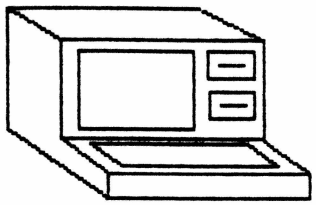
THE INTERFACE

NEWSLETTER OF *SAGATUG*
THE SAN GABRIEL VALLEY TANDY USER'S GROUP
THE CLUB FOR TRSDOS, MS-DOS, CP/M, AND LAPTOP COMPUTERS



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FOND MEMORIES

Working Through The Maze

Things get complicated when you want to upgrade the RAM in your MS-DOS machine - XT memory, AT memory, extended memory, expanded memory, L/I/M memory, EMS memory, EEMS memory, real mode, protected mode. . . it's a jungle out there!! I'll try to make some sense of all this as we explore the world of memory expansion.

The APRIL meeting will be held Friday, April 8, 1988 at 7:30 PM
in the Arcadia Park Senior Citizen's Center
405 South Santa Anita Avenue, Arcadia

-- SAGATUG meets the second Friday of every month --

YOU DIDN'T FORGET YOUR DUES

If you're reading this INTERFACE, then you must have paid your dues. . . the mailing labels were only made for dues paying members. SAGATUG thanks you for your support!

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A MESSAGE FROM THE PRESIDENT

I am quite busy these days so my column will be a bit short this month.

TANDY NEWS

I noticed two articles recently in a trade publication that I receive at work. The March 14th edition told of various rumors about a possible introduction of a PS/2 clone by Tandy. It speculated it could occur as early as mid-April of this year. How IBM will react to PS/2 clones is under great discussion these days. Personally I think it would be a bold move to conservative Tandy to be the first to do this. The March 21st edition told of Tandy's acquisition of Grid Systems Corp. They manufacture and market laptop computers. The article pointed out that Grid already has a sales force directed at the government and Fortune 500 marketplace. I am sure Tandy would like to increase their market share in those areas. The article seemed to conclude that both companies would benefit from this acquisition of Grid by Tandy.

APRIL MEETING

As you can see on the cover John will be explaining in some depth the complexities of the way memory is handled on MS/DOS machines. This should be quite an interesting and informative talk. You might want to bring last month's INTERFACE with you to the meeting. It has an article about this subject by John and outlines what he will be explaining.

TROUBLE WITH THE MAIL?

I heard second hand that a couple of people either didn't get their INTERFACE or it was received late. Please let me know if this happened to you. We almost have this down to a science now. Let's get it to 100% on time delivery.

INTERFACE COLLECTOR'S ISSUE

By the way, you will want to read this issue cover to cover as it has a "first" in INTERFACE publishing history. If you haven't figured out what the "first" is by Friday I will be glad to tell you at the meeting.

See you Friday at the meeting!

==*T-R-S-T-e-x-t*==
by George Madison

Have you ever noticed that the one function missing from HiRes graphics editors for the TRS-80 is a decent text function?? The text produced by BasicG is horrible, harking back to the days of printers with no descenders; that by MicroLabs products looks better, but is quite plain. When you couple that with the fact that the TRS-80 world has a readily available source of bit-mapped fonts, the lack becomes even more curious; there are very few TRS-80 users who've been around for any length of time who haven't heard of ProSoft's DotWriter package, which can print out documents in a wide variety of great fonts.

Until now, it was a case of "Ne'er the twain shall meet;" there was no way to use the fonts intended for DotWriter with the HiRes screen. Now, however, there is an answer: TRSText. TRSText is an "add-in" for the shareware HiRes editor TRSDraw 2.1; it is not intended to work with any other version or any other graphics editor. What TRSText does is to replace the "Text" function in TRSDraw with routines which will allow you to use your 8-bit DotWriter fonts ON SCREEN as a standard function within TRSDraw!

What to do:

Type in TRSTEXT/BAS and save it with the ASCII option; the command should be SAVE"TRSTEXT/BAS",A.

Load TRSDRAW/BAS, then type MERGE"TRSTEXT/BAS.

This command will overlay TRSTEXT on TRSDRAW, adding TRSText capability to TRSDRAW. Now, issue the command to DELETE 155-160. TRSText is shorter than the original TRSDraw text function, in number of lines at least. Save the modified program back to disk, and your installation is done. REMEMBER!!! BE SURE you have a backup copy of TRSDRAW on another disk; it's NEVER a good idea to modify your only copy of a program!

