

ISSUE #12 DECEMBER 1988

FOR THE RECORD

by Ed Bittner
Recording Secretary



This report of the West Penn 99'ers November meeting deals with the past, present, and future. Firstly, the report is well past the the due date, secondly, if John Willforth has the presence of mind (absent most of the time) he will get back at me, and lastly, I will finish this report within the next hour and a half. The election went smoothly and the results are reported below; we wish our new officers the continued success with the club.

We, as members, should specifically thank Scott Coleman for being an effective leader of our club since its inception. GOOD JOB Poo-ba. Honorable mention also goes to Eric Zeno who gave up as full time librarian with the club, for a full time job which pays \$\$\$.

Thanks Eric.

Several important announcements at the November meeting included one by Mickey S. on the Word Processing package called Press from Asguard Software. John W. commented briefly (believe it or not) on MIDI, a music device, Atari based - TI adaptable???... (See John). He also indicated that someone developed a board which has 32K., speech, and parallel port. Lastly, he urged the MacFlix purchasers to kick an additional \$2 toward their purchase price.

Raffle prizes included a Power Supervisor (I Won), a TI Data Base and Form Shop Programs, Diskette Pens and Home Financial Decisions. A \$20 Raffle for a Data Switcher (Interface) was won by Frank Zic. Demonstrations included "Wheel of Fortune" (J Willforth), the P-Gram, (Rob EK1) and the 9640 GENEVE (Gary Taylor), which I found to be especially interesting. See you at the Dec. 20 meeting.

New Officers:

- | | |
|-----------------------|------------------------|
| Pres. : M. Schmitt | V.Pres. : S. Coleman |
| Rec. Sec : E. Bittner | Treasurer : J. Trayers |
| Cons. Sec.: G. Kelly | Librarian : R. EK1 |

Tardily submitted,
Scoops Bittner

PS: How did you like the PIZZA-Poo-Ba...!! and Coke, Diet Coke n' Pepsi

TREASURER'S REPORT FOR NOVEMBER 88

FROM JAN TRAYERS

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* 11/15 CASH ON HAND $135.25 *
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* 11/15 LIBRARY SALES 24.00 *
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* " MICROPENDIUMS 27.25 *
*
* DISK CASES 5.00 *
*
* DISK SALES 38.00 *
*
* RAFFLE 54.00 *
*
* DUES 25.00 *
*
* TOTAL $308.50 *
*
* PIZZA PARTY - 102.00 *
*
* TOTAL 206.50 *
*
* 12/1 DEPOSIT - 150.00 *
*
* 12/1 CASH ON HAND 56.50 *
*****
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* 11/1 BANK BALANCE $1079.55 *
*
* 11/2 HOME PUBLISHER - 125.00 *
*
* 954.55 *
*
* 11/15 RAFFLE PRIZES (MIKE) - 28.00 *
*
* 926.55 *
*
* RAFFLE PRIZES (SCOTT) - 71.00 *
*
* 855.55 *
*
* POSTAGE - 69.70 *
*
* 785.85 *
*
* 11/17 TI BASE - 166.60 *
*
* 619.25 *
*
* " MICROPENDIUM - 30.00 *
*
* TOTAL 589.25 *
*
* 12/1 DEPOSIT +150.00 *
*
* 739.25 *
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* TOTAL CASH BALANCE $ 795.75 *
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HOW TO RECONFIGURE FUNNELWEB 4.10
(Idiot-proof (?) Procedure)
by John Owen, JUG.TX

Everyone told me how easy it is to use the "reconfigure" feature of Funnelweb 4.10. I tried it and couldn't make it work. The docs. assumed I know something I didn't. So, at our last JUG meeting (Oct. '88) we worked thru the procedure and after several mis-fires, came up with the following "cookbook" procedure to change printer call-out from RS232 to PIO (or vice versa).

1. Make a copy of FUNNELWEB 4.10. Leave off the write-protect tab and place this new copy in Drive #1.
2. Auto-load FW 4.10 up to the first menu (Selections 1-9 & A-I).
3. Select Option "I" (CONFIGURE). (It can also be reached by selecting the USER LIST from the 'Editor' menu). DSK1.CF & CG will load and display "CONFIGURATION" and the prompts: <?> HELP, <c-C> BACK, & <F-7> DIR.
4. Hit any key. This brings up the 1st window: SYSINFO, QUIT, INSTALL).
5. Hit "S" (SYSINFO) and get the 2nd window: LOAD, EDIT, SAVE.
6. Hit "L" (LOAD).
7. Hit <Enter>. (Loads SYSCON from Drive #1.
8. Hit E (EDIT). This will display the 3rd window: LOADING, DEVICES, COLORS, MENU, XB LIST, & UL LIST.
9. HIT "D" (DEVICES). This will display the 4th window: EDIT PRINTER, FMTR PRINTER, OBJECT FILE, WORK FILE, & PROGRAM.
10. Hit "E" (EDIT PRINTER). The following instruction window will appear: ENTER FILE/DEVICE.
11. Type in : PIO
12. Hit <Enter>.

