

# NUT I NEWS

• NITTANY USERS OF TEXAS INSTRUMENTS •

L. Chapin, Pres.



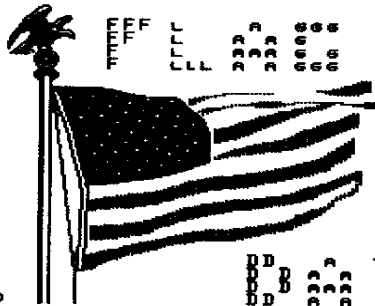
TI-99/4A

JUNE 1990  
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M. Villano, Ed.



GENEVE



(c)

```

TTTTT  F  LLL  333  000  000
      TTT  LLL  333  000  000
      LLL  333  333  000  000
      DD  DD  333  333  Y  Y
      DD  DD  333  333  Y  Y

```

## ARTICLES BEING FEATURED THIS ISSUE:

MICKEY SCHMITT'S 'GETTING... MOST FROM... CASSETTE SYSTEM'. Reviewed  
TIPS FROM THE TIGERCUB No. 57. Programming hints from Jin Peterson  
CHEZ GENEVE. Chip Chapin compares MDOS Version .97H with Ver. 1.14

**SUMMER SCHEDULE OF MEETINGS:** Due to recent uncertainties of key NUTI personnel leaving the area due to graduation or job relocations, the next few months will be a period of transition for our Group. Therefore, the schedule posted in MUG for 3rd Tuesdays is valid for "summer hiatus" except no organized meetings are planned. Rather, the dates are open for informal gathering of the membership in group or as individuals for any matter relating to use of the computer or club business. Call NUTI Secretary at (814) 233-0396 for location.

**RESULTS OF THE MAY MEETING:** Two new members Janet and Eddie Miller were welcomed. Cassette operations were demoed by Daniel Dewey. The TI disk/memory system was demoed by Chip Chapin. We hope to find a meeting place on the Penn State campus by September. Review of Beery Miller's WINDOWS has been deferred for a future issue.  
**NEXT MEETING:** On Tuesday, June 19, 1990 at 7 p.m. Phone for location.

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## MICKEY SCHMITT'S "CASSETTE SYSTEM"

### VOICE AVAILABLE FOR CASSETTE USERS:



The series 'Getting the Most from Your Cassette System,' by Mickey Schmitt originally written for V. Penn 99ers Newsletter, is now available in booklet form. The 52-page typeset looseleaf booklet (without the holes) contains updated versions of the articles & new material. The author says a booklet bought by a users group may be copied for the members. (This copying agreement is not offered to any commercial company, nor are user groups given permission to distribute copies outside their own membership.) To order, send \$9.95, plus \$2.50 s. & h. in U.S. or \$4 outside U.S., to: Mickey Schmitt, 196 Broadway Ave., Lower Burrell, PA 15068 - MICROendium March 1990



"Getting the Most from Your Cassette System," from Mickey Schmitt ranks among the most user-friendly documentation, ever for the TI. This compendium of newsletter articles satisfies the need of entry level TIers (console and recorder only) who can no longer find the primers on bookstore shelves, or encounter indifference from their fellow TI'ers who seem obsessed with their fully-expanded systems, so states co-author Mike Wright of Boston in the Introduction 1.0. The original articles this work is based on appeared in several of the user group newsletters since 1986. Then, I paid no particular attention, having already owned a TI disk/memory system, but noted how valuable this must be to current neophytes, and only regretted that I lacked all this data during my formative years with the TI. Now, all this information has been collected, and organized in one easily-indexed publication and written in a clear and lucid style.

I met Mickey Schmitt at the recent TICOFF and was impressed enough to order a copy for our user group library as we have been getting a number of new members lately with consoles-only. On arrival, it was noted that the professional typesetting made it easier to read and therefore less threatening but more interesting for beginners. The Table of Contents and major section headings are in bold-face. The sections generally progress in an order of difficulty from 2.0 Getting Started; through Loading & Saving 3.0; Error Messages 4.0; and Cassette Hints 5.0. The remaining sections deal with tape and files management: Keeping Tapes & Programs Organized 6.0; followed by listings of programs by the author which a user can key-in, for Cataloging Cassette Tapes 7.0 and for Labeling Cassette Boxes 8.0; Understanding File Structure 9.0, and a File Reference Chart 10.0. Listed on page 2 of Table of Contents are five additional bonuses: program listings for an Address Book data file by the author 11.0; CSI\*FINDEX program locator reviewed by Charles Good, Lima UG 12.0;

### MICKY SCHMITT'S "CASSETTE SYSTEM"

listing of Joseph Bartles's *CSI\*INDEX 13.0*; description of how to load Clyde Colledge's *High-Speed Loader 14.0*; and, Will McGovern's *Loader and Disk-to-Cassette Transfer Program 15.0*. Both of latter are shareware and should be ordered from their respective authors.