Using TRSText:

Not much could be simpler. Place the cursor near where you will want the upper left-hand corner of the text to be, then press <T>. The screen will clear (don't worry! I've just switched to the text screen, not erased your work!) and you will be asked the name of the DotWriter font you wish to use. If the extension of the font you want to use is "/PR", you don't need to type it; the program will add if for you, even if you specify a drive.

Next, you will be asked for the number of screen dots to leave between characters; this will depend on the font you are using. Usually larger fonts will require larger numbers to look right; some fonts, such as CAMEO/PR, DOTBAN/PR and CHAIN3/PR will require a "0" here for them to connect properly. (The ºLetterset Reference Catalogº from ProSoft can be very useful here!)

Finally, you will be asked to enter the text you want displayed. Press <ENTER> when you are done. The screen will return to your graphics, with 4 blinking cursors showing you the approximate size the text will be (remember it may not be quite so tall, especially if you aren't using characters with "descenders" -- y,j,g, etc.) Don't expect perfection until you become familiar with the fonts you are using; there is a certain amount of trial and error involved.

At this point, you may press any of the usual TRSDraw movement keys to reposition your block of text, <ENTER> to have the text placed on the screen, or <SHIFT>-<CLEAR> to abort the whole thing and return to the normal cursor. You needn't worry about the text being written off the edge of the screen; the program automatically checks to make sure it will fit, and if the line of text you enter won't fit onto the screen, text entry is aborted and the program returns to the main program cursor.

Have fun with this; I've debugged TRSText as thoroughly as I can, but as you know, "there's always another bug!" If you have trouble, please check that you are installing TRSText on Version 2.1 of TRSDraw; I have no idea whether it would work with any other versions that may exist. Also, check your typing! I have no control over typing bugs. If the bug is "real", please let me know.

```
1 REM  TRSTEXT.BAS
2 REM  use DOTWRITER fonts with TRSDRAW
3 REM
4 REM  by George Madison
5 REM
6 CLEAR:DEFINT A-Z:CLS:SCREEN 1:OUT 142,1:SYSTEM "system (break=n)":RESTORE 153:
FOR N=1 TO 83:READ A$:FO$=FO$+CHR$(VAL("&H0"+A$)):NEXT
43 IF CU=1 THEN IF FL=2 OR FL=6 OR FL=13 OR FL=20 OR FL=24 THEN PUT(X-3,(Y*ABS(F
G<>0))+V-3),CU:PUT ((X*ABS(FG<>0))+U-3,Y-3),CU:PUT((X*ABS(FG<>0))+U-3,(Y*ABS(FG<
>0))+V-3),CU
44 WEND:IF CC=-1 AND FL<>5 THEN PUT(X-3,Y-3),CU:IF FL=2 OR FL=6 OR FL=13 OR FL=2
0 OR FL=24 THEN PUT(X-3,(Y*ABS(FG<>0))+V-3),CU:PUT((X*ABS(FG<>0))+U-3,Y-3),CU: P
UT((X*ABS(FG<>0))+U-3,(Y*ABS(FG<>0))+V-3),CU
61 M=0:IF FL<>0 THEN ON FL GOTO 36,95,100,161,126,85,200,66,68,36,36,90,115,64,3
6,74,36,36,69,139,36,36,80,36,36,36
129 IF B=20 THEN SCREEN 1:PRINT "Enter the DotWriter Font filename you wish to u
se:";:LINE INPUT FONT$:IF LEN(FONT$)=0 THEN CLS: CREEN:GOTO 42
130 IF INSTR(FONT$,"/")=0 AND INSTR(FONT$,":")<>0 THEN FONT$=LEFT$(FONT$,INSTR(F
ONT$,":")-1)+"/PR"+RIGHT$(FONT$,LEN(FONT$)-INSTR(FONT$ ,":")+1)
131 IF INSTR(FONT$,"/")=0 THEN FONT$=FONT$+"/PR"
132 INPUT"Input # of dots between characters (0-9)";SD:ON ERROR GOTO 152
133 OPEN "I",1,FONT$:CLOSE:OPEN"R",1,FONT$,1:FIELD 1,1 AS C$:ON ERROR GOTO 0
134 GET 1,1:L=ASC(C$):GET 1,2:L=L+256*ASC(C$):GET 1,3:W=ASC(C$)
135 GET 1,7:PL=ASC(C$):IF PL>6 THEN PL=6
136 GET 1,9:NC=ASC(C$):IF NC>255 THEN NC=255
137 LINE INPUT "Text:";CHAR$:CLS:SCREEN:IF LEN(CHAR$)=0 THEN CLOSE:GOTO 42
138 U=0:FOR I=1 TO LEN(CHAR$):A$=MID$(CHAR$,I,1):GOSUB 150:U=U+W1+SD-1:NEXT I:U=
U-SD:IF U>640 THEN U=0:CLOSE:GOTO 42:ELSE V=PL*8:FG=20:FL=20:GOSUB 32:GOTO 42
139 IF B=28 THEN U=0:V=0:FG=0:FL=0:CLOSE:GOTO 42:ELSE IF B<>27 THEN GOTO 42
140 FO!=VARPTR(FO$):FO!=PEEK(FO!+1)+PEEK(FO!+2)*256:FOR I=1 TO LEN(CHAR$):A$=MID
$(CHAR$,I,1):GOSUB 150
141 Z=1:IF A$=" " THEN X=X+W1:GOTO 149
142 A=L*(ASC(A$)-32)
143 FOR J=0 TO PL-1:FOR K=0 TO W1-1
144 GET 1,A+Z:A1=ASC(C$)
145 IF A1<128 THEN DY=(Y+J*8)+(256*A1):ELSE DY=(Y+J*8)+(256*A1)-65536!
146 X1=X+K:CALL FO! (X1,DY):Z=Z+1:NEXT :Z=Z+(W-W1):NEXT
147 IF W1=0 THEN W1=W
148 X=X+W1+SD-1
149 NEXT I:FG=0:FL=0:CLOSE:GOTO 42
150 IF A$=" " THEN W1=INT(W*.6):RETURN
151 PR=L*NC+(ASC(A$)-31):GET 1,PR:W1=ASC(C$):RETURN
152 IF ERR<>0 THEN CLS:PRINT"Font ";FONT$;" is not on-line; please try again!":P
RINT:RESUME 129
153 DATA 3E,73,D3,83,D5,E5,DD,E1,DD,6E,00,DD,66,01,DD,E1,DD,7E,00,47,DD,7E,01,4F
,C5,7D,E6,07,CB,1C,CB,1D,CB,1C,CB,1D,CB,1C,CB,1D,67,3E,07
154 DATA 94,47,3E,01,28,04,CB,27,10,FC,5F,55,C1,78,D3,81,7A,D3,80,06,08,CB,01,DB
,82,38,07,67,7B,EE,FF,A4,18,01,B3,D3,82,10,EE,C9
```

