



T. I. DINGS From NEWJUG

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P. O. BOX 84

New Jersey

Dumont, NJ 07628

GOOD TI-DINGS FROM NEWJUG NORTH  
NEWS FOR TI 99/4A COMPUTER USERS  
Dumont, N.J. 07628

JUNE 1987

Volume 5, Number 6

OFFICERS:

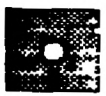
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- LIBRARIAN: Andy Westner..(967-9154)

MOITO: How can I help??? NEXT MEETING: JUNE 16, AT BERGENFIELD PUBLIC LIBRARY  
MEETING ROOM : 7 P.M. TO 8:45 P.M.

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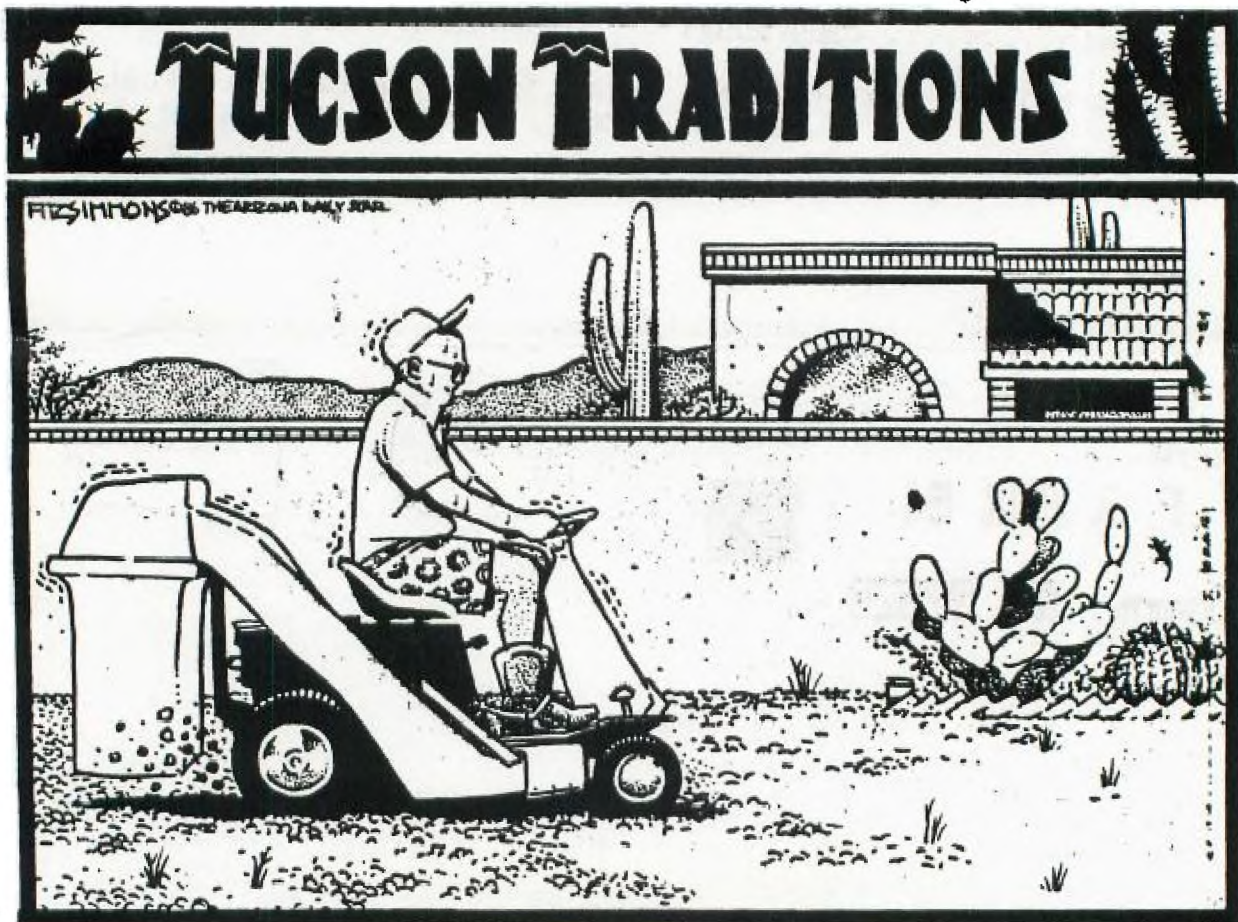
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# Club Newsletter Editor Packs It In Moves to Farm

In a long-expected announcement this past Tuesday, Henry Hein, editor of the NewJUG North newsletter T.I.-dings, said, "This is the end of the line, guys. I'm packing it in to head for the old upstate New York farm. I've bought myself a tractor, and I've got to hurry if I'm going to get the south forty plowed in time for the alfalfa season. It 's been a ball, but someone else will have to do it from now on. Bye-bye." *Soon to be a gentleman Farmer!*



THE ANNUAL MID-SPRING MOWING OF THE GRAVEL

David Fitzsimmons, The Arizona Daily Star

Above: From member (NEJUG/N) AARON TRAIGER, retired, and living in Arizona. Hates yard work!

John Bonito graciously assisted me by supplying some useful texts gleaned from other newsletters:

Thanks to Southwest Ninety-Niners for the following article in their April 1987 newsletter.

#### TELE-COMMUNICATION with TI WRITER

Ever want to use TI Writer for sending information via a modem? The magnetic Users Group, North Andover, MA has discovered a way to do it.