Sections 2.0 through 3.0, covering basic operations of connecting, loading, and saving closely follow the step-by-step procedures you find on pages I-8 to I-12, in the *TI-99/4A User's Reference Guide*. Schmitt describes the equipment needed: recorder, controls, Jacks, tape counter, and how to connect the cable- all fully illustrated. The standard hardware shown is the *TI Cassette Recorder (PHP 2700)* & *TI Single Recorder Cable (2622)*. Unlike the *URG ("Green Book")*, there is no supplement of other recorder & tape manufacturers like *TI* provided in an *Addendum* that came with the manuals for the *4A*. Incidentally, *TI*'s list of name brands was expanded in some of the early issues of *99'er Magazine* (Vol.1 No.4, p.82, and No.6, p.84).

*Error Codes & Messages*, generated on loading and saving, were more efficiently organized than *TI* by combining into one section (4.0). Sub-paragraph 4.3 deals with "General Areas to Check..." (if error codes gives no clue), mostly hardware-related. The author did not include *TI*'s caveat about locating the recorder within two feet of a monitor or TV, or on a metal surface, to minimize magnetic field interference or conducted noise. There may not be as much concern about this nowadays, due to the strict *FCC* shielding requirements. The importance of mating the color-coded wires on the cable to the proper Jacks is repeated in several places, but I found no mention of using an adaptor on the remote (black) Jack if reverse polarity is encountered. *99'er Magazine* sold their *TI-Sette* for \$4.40, and until recently *TENEX* had one (1C074) for \$5.95. Today most *TI*'ers probably use a *TI PHP 2700*, or a newer make (like a *GE 35158A*) and haven't had these problems, so the omissions are not serious ones. Schmitt urges readers to load tapes on the same machine that tapes were saved. Speeds will vary between two recorders of same model (*Ed. Note*: speed may be adjusted on some brands, e.g., *GE*, using a screwdriver to turn a set screw on the front near the tape drive.)

In *Tricks & Tidbits of Section 5.0*, the author shares with you the trial-and-error experience we all endured in learning to use tape. The remaining "housekeeping" sections (6.0 to 15.0) were described earlier. I plan to use the *Cataloger, Label-Maker, and Data File*, that were provided and look up the sources to order the shareware. In *Sections 9.0 and 10.0*, Schmitt "walks you through" the somewhat relatively-complex pages of the "Green Manual" (*TI-118 to 136*) and examines important steps of "file processing," with illustrations.

Cassette recorders are still a viable external I/O storage device, for all of those *TI*'ers, without expanded systems. *Mickey Schmitt* has indeed rendered a valuable service for our computer community, by putting this booklet together and available to the User Groups.

### TIPS FROM THE TIGERCUB

#57

Tigercub Software  
156 Collingwood Ave.  
Columbus OH 43213

I am still offering over 120 original and unique entertainment, educational and utility programs at just \$1.00 each, or on collection disks at \$5.00 per disk.

The contents of the first 52 issues of this newsletter are available as ready-to-run programs on 5 Tips Disks at \$10 each.

And my three Nuts & Bolts Disk, \$15 each, each contain over 100 subprograms for you to merge into your own programs to do all kinds of wonderful things.

My catalog is available for \$1, deductible from your first order (specify TIGERCUB catalog).