Holey Tearer

by Allen Jacobs

Did you ever have a stack of "Xeroxed" copies of your own original software manuals that you have not put into three ring binders because you never got around to getting them punched at your nearby instant printer? I decided, a long time ago, that I would have to get around to doing something about this problem, and I finally did. I know, this sounds like an Andy Rooney style introduction but it certainly is effective, isn't it?

Before we get into The Particulars, let us examine our options.

We can have copies made on pre-punched paper. This is expensive. Also, we don't always have control over this if our copy source does not have this kind of paper available.

We can have the holes drilled with a paper drill at the instant printer. This is also expensive. It run's a penny per page, the last time I checked.

We can punch the holes with a three hole punch. These come in different sizes. The expensive size accepts about twenty sheets at a time. The "cheap" size accepts about six to eight sheets at a time. The very cheap size fits into a three hole binder itself and can only do one sheet at a time, if it can do that many. Then, there is the single punch you bought at K-Mart for $1.69 when you decided to convert all your single sided disks into flippies rather than buy a square hole puncher for $24.95. Of course, this all happened before disks suddenly sold for under 50 cents each, and the month before you decided to buy double sided drives. Now, here's a single punch chore: Imagine placing holes, one at a time per sheet, in your unabridged copy of the entire mainframe Unix operating system manuals and a "few" relevant system notes, printed in five pitch, on single sided sheets!

We can take the only other honorable action as our last apparent option. We can leave the pile in the book case next to the computer while it gets dusty and falls over occasionally during an earthquake (the pile hopefully, not the computer or the bookcase).

The answer, however, to this laboriously over-presented need is to generate yet another option. (We're approaching The Particulars, but first, an interesting and relevant anecdote.)

A few months ago, I had to have a number of holes punched in some non-computer related papers so I went to an instant printer. The attendant got out the paper drill and told me that he had never used it before, but that he would do his best to punch the 200 sheets for me. As it turned out, I ended up figuring out how to mount the papers into the clamps used to hold them down for the attendant, for which he was grateful. He then drilled the holes for me, doing only a fair job as he burned them. This occurred because the drill was dull and/or he advanced the drill too slowly. I thought, "There has got to be another way." Obviously, I figured one out:

The Particulars

Mandatory Equipment:

A power or hand drill.

