package are, mainly, with the Myarc Disk Manager V software; namely setting the date, on power-up and default interlace settings. When the system is powered-up, in order to properly date-stamp each file, date and time must be keyed-in. If you use the HFDC with Geneve, the HFDC will "read" the Geneve clock. A nice touch, for TI users, with Triple Tech or MBP real-time cards, would be to read the clock on those cards. A novice user is left "in the lurch" as far as to values to select for interlacing, when initializing a floppy disk. The CorComp disk manager has default interlace settings of 7 and 10, respectively, for single and double density drives. The interlace chosen can have a bearing on whether or not you have read/write errors to the disk you have formatted. Also, 16-sector tracks, another undocumented option, can result in a disk which cannot be read on the drives of your friends with TI or CorComp disk controllers. I am sure future updates of MDM V will address these problems.

My opinion of the Myarc HFDC rates this unit as the "best buy" for the money, for an upgrade in our TI community. The fact the controller has been designed for the 99/4A as well as the Geneve, shows Myarc hasn't abandoned our community. The HFDC can support up to 402 megabytes of hard drive memory, which indicates some forethought. If, like me, you have accumulated hundreds of disks and waste time looking through lists and labels, to gather a series of related articles for a newsletter; such waste is virtually eliminated through an orderly set-up of the "directory path" of the hard drive. The speed of access and memory capacity of current drives; user-friendly Myarc Disk Manager V; and competitive price when compared to RAM disks should put it on the top of the TI user's shopping list. Also, in most cases, the hard drive(s) will be located externally, with respect to the P-Box, it would be nice if the cables provided to connect HFDC to the drives were a couple feet longer, to give more flexibility as to the choices of where to locate the hard drives.

JANUARY SW99ERS' MINUTES

Thursday January 5, 1989

1. Pres. BJ Mathis called the meeting to order at 7:15PM.

2. Dave Ormand conducted the Question and Answer period.

   Q. When does the BBS begin operating again?
   A. Dave Ormand advised that it is already in operation.

   Q. We have TI-BASE scheduled for demonstration in February. Is it still scheduled?
   A. Bob Broomfield volunteered to do the demonstration, but he has not been to a meeting since last November, and at last contact with him, he said he had not had time to work with it. Ed McCullough has the latest version and is working with it, so he might be able to demonstrate it for us.

   Q. How many club members have TI-Artist and CSGD?
   A. Tom Wills has both, BJ Mathis has CSGD, and John Hale has TI-Artist.

3. There have been requests for an order for Half-Height DSDD drives. In order for us to get a decent price break, we need to order at least ten, and they can be obtained for $165.00 a pair. So turn in your orders to BJ.

4. If anyone is interested in ordering the John Guion Updates, see Jack Mathis.

5. The Home Publishing order has been received and one was put in the group lending library. See BJ to get yours.

6. Ida McCarger has brought the entire Reference Library tonight. Take advantage of the opportunity to look it over and check out those items that are of interest to you.

7. Election:

   a. It was proposed and adopted that in cases where there are more than two candidates for a particular office and no one gets a majority, the top two vote getters would have a run-off vote and the others would be dropped from the ballot.

   b. BJ Mathis and Ed McCullough were nominated for the office of President. Ed McCullough withdrew his name from the ballot and BJ Mathis was reelected President by acclamation.

   c. David Ormand, Rod Stallard, John Hale, and Ed McCullough were nominated for Vice President. Ed McCullough withdrew his name from the ballot and David Ormand was elected Vice President by a majority.

   d. Ed McCullough and John Hale were nominated for the office of Secretary. Ed McCullough was reelected Secretary.

   e. Les Neff was nominated for the office of Treasurer and was elected by acclamation.

   Ed McCullough, Secretary