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### TI-9D LIBRARY

I have selected public domain programs, by category, to fill over 200 disks, as full as possible if I had enough programs of the category, with all the Basic-only programs converted to XBasic, with an E/A loader provided for assembly programs if possible, instructions added and any obvious bugs corrected, and with an auto-loader by full program name on each disk. These are available as a copying service for just \$1.50 post-paid in U.S. and Canada. No fairware will be offered without the author's permission. Send SASE for list or \$1, refundable for 9-page catalog listing all titles and authors. Be sure

to specify TI-9D catalog.  
\*\*\*\*\*

I like little programs

that load quickly and do just what I want to do at the moment. And one of the things I wanted to do quickly was to find phone numbers. So, I used FUNLIEB to create a little file -

SMITH,JOHN (999) 111-2212  
BUSH, GEO. (000) 123-1234  
GHADDAFI, O. (666) 66-6666

and all my other frequently called numbers. I SAIED it as DS(1,PHONELIST) and wrote this little routine to use it.

```
100 CALL CLEAR
110 OPEN #1:"DS(1,PHONELIST)".INPUT
120 DISPLAY AT(12,1):"LAST NAME?" :: ACCEPT AT(14,1):#
130 LIMPUT #1:#S :: IF POS(#S,#S,1)<>0 THEN DISPLAY AT(16,1):#S :: RESTORE #1 :: GOTO 120
140 IF EOF(1)<>0 THEN 130
150 DISPLAY AT(16,1):"NAME NOT FOUND" :: RESTORE #1 :: GOTO 120
```

Now actually, that was all I needed, even though it did take several seconds to find a name at the end of the file, and it was easy enough to load the file into FUNLIEB when it needed updating. But, programmers are never satisfied, so I decided to write a self-contained program -

```
100 CALL CLEAR
200 DATA "ALDA, ALAN 888-9199"
201 12P-
300 DATA "BUSH, GEORGE 111-1111"
400 DATA "PRESLEY, ELVIS 040-0000"
499 12P+
500 DISPLAY AT(12,1):"LAST NAME?" :: ACCEPT AT(14,1):#
600 READ #S :: IF POS(#S,#S,1)<>0 THEN DISPLAY AT(16,1):#S :: RESTORE 200 :: GOTO 300
```

```
700 ON ERROR 800 :: GOTO 500
800 DISPLAY AT(16,1):"NAME NOT FOUND" :: RESTORE 200 :: GOTO 500
```

That funny thing in line 201 turns off the prescan and speeds up initialization. This routine is no faster than the last, but can be updated by editing the program itself. It is limited to about 500 records due to the least-known and greatest weakness of the *TI*, that string storage is limited to console memory.

But, computer users are paranoid about speed, so I decided to put my data into a pre-loaded array with self-incrementing subscript numbers, and find the data by a binary search.

```
100 !QUICKFINDER by Jim Leterson
200 DIM DS(500) :: GOTO 300 :: DS(1):X :: 12P-
300 X=X+1 :: DS(X)="ALDA, ALAN (999) 666-1234"
400 X=X+1 :: DS(X)="BUSH, GEORGE (111) 111-1111"
500 X=X+1 :: DS(X)="GHADDAFI, O (666) 666-6666"
600 X=X+1 :: DS(X)="KHOMEINI, AYATOLLAH (666) 666-6666"
700 12P+
800 INPUT "NAME?":#S
900 IF #S>#X THEN PRINT "NOT FOUND":CLOSEST IS*:DS(X) :: GOTO 800
1000 IF #S<#X THEN PRINT "NOT FOUND":CLOSEST IS*:DS(1) :: GOTO 800
1100 H=X :: S=INT(X/2)
1200 S<#S(S): :: IF POS(S,#S,1)=1 THEN 1700
1300 S<#S(S+1): :: IF POS(S,#S,1)=1 THEN S=S+1 :: GOTO 1700
1400 IF S=#S THEN H=S :: S=INT(H/2): :: GOTO 1600
1500 S=S+INT((H-S)/2)
1600 IF S=S2 THEN 1800 ELSE S2=S :: GOTO 1200
1700 PRINT DS(S): GOTO 810
1800 PRINT "NOT FOUND":CLOSEST ARE*
```

```
DS(S2-1) DS(S2+1): GOTO 810
0
2000 PRINT DS(S2+1):DS(S2+2) :: GOTO 800
```

Note that in this case the records must be in alphabetical sequence. New records can be inserted in intermediate line numbers, in alphabetic sequence, always preceded by X=N+1 :: DS(X)=. Obsolete records can be deleted, and records can be corrected in place if the correction does not change the alphabetic sequence.