If the Formatter printer is to be changed, the easiest way is to repeat steps 10, 11 & 12 as follows before going further.

- 10a. Hit "F" (FMTR PRINTER)
- 11a. Type in: PIO.LF
- 12a. Hit <ENTER>.
13. Hit FCTN-9 (BACK) or CTL-C.
14. Hit FCTN-9 or CTL-C again.
15. Hit "S" (SAVE).
16. Hit <Enter> to save the change in DSK1.SYSCON.
17. Hit FCTN-9 OR CTL-C to get back to the top menu.
18. Hit "I" (INSTALL). The 6th window gives two choices.
19. Hit "L" (LOAD-XB/XBII).
20. <ENTER> SOURCE program (DSK1.LOAD)
21. <ENTER> TARGET program (DSK1.LOAD)
22. Hit FCTN-9 or CTL-C.
23. Hit Q (QUIT).

To test the changes, it is necessary to return to the TI color screen and reload FUNNELWEB from scratch. While this has only been tested on FW 4.10, it should be applicable to all 4.xx updates of FUNNELWEB.

DSDD PLATO CONVERSION
by Michael Dorman

INTRODUCTION

One of the things I have been quite interested in was converting PLATO from the original Single Sided/Single Density format to Double Sided/Double Density. A while back, I ran across a text file by Charley Summerhill, that explained just how to do that. The only drawback to his technique was that it required several tools to do the job. In his article he used Advanced Diagnostics, Rapid Copy, the CorComp Disk Manager, and DISK+AID to convert PLATO to DS/DD. Later, Barry Traver issued an Extended Basic program (PLATO/PREP) that simplified the procedure somewhat. This program and Charley's article were published in Barry Traver's excellent "GENiel Traveler" diskazine.

John Birdwell's "Disk Utilities" version 4.1 or higher contains all the tools necessary to make the changes without requiring the use of any other programs. This speeds up the conversion time tremendously. (The only possible exception to solely using Disk Utilities would be using Rapid Copy to initialize DS/DD disks before beginning the PLATO conversion process. However, Disk Utilities has a pretty fast initialization process and has the advantage of being able to format as we go.)

This article gives the details of how to use Disk Utilities (DSKU) to convert PLATO diskettes to DS/DD. The basic idea remains Charley's and I am grateful for the service that he has provided to the 4A community. For the purposes of this article, I will assume that you have a two drive system and that drive two is DS/DD. If you have a single drive system, the instructions will still work for you. Just use DSK1 when I refer to DSK2 and remember to change diskettes accordingly.

PLATO DISKETTE ORGANIZATION

PLATO diskettes have a fairly simple disk protection scheme. The first is the disk protection that can be installed with the Disk Manager II. This simply writes a "p" to sector 0 of the disk and can easily be changed with a sector editor. The second form of protection for PLATO diskettes is a moved file directory. The directory normally resides in sector 1 and contains the file headers. However, on PLATO diskettes the directory is in sector 359. Sector 0, which causes the disk directory to show the only file to be \$\$1, is not used by PLATO at all.

We can view the actual catalog by copying sector 359 to sector 1. This will allow us to not only see the directory, but will also allow us to move or copy the files that are on the PLATO diskette. After any changes, however, we must remember to copy sector 1 back to sector 359 since PLATO interpreter expects the file header information at sector 359.

PLATO PROGRAM TITLES

Since PLATO packages generally contain 6 or fewer SS/SD floppy sides, most PLATO programs will fit on a DS/DD diskette. There are a few that won't fit on one DS/DD. In fact, one course contains 14 sides. We will deal with this situation later in the article.

For now, use a package with 6 or fewer sides. Don't use one with only one side if you have others available. (If you don't, then you don't really need this anyway!) The instructions will use 4 as the number of sides in a package, but it is easy to follow with any number that will fit on one DS/DD diskette.

INSTRUCTIONS

STEP 1: Load DSKU and make backup copies of the PLATO diskettes you are going to convert. Use the sector copy method.

STEP 2: Initialize a blank diskette in drive 2 as DS/DD.