A 1/4" or 5/16" diameter X 8" long steel brake line tubing.

A hacksaw or just the blade.

A screwdriver with a blade wider than the diameter of the tubing you are using, but not a Phillips (Sorry, John and yes I know you're lacking the "s").

Old newspapers or magazines (especially any '80 Micro dated January, 1988 or later).

Optional Equipment:

A larger diameter drill than the diameter of your tubing. Even better, a larger drill or counter sink, if possible.
Two to four "C" clamps (In this case, "C" is the shape of the clamp, so don't worry about interpreter or compiler incompatibilities.)
A metal or wooden bar to place under the "C" clamps (properly spaced holes are optional).
A vice.
A bench grinder.
A work table.
A sample sheet of paper with holes that are correctly spaced for the binder you are going to use.

Instructions

I will tell you how to easily obtain the steel tubing. The other items on the list are totally dependent upon your personal circumstances, your ingenuity, and your ability to mooch needed items from your friends. This third factor is actually a component of your ingenuity; which is actually a component of your personal circumstances.....Well, anyway.....

The steel tubing is brakeline tubing you can buy at any automotive supply. The shortest length I found at Trak Auto was eight inches and sold for $1.49. It comes in a variety of diameters. It also comes in greater lengths in case large numbers of members want to buy a "community tube" or some enterprising member wants to go into business. For an individual, the 8" size is fine and will yield two punches.

The diameter you select depends upon a number of variables. Stating these may help you at the moment of truth, when you buy the tubing. First, the outer diameter of the tubing must fit inside the chuck of the drill you will be using. It's a good idea to bring the drill or just the chuck with you when you go to the store. Alternatively, measuring the largest opening of the chuck is satisfactory. The smaller diameter maybe easier to work with during construction and will almost surely fit your chuck, but the precision required later, in the use of the drill, may not be worth it. For this reason alone, I prefer the 5/16" size hole. Anything larger won't fit into a standard 3/8" chuck and will result in very sloppy but very easy to turn pages. You might also start drilling into text.

What you do to construct the punch is to cut both flared ends off the tube with the hacksaw after placing the tubing in the vice. Remove and discard the nuts at each end. Now, cut the tubing approximately (or exactly) in half unless you are a dead aim through eight inches of paper and plan on putting Webster's Unabridged Dictionary into a three ring binder of extraordinary size.

Place one end in the chuck of the drill (preferably, a power drill) and aim it while it is running straight down at a stepping stone, the sidewalk, a large rock or any other piece of masonry you don't mind marring. A power grinding wheel is a very nice alternative for this, if one is available. In seconds to minutes, depend-

ing upon technique, the end of the tube will be flat, smooth, and perpendicular to the length of the tube.

At this point, place the hopefully sharp screwdriver blade at a 45 degree angle, or a large drill end on, into the end of the rotating tube and press down while the drill is running. A small rock in the pavement of the driveway may even work if it engages the end of the tube at the correct angle. The best alternative, however, is a countersink if you have one. The object of all of this is to generate a sharp end on the tube with an inside bevel. An outside bevel will stretch the paper around the hole and produce a less satisfactory result.

At this point, your drill is complete. To use the drill, place a sample paper over three or four blank sheets. Place these on top of the stack of papers you want punched. Put this entire stack over some newspaper. Place the entire stack to the edge of a work table you don't mind someday damaging. Place a board over the stack leaving a margin wide enough to allow unimpeaded placement of the holes. Clamp "the whole enchalada" with enough "C" clamps to stabilize it, being careful not to place them over the places you want to drill holes. Place the paper drill perpendicular to the stack, over the location for the hole. Aim carefully. Don't go too fast. Push down. Don't go too deep. Keep the drill rotating as you withdraw it. There, you have it! Practice on some newspaper or other other scrap before you attempt to punch your original Guttenberg Bible for mounting into a three ring binder.

Keep a thin screwdriver or a piece of hanger around to push the holes out of the end of the drill periodically and be prepared to sharpen the punch frequently as it is not made out of tool steel. However, the drill at the printer I went to was also dull if you recall.

This paragraph is the obligatory "needless" warning about being careful when making and using rapidly rotating, intentionally sharpened objects such as the device herein described. I say "needless" only because it seems that way until you inadvertantly "ventilate" normally "sealed" parts of either your body or that of a loved one, a pet, or a loved pet (if you're the "lonesome" sort), due to your carelessness or poor judgement. Only adults, experienced in working with equipment with which they are familiar, and utilizing appropriate care and safety measures should attempt any of the recommendations in this article. All techniques, construction, and use of this device is your responsibility.