This idea did not work out as well as I hoped. The maximum number of records is less than 300, for the reason mentioned above and this leaves so little free memory that even a binary search is slow. However, for a smaller file this is perhaps the best method

For a large file, the best method is certainly a fixed sequential disk file, accessed by a binary search routine. But, that requires other routines to delete, add or change records, and had best be the subject of another Tips.

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There is apparent) a mistaken belief that spites cannot be used together with any BXB routine. Not so - you can use all 28 of them! However, you cannot change their color with CALL COLOR(#,N). The only other limitations of BXB that I can think of, are that a single CALL COLOR cannot be used for multiple character sets and a single CALL CHAR can only reidentify one character. CALL CHARPAT cannot return the hex code of an ASCII above 145 because those ASCII's were not supposed to be available in Extended Basic.

ARCHIVER works fine, as does DISK UTILS. NOTE: I am still running with my MYARC floppy disk controller in the PE box. I haven't had the time or inclination to take it out yet. I have heard that some disk manager/utility programs won't work using the HFDC. I hope that situation doesn't last too long, as I'd like to take the floppy controller out and use it with my 4A. (Maybe even retire my TI standalone controller!)

So what problems did I have with FORTRAN 9640? My programs seem to have lost two lines at the bottom of the screen. If it tries to write over anything on lines 24 or 25, the screen scrolls upward! And the initial lines of data on the screen appear about two or three lines below where they should. Wonder if you can use negative numbers with cursor control? Wonder if this happens only in the default screen mode? Guess I won't know until I try.

HARDMASTER locks up after the first prompt on the initial screen. I haven't found the key to fixing this yet.

GEOMETER's APPRENTICE seems to work properly, but I only ran a quick test - didn't do any printing, but the rest of the program seems to work properly. Unfortunately, you still cannot run the program with a 'normal' Autoexec file, even with the Memex 504 card.

IVIEW, Al Beard's IFF viewing program, works fine. MULTIPLAN works fine, as well. TETRIS, Brazilian MDOS version, is fine.

EXEC works, but when the called program is finished you are dumped at the directory the program was in, rather than the directory you started out at. It also breaks out of a batch file at that point, if you use a batch file as a menu loader.

QDE V1.9 works like a charm. Since I have the 504 Memex card, I put QDE on my hard drive back when I used MDOS 1.14. As long as I did not use the Get File or Show Directory command, I had no trouble. (It would lock up if I used those commands.) I made sure that I was at the subdirectory where QDE is located, E:CLINT, and that the file I was going to create/work with was either at the same subdirectory or on a single-letter drive. To start up, I gave the normal command, QDE A:FILENAME (substituting B: or C: as required). If the file existed on the subdirectory or was going to be created and then saved on the subdirectory, the command would look like QDE FILENAME. Saving or exiting is done in the usual way, and QDE handles it quite properly. The only real inconvenience is remembering to copy your existing file to a floppy /RAM drive or the subdirectory before bringing up QDE. Incidentally, this same process works with 9640 FORTRAN - as well

it should, since it uses QDE for its editor. I suspect this process would work with any program which runs directly out of MDOS but does not have complete hard drive support.

So - what differences does .97H make to QDE? Well, you can use both the Get File and Show Directory commands from the Hard drive with no fear of lockups. However, the Show Directory (Cntl F) will only give you information on numbered drives - you'll get an error msg if you tell it something like E:UTIL. You can use the Get File (Cntl G) command for any of the floppy drives, including the RAM drive, and the subdirectory you are running the program from (you just give the filename without a subdir/drive prefix). As with MDOS 1.14, you have to make sure that the file is available for the Cntl G command, but with .97H you no longer get lockups.

I've had no trouble with John Johnson's X-Utils, but I haven't had occasion to use all of them since installing MDOS .97H. Incidentally, the XDIR util is great for searching the entire hard drive for a file. From the root directory just give it the filename and it will search all the directories for it. It does not stop when it finds it, but instead continues searching through all the data on the drive. This will tell you exactly how many files with that name you have and precisely where they are. I have it in my menu batch file like this:

```
:SEARCH
CLS
E:
CD
ECHO Enter Filename to Search For:
GETSTR
XDIR %I
PAUSE
GOTO LOOP
```

All of the X-Utils are great. John Johnson really did us a favor when he created them. In combination with Barry Boone's GetString and GetKey utilities, they really can do a lot for you. Now that MDM5 is not available to me, his X-Utilities are getting a lot more use than before.