STEP 3: Choose "Mark Sector" from the Sector Utilities menu. Mark sector >167 (decimal 359) on DSK2 as used. This will prevent us from copying files over the sector used for file headers for PLATO diskettes.

STEP 4: Select "Edit Sector" from the Sector Utilities menu. After inserting the first backup PLATO diskette in drive 1, select drive 1 and sector >167. Press CTRL-P to printout the sector.

STEP 5: Select "Edit Sector" to edit drive 1, sector 1. Enter the same information from the printout in step 4. This will copy the file header info. to a normal TI format. This will allow us to copy all the PLATO files to the new diskette.

STEP 6: Select "File Copy" from the File Utilities. Copy all the files on DSK1 to DSK2. Press CTRL-P to get a printout of DSK1.

STEP 7: Repeat steps 4 5 for the following diskettes. Copy all the files except TIMENU and \$\$1 (these are duplicated on each diskette). When you copy DISKMENU from DSK1 to DISK2, increment the filename by 1 (e.g. DISKMENV, DISKMENW, DISKMENX). Press CTRL-P to get a printout of each SS/SD PLATO disk.

STEP 8: Choose "Edit Sector" and select DSK2, sector 1. Press CTRL-P to get a printout. Then, edit sector >167 of DSK2 to match that of sector 1. This will restore the file header info. needed by PLATO into the sector the cartridge uses.

STEP 9: Using either the file editor or the file search options of the file utilities, find "BOOT" in the file DISKMENU. Change BOOT to DISKMENV. Find the string "Select another diskette" in DISKMENU and change to "Select Menu 2 of 4" (4 assumes that there are 4 diskette sides in this PLATO package - adjust accordingly.) Do the same for DISKMENV - change BOOT to DISKMENW and change "Select another diskette" to "Select Menu 3 of 4". Repeat until the last file (DISKMENX) - change BOOT to DISKMENU and "Select another diskette" to "Select Menu 1 of 4".

STEP 10: Using the printouts of the PLATO SS/SD diskettes, find the files that match DISKMENU-DISKMENX. They are the remaining filenames (excluding \$\$1 and TIMENU). For each of these filenames, sector edit the file to change the string "DISKMENU" to the appropriate menu (i.e. DISKMENV, DISKMENW, and DISKMENX). Since the first diskette corresponds to DISKMENU, there is no need to change the files that are on that diskette.

CONCLUSION

You should now have a complete PLATO program on one diskette - probably with room to spare! There are two occasions that might arise making a DS/DD PLATO diskette. One is the problem of diskettes that only have one program on a side. On these diskettes there is no menu to select from and the diskette autostarts. The method suggested by Charlie Summerhill is to use a DISKMENU file from another disk and modify it to use the program name used by the diskette (e.g. LESSON).

The other difficulty comes when the total files of a lesson add up to more sectors than are available on a DS/DD diskette. In that case, you will need to break the program up into 2 or, at the most, 3 parts. On the last DISKMENU file on each half (or third), leave the word BOOT and change the menu to say "Change Disk-See Menu x" where x will be the first menu on the next diskette. The BOOT causes the cartridge to go through a reboot sequence that reads the next disk.

I'm looking forward to adopting the same ideas to 3-1/2" diskettes or, better yet, to a hard drive.

"TIPS FOR BEGINNERS"
-by FRANK N. Zic

Here we go together No.16. Since I have prepared the following instructions for typing a message with "THE PRINTER'S APPRENTICE" for a classroom presentation I thought perhaps an article might help some others who might be having some difficulty too. This article supplants my article No.14 and should be easier to follow.