I know, you're probably saying to yourself: This article isn't very technical. It isn't even about hardware or software. So, what's it doing in here anyway? Well, my only defense is that I thought it was sort of a "neat" idea. Now I can punch a clean hole through any argument you would care to print in this newsletter regarding the irrelevance of this article. Check this one out, for example:

In fact, I can now punch holes in every article that has ever appeared in the INTERFACE. Better yet, I think I will do that. I will take my stack of INTERFACES and put them into a three ring binder. What a feeling of hole punching power! I wonder what this will do for desktop publishing. It's a natural for newspapers used in professional surveillance. You can peer through the paper without being seen by your subject.....

URGENT!
LAST MINUTE ITEM!!

As a "Post Script" to this article, Eric Bagi gave me a last minute tip regarding an improved technique to prevent burning the paper when making holes. As it turns out, the pro's use Drill-Ease™ which is a type of lubricating wax in the shape of a crayon. I have not tried it, myself but then, there are so many other things I haven't tried. I think I will just add it to the list, right after "doing my taxes all year long" and just before "getting organized".

I hope you find this addendum useful when you try out this entire technique.
Good Luck!

POST LAST MINUTE ITEM!!

Kinko's has a new heavy duty paper punching machine. So, after you have gone to all the trouble of investing in this advanced hole punching system. You can have them punch your holes, pay the price, and get on to something really important such as what I am about to undertake.....Now, wait a second..... Where is that disk?..... Has anyone seen my copy of Dancing Demon?

Tufts vs. Tandy, Round 2
by John Tufts III

Let's talk about FORMAT. Perhaps no other command is more basic to a DOS - any disk operating system - than is this one. So what's wrong with Model III TRSDOS's FORMAT? Nothing. It's great, and Tandy - Radio Shack deserves some praise.

Let me quote from a letter I wrote to Sweet Sally, published in the November 1984 issue of the INTERFACE (Ed. Note: "Sweet Sally" was a monthly column in the INTERFACE several years ago. Sally and her computer, "Clyde", answered reader's questions. Sally died of a broken heart when no one sent in any questions for her to answer. The whereabouts of Clyde are unknown.):

"What are your tricks and tips on how to reformat a problem disk so as to get a perfect disk, for example, 174 K under LDOS 5.1.3, 5-1/4" drive, single sided, double density? In other words, a problem disk is one that showed less than 174 K the first time you tried to FORMAT it. Do you zap it with a bulk tape eraser? Do you simply try again? Sometimes, problem disks become perfect disks if I first FORMAT them on a Model I running NEWDOS/80. After first being formatted easily under this DOS, I can then get 174 K when I reformat them under LDOS."

Sally responded by saying that "each DOS formats a disk differently and that's why one DOS might fully formt a disk but another might not. For example, Model III TRSDOS uses an 'easy' formatting pattern. She says that new blank disks should be FORMATted immediately, and if grans are "locked out", you should take the disk back to the vendor and get an exchange. It is easiest to do this at SAGATUG, dealing with club vendors.

The point here is that a DOS which does not have an 'easy' formatting pattern should have the command "PRE*FORM". This command would work just like FORMAT, but would use an 'easy' formatting pattern. After using PRE*FORM on a new blank disk, you would be ready to FORMAT that blank, and the chances of it becoming a problem disk would diminish. As I stated in the letter quoted above, I do know from personal experience that a problem disk can sometimes be "fixed" by simply FORMATting first under a different system, and then again FORMATting under your system. But I would also agree with Sweet Sally, based on my personal experience, that PRE*FORM probably isn't a necessary part of Model III TRSDOS.

While we are on the subject of FORMAT, let me mention that the book "Kids and Computers: Elementary Programming for Kids in BASIC", by Eugene Galanter, (c) 1983, Perigee Books published by Putnam Publishing, has an interesting account of how the early Commodore PET computer had to be formatted. I'll bring the book to the next SAGATUG meeting so you can look at pages 61-62 if you're interested. The procedure is cumbersome, awkward, and inconvenient. It was very unpopular and Commodore had to change it quickly in order to stay competitive. TRSDOS (either Model I or III) never had anything like this blatantly faulty DOS design.

P.S. "FREE" would show a PRE*FORMed floppy as being an unformatted diskette. "TELL" - a new command - would be present to read it.

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-- FIRST CLASS --