Well, once again I have used more than my allotted space, so I had better end this now. I hope this helps anyone who might be undecided about shifting MDOS versions. In overall operations during the last two weeks I have not found .97H to be any 'bugger' than 1.14 was, and it seems to have more capability than 1.14. See you next month at Chez Geneve.

\* \* \* \* \*

I have used BXB on hundreds of Basic-only programs and have had only two rare problems. If the program contains multiple line feed colons :::::, the computer may rearrange them into pairs of double colons :: and loc: up. Or, if the colons are before the text, as in PRINT "something" you may get a puzzling error message.

Also on rare occasions you might get an error message indicating the subprogram was called from a line containing a CALL CHAR, if the programmer had inadvertently put more than 16 characters in the hex code. Basic just ignores any extra characters, and Xbasic uses them to reidentify the following ASCII, but BXB crashes.

From the TI\*\*EWS newsletter from England, here is an extremely useful bit of assembly which should be assembled as ALPHA/O and placed on the dst of every joystick program, or imbedded in it with ALSAVE.

```
DEF ALPH
save old R12
ALPHA MOV R12,@FFFC
* 9900 CRU base=0
CLR R12
* signal alphalock key line
SBZ 21
* check alphalock other side
TB 7
* jump if state=01
JNE STATE
* state=off
SET0 @:FIFE
* as off skip next line
JMP JUPWA
* state=on
STATE CLR @:FIFE
* stop sending to alpha key
JUPWA SBO 21
* restore R12
MOV @:FFFC,R12
* standard XB return now
```

\* clear error for basic SB @:837C,@:837C  
 \* return to calling program B @:0070  
 END ALPHA  
 Now, put this in the first lines of the joystick program -

1! by M. Gikow, Andover MA August 1988  
 2! used with ALPHA/O will detect whether Alpha Lock is up (A-255) or down (A=0)  
 3 CALL CLEAR : CALL INIT : CALL LOAD("DOS1.ALPHA/O")  
 4 CALL LNK("ALPHA") : CALL PEK(-1,A) : IF A=0 THEN DIS  
 PLAY AT(12,1) : RELEASE ALPHA  
 LOCK : GOTO 4 ELSE CALL CL  
 EAR  
 \*\*\*\*\*  
 I published this one in the C.O.N.W.I. newsletter. Larry Traver picked it up and put it in the TI Forum in Computer Shopper, but their typesetter garbled it, so here is how it was supposed to be.

According to the TI-Writer Reference Guide, page 77, when you select the Printf command, then type C and space once and then the device name, any control characters with ASCII less than 32 are removed before the file is printed.

With FunWeb, at least, this is not quite true. A carriage return character, ASCII 13, or a line feed character, ASCII 10, at the end of a line is actually not deleted but is changed to the space bar character, ASCII 32. This can be proved by running this little routine -

```
10 OPEN #1:"DSK:(filename)  
*:INPUT  
11 INPUT #1:MS : PRINT MS  
:LEN(MS) : IF LEN(MS)>0 THEN  
PRINT ASC(SEQ(MS,LEN(MS),1)  
1) : CALL KEY(0,K,S) : IF S=0
```

```
THEM 120 ELSE 110  
Therefore, when a file is Filled/Adjusted and the line feed characters are stripped with the C option, the lines are one character longer than they appear to be. An apparently blank line also contains ASCII 32.  
Since these characters are blank, they normally do no harm. However, they can create problems when records are read into programs for multiple column printing or concatenation of strings. In these cases, this routine can be used to strip out any ASCII below 33 at the ends of records.  
100 DATA INPUT,OUTPUT  
110 FOR J=1 TO 2 : READ JS  
: DISPLAY AT(12,1)ERASE ALL  
:JS# FILENAME?"DSK" : AC  
CEPT AT(13,4):F$JUI : OPEN #  
J:"DSK"BF$JUI,UPDATE : NEXT  
J  
120 INPUT #1:MS  
130 IF ASC(SEQ(MS,LEN(MS),1)  
1) < 33 THEN MS=SEQ(MS,1,LEN  
MS)-1) : IF LEN(MS)>0 THEN 1  
30  
140 PRINT #2:MS : IF EOF(1)  
<1) THEN 120 : CLOSE #1 :  
CLOSE #2  
*****  
Attention a) newsletter editors! If you are going to print my Tips for anything else that contains program listings!) through the formatter, PLEASE first replace and transliterate the ampersand, asterisk, period, caret and "a" sign!  
Print this one through the formatter and see why -  
100 A=A*26A : I=1  
110 PRINT "1 . . . 2 . . . 3  
. . . 4 . . . 5 . . . 6 . . .  
7 . . . 8 . . . 9 . . . 0"  
120 MS=MS&A&B&C& : K="K"  
Here's how you do it. Load the above in the Editor, position the cursor at the beginning of the 1st line, hit FCTN 9, type RS
```