- 1 Place the TPA disk in drive #1 (APA-99) side active.
Note: This is a slow loading program.
- 2 Select "1" CHARACTER EDITOR. Note: Imagine a coma in between each word. This gives better definition to each of these command words. Improved separation was not possible on the disk because all of the 360 sectors are used.
- 3 Select "S" for SETUP. ***Press ENTER.
- 4 Select "S" for SOSH. ***Press ENTER. Notice there is no flashing "S" from the previous selection of the "S" from above in step No.4. Sometimes the previously selected letter will be flashing at the spot where the next selection is to be placed. Some times this spot is blank and at other times it will have an entirely different letter flashing there. I feel it may be best to just ignore what appears so as not to get confused. Simply note that when you select a letter for this spot, it will appear and not be flashing.
- 5 Select "D" for DISK. ***Press ENTER.
- 6 Select "F" for FILENAME. ***Press ENTER.
- 7 At this time flip over the disk in No.1 drive to make the APFILES side active.
- 8 Type in DSKI.BAUHAUS. ***Press ENTER.
- 9 Select "X" for EXIT. ***Press ENTER.
- 10 Select "E" for EDIT. ***Press ENTER.
Note: A column of numbers will appear on the left side of the screen.
- 11 Press CTRL/9 . Press the letter "W". The "W" is just an example of any letter that may be selected. The "W" will appear in the line ASCII CHAR TYPE. ***Press ENTER.
- 12 ***Press ENTER. This selects the next default(87).
- 13 ***Press ENTER. This selects the next default(24).
- 14 Select "R" for READ. ***Press ENTER.
Note: A medium size "W" appears at the top of the screen.
- 15 Press CTRL/R. Note: A large "W" appears on the left side of the screen.
- 16 Press FCTN/9.
- 17 Select "P" for PRINT. ***Press ENTER.
- 18 Select "P" for PRINTFILE. ***Press ENTER.
- 19 Type in PIO.CR or your printer designation.
***Press ENTER.
- 20 Select "V" for VARIABLES. ***Press ENTER.
- 21 Select "G" for GEMINI or "E" for EPSON.
***Press ENTER.
- 22 Select "S" for SO. ***Press ENTER.
- 23 Type in "20" for LEFT MARGIN. ***Press ENTER.
- 24 Type in "60" for RIGHT MARGIN. ***Press ENTER.
- 25 Type in "4" for SPACE. ***Press ENTER.
- 26 Type in "2" for INTERCHARACTER. ***Press ENTER.

(CONTINUED ON THE NEXT PAGE)

continued from "TIP FOR BEGINNERS" (No.16)

27 Type in "N" for NO CENTER LINE. ***Press ENTER.

28 Select "S" for STRING. ***Press ENTER.

29 Type in your message, for example... I HOPE THIS WORKS.
***Press ENTER.

30 Turn on your printer.

31 Select "G" for GO. ***Press ENTER. Note: As the printer completes your selected message, that same message will appear on the screen.

32 This ends this portion of how to use THE PRINTER'S APPRENTICE. Note: Should you want to print a different message or change some of the parameters, you need only - Select "B" for BACK and then Select "V" for VARIABLES, (Step No.20) change the numbers to experiment and see how they affect your printout. Try other printing styles by loading in some different FONTS from the TPAFONT1:1 and TPAFONT1:2 disks. The best way to learn more about this versatile program is to take one part of it at a time, just as we are doing now.

I sincerely hope this rather lengthy but by no means complete discussion helps you with this difficult to follow program. To help with your next attempt, I have included the following short-cut listing. Press ENTER for each comma in the list:

1 S,S,D,F, (Flip TPA disk) DSK1.BAUHAUS,X,E,CTRL/9 W,,,R,
CTRL/R FCTN/9 P,P,PIO.CR,V,G or E,S,20,60,4,2,N,S,
(Enter your message and turn on the printer) , G.

Until next time may the good 4's be with you.

FOR SALE:

- 1) TI-99/4A Console -\$40. 1) TI ORIGINAL -----\$55. 1) TI ORIGINAL -----\$55.
 - 1) TI ORIGINAL -----\$55. Stand-Alone RS232 Stand-Alone Disk Controller (SSSD)
 - 1) Household Budget -\$ 5. 3) Adventure Modules -\$ 5. 1) Hangman Cart. ---\$ 5.
 - Management (EACH)
 - 1) Tombstone City----\$ 3. 1) Hunt The Wumpus ---\$ 3. 1) Munchman -----\$ 3.
 - 1) Voodoo Castle ----\$ 3. IF INTERESTED CONTACT:
- MICKEY SCHMITT 196 BROADWAY AVENUE, LOWER BURREL, PA. 15068, (412) 335-0163
after 6:00 PM E.S.T.

FOR SALE OR TRADE:

- 1) TI ORIGINAL (PEB) RS232/PIO CARD (\$80. or trade)
 - 1) MBX w/5 Cart. 's (Sale or trade)
 - 1) "BIG BLUE" Thermal Printer (Sale or trade).
- Looking for AXIOM Parallel Interface. CONTACT:
JOHN PHILLIPS ROUTE 2 BOX 770, VAN BUREN, AR. 72956 (501) 474-8815

FOR SALE:

- 1) TI ORIGINAL (PEB) RS232/PIO CARD (\$80.)
 - 1) TI EXTENDED BASIC MODULE with Manual ----- \$30.
 - 1) TI (w/switch) PCODE CARD w/all docs and disks \$100. CONTACT:
- JOHN WILLFORTH R.D. #1 BOX 73A JEANNETTE, PA. 15644 (412) 527-6656

SUPPORT SOFTWARE FOR CLOCK CIRCUIT.....

For those of you who built the clock circuit in the June issue of the PUG, or the WP99'ER, Rod Cook of Newark, OH has written some XBASIC/ASSEMBLY routines to read the clock. They are placed in the public domain by him and you can get a copy either from me or Rod. Rod will send the source code to anyone sending a SASE to: ROD COOK 2314 Fallsburg Rd. N.E., Newark, OH 43055

DISK DRIVES (#4)
by John F. Willforth

If you studied the simple drawing of a Disk Drive Exerciser and read the description (#2 and #3) you may already have a better idea on how a disk drive operates in conjunction with the controller and the diskette (storage media). I would now like to take some time to describe the basic concepts of disk drives.

The jobs the drive has to do is:

- 1) Recognize when it is called on so it is the only unit to respond (DSx).
- 2) Let the controller know if a disk is present and rotating (INDEX).
- 3) Let the controller know if the drive is at Track 00 (INITIALIZED).
- 4) Let the controller know if the disk may be written on (not in the WRITE-PROTECTED mode).
- 5) Some drives put out a READY status to indicate that they are ready for additional commands.
- 6) Receive the MOTOR ON term and simply turn on the spindle motor (turn the disk at 300 RPM).
- 7) Receive the DIRECTION command on a SEEK or STEP to a command (IN/OUT).
- 8) Receive the SIDE command (DS drives only) to select head 1 or 2.
- 9) Receive the STEP command (after DIRECTION) to move the head(s) to the one track (cylinder) the CPU and controller decide has the sector(s) you are looking for.
- 10) Receive the WRITE GATE (enable writing circuitry) command for preparing the drive to convert the digital data that will be coming on the WRITE DATA line and gate it to the WRITE HEAD part of the HEAD as analog data. The HEAD has both READ and WRITE windings in it.
- 11) Provide the CONTROLLER with the READ DATA coming from the READ part of the HEAD in a modified and amplified state. This includes ALL DATA that the HEAD reads (PREAMBLE, HEADER INFORMATION, DATA, and CHECK SUM). It is not smart and must leave it up to the controller to decide if it is at the right TRACK, SECTOR, and if the DATA is correct, CHECK SUM compares).

That's all that there is to it. I'll now go into some detail on each of the above, step by step. Some are very simple and quite obvious, and others are are too!

First the DEVICE SELECT jumpers on your disk drive are there so that you can have up to four drives on your controller, and by jumpering the drive select circuit on a drive, it and only it will respond to a 0-Volts potential on it's DSx line (provided you haven't strapped another drive for the same DSx).

Next let's look at what happens when you insert a disk and call for a list of files on that disk (READ). When you tell the disk manager that you want to catalog the disk, the controller receives instructions from the CPU to SELECT a drive, and what functions to perform in approximately this order:

- 1) Select DRIVE
- 2) Turn MOTOR ON and wait for up to speed (INDEX frequency)
- 3) Check TRACK 00 and reference FLOPPY CONTROLLER chip to see if the drive was at track 00, or at another track from a previous operation.
- 4) Select DIRECTION and step the HEAD STEPPING MOTOR in that direction a specific number of pulses. Controller looks this up to see how many step pulses must be given. The controller must ALWAYS know where the HEADS are before it can move them to a new track.
- 5) Apply proper number of STEP pulses to get the HEAD(s) over the right track on the disk.
- 6) The CPU and CONTROLLER will select a HEAD. Based on this READ we will select HEAD 1 (bottom), and gate it to the READ DATA line to the controller.
- 7) Now wait for the next INDEX pulse (synchronization of mechanical disk to the electronics).
- 8) READ everything. At this point the controller's job is to handle separation of HEADER (address etc.) and DATA, and CHECK WORD information. The controller continues to turn on this one track and read until the controller gives it another job to do. The information will now be acted on by the CPU or CONTROLLER and if a read error occurs, well that's going to have to wait until next month.

I did want to include the disc to the right which is used to check and adjust the speed of the older type disk drive with the belt driven SPINDLES. The disc can be attached to any drive to check the speed, as long as you center it on the end of the SPINDLE and not the MOTOR. After you have attached the disc you can either run a program that will keep the disk drive running, or you can ground pin 16 on the drive with only the power plug hooked to your drive. If you built the DISK DRIVE EXERCISER, just flip switch S2. Look at the disc and adjust the motor speed pot. until the bars appear still. That's all!

I'll pick up where I've left off today on READING, WRITING and a few tips next month.