and Enter, then JARI) and Enter. At the prompt, type A. Now get the cursor back to the beginning, repeat the above with JARI, and then JARI and JARI and the file should now look like this -  
100 A=A\*26A : I=1  
110 PRINT "1 . . . 2 . . . 3  
. . . 4 . . . 5 . . . 6 . . .  
. . . 7 . . . 8 . . . 9 . . .  
. . . 0"  
120 MS=MS&A&B&C& : K="K"  
Now use FCTN 8 to open 5 lines at the top and add this transliteration -  
.IL 92:46  
.IL 123:64  
.IL 124:42  
.IL 125:38  
.IL 126:94  
Save the result, go to the Formatter and print it.

\*\*\*\*\*

If my multi-column Printal) program (Tips from the Tiger cub #451 won't run on your Pson-compatible printer, try changing line 250 to -  
250 ACCEPT AT(12,3)VALIDATE  
"123"SIZE(11)P : IF P=2 TE  
EN PRINT #1:CHR\$(27);CHR\$(27)  
ELSE IF P=3 THEN PRINT #1:C  
HR\$(15)  
You might also need to change the 136 in line 286 to 132.  
If your printer offers the elite condensed option, you might want to add -  
" (4) ELITE CONDENSED" to line 240, change the VALIDATE string in 250 to "1234", add ELSE IF P=4 THEN PRINT #1:CHR\$(27);CHR\$(27);C  
HR\$(15) to the revised line 250 and add (P=4)\*160 to the first statement in line 280.  
Memory almost full.  
Jim Peterson

### CHEZ GENEVE

By Chip Chapin

Other day (about two weeks ago, actually) I finally decided to upgrade the version of MDOS I was using from 1.14 to .97H. Nct, as you might suppose, because of the great advantages in the latest and greatest version, but because there has actually been some software produced which would not run on 1.14. Namely WINDOWS from Beery Miller, and of course ABASIC needs either .96H or .97H.

So, what did I gain/find different/lose, etc? Well, I gained the ability to run ABASIC 2.99A, and I guess you could say that some more of the hard disk support has been turned on. You get some information about the files on subdirectories now - it used to tell you that all the files were directories. The COPY command, when used with the hard drive, seems to be a little more useable than before, as long as you stay on the root directory and spell out the source and destination subdirectories. The reason these things are more important now is that MDM5 doesn't run with .97H. It loads in the title screen but as soon as you select a function it locks up.

So without MDM5 available, I was anxious to try out the commands for creating and deleting directories. I moved to the Root directory and typed MKDIR TEST. Within a second I got the 'Done' message. I did a DIR and got visual confirmation. I moved to the new directory and typed MKDIR TEST1. I immediately got the 'Done' message. Again the DIR showed that the command was successful. Since I was on TEST, I did a RMDIR TEST1 and got the 'Done' response. I moved back to the Root directory did a RMDIR TEST, then did a DIR of the Root. Again I got confirmation that the commands were successful. Although I did not move any files into and out of the test directories, I am confident that new and useful directories can be added as needed.

So did I then try out the hard drive formatting command? You can bet your boots I didn't! I'll leave that one until I have need for it. Besides, I know that I can always reload MDOS 1.14 and use MDM5 for that if I have to.

I had to make simple changes to the Menu batch file I use. Things like WDS1 to HDS1. I used a sector editor on TELCC - changed both occurrences of WD to HD in the file named TELCO and had no further problems. I also had to reenter the configuration data in MYWORD, using HD instead of WD. Had no problems with that either. (It would have been nice if the old data were displayed - you forget just what you have in there after a year or so!)