SENDING PARTY: - Compose text as usual in TI Writer. When it's time to save it on disk, use PRINT FILE with no control characters:

```
PF <ENTER>          C DSK1.README  ENTER
```

Exit the EDITOR section of TI Writer and enter the FORMAT section.

```
FILENAME = DSK1.README      WHAT PAGES = (ALL)
DEVICE NAME = RS232.LF      NUMBER OF COPIES = 1
USE MAILING LIST = N        PAUSE AT END OF PAGE = N
```

CHECK: - to be sure that the RECEIVING PARTY IS READY before you toggle the sending modem on. When everything is ready, hit the final <ENTER>.

RECEIVING PARTY: - Enter the EDITOR section of TI Writer and prepare to LOAD FILES:

```
LF <ENTER>          RS232.LF
```

When the sending party is ready to send, wait until you hear the squeal of his modem, then toggle the receiving modem on and hit the ENTER button. You won't see anything on your screen,, but the lights on your expansion box will flicker. Then if everything has been done correctly, the file will suddenly appear. Then S(ave)F(ile) to your own disk in the usual manner.

If you don't get your timing correct, you may lose part or all of one line. You can recover most of it with "OOPS!" (CTRL1), but it is easier to simply be sure your text starts with one or two blank lines.

Thanks to the NewJersey TI UG for the following information gleaned from their March 1987 newsletter. The transliterate command may have to be modified to suit your printer. Just check the printer manual.

#### MAKING ADDRESS LABELS WITH TI WRITER

By Karl Barna

Many of you are using TI Writer or Funnelweb and when you try to make address labels you skip one label for each label printed. Well here's the answer if you have a Gemini printer. What it does is change:

- a) the line feed to 9/144ths of an inch
- b) page length to 2 inches
- c) double strike

d) emphasized

Then it sets the left and right margins, sets the page length set to 16 lines and loads your mailing list file.

It prints line 1 and feeds 3 lines, prints line 2 and feeds 3 lines, etc, up to 4 lines. When it is done printing the label you get a new page command that positions you to the next label.

What makes this program work is setting the line feed to 9/144ths of an inch because 16 linefeeds equal one label width. You could just set the page length to 16 if TI Writer would let you, but that would be too easy. One thing I did that makes this label just a little better looking is change the spacing between the lines. Try it and see what you think.

.TL 33;27;67;2;27;57;9;27;69;27;71

!

.LM 0;RM 30;NF;PL 16

.ML DBK1.ADDRESS

\*1\*

\*2\*

\*3\*

(.TL 33=;!; 17=DC1; 67=form length to 2 inches; 57=enables paper out sensor; 69= emphasized mode on; 71=double strike mode on)

#### M I N U T E S;

By James Ott

The meeting came to order with the usual amount of members showing up. Though membership is considerably lower than last year attendance has been rather steady.

Topics discussed included the new club bulletin board, graphics, and finding a place to hold future meetings to accomodate demonstrations with use of equipment.

Our club's bulletin board is back on-line. The club's newsletter will be posted on the board to help TI users who are not members to find out what's going on.

Our newsletter editor plans to be moving soon and he hasn't yet found someone to take over. "The phone isn't ringing off the wall with volunteers." He still offers time to give volunteers hints and program information to help in doing the job. Articles from members are welcome. Send a copy of your D/V 80 file (article) on a disk, you'll get it back at the next meeting.

There was some discussion on printer graphics programs. New programs available to users (commercially) are FONTWRITER, PRINTER'S APPRENTICE, CSGD-3, JOYPAINT, DRAW 'N PLOT, and some GOOD (fairware) print utilities mentioned elsewhere in this newsletter.

The June, July, and August meetings will be held at the Bergenfield Public Library conference room but Henry said we are limited in time to 105 minutes from 7 PM to 8:45 PM. The dates: June 16, July 21, and August 18. The library is located about 1 1/2 blocks west of Teaneck Road on Clinton Avenue. The intersection is marked with an elementary school on the southwest corner. After the RR crossing on Clinton Avenue the building will be on the left.

Our Treasurer was not in attendance for his report but expects to be available at the next meeting.

Henry came prepared to demo the Printer's Apprentice program but as Murphy's Law took over, someone forgot the XB cartridge. Maybe we'll have better luck next time?

Frank Lees still has a Household Budget Manager cartridge for sale for \$3.25. The fairware HBM print program is worth more than that! (comment by Henry)

See you next month!

Jim!

## NEWS BYTE S:

by Henry Mein

The newsletter library is filling up fast and the latest batch of mail is L O A D E D with GOOD info on programming tips in the various languages, helps, available software, hardcopy programs (games and utilities), jokes, and local club gossip. Many of the editors have matured to do a professional job on their newsletters. The quality, and quantity, of their work is proliferating. Some of the NL's look as if they were printed by professionals. The hardcopy programs seem to be done by expert, if not professional, programmers. Discussions of our lowly but powerful DOS is explained in great detail in one NL. Another shows how to convert TI-Artist enhancements to be used within TIW textfiles, and even how to create your own drawings (incidents) with the TIW. Mixing graphics and texts is becoming easier to do with these instructions. A more itemized listing will follow in these pages in our MAILBAG column.

### FUTURE MEETINGS:

Frank Felice managed to reserve the following dates for the next three months at the Bergenfield Public Library (diagonally opposite Sears Surplus Store) on June 16, July 21, and August 18. Members should be made aware that this limits our time at these meetings to only one and three quarter hours, from 7:00 to 8:45 PM, unless someone finds a better site. It also debilitates against the possibility to have demos of new and popular programs for discussion or instruction. But try!!

In regard to the latter we should be able to demo, if not instruct, MULTIPLAN, Printer's Apprentice, JOYPAINT, CSGD-3, FRACTAL EXPLORER, screen duaps, FONTWRITER, etc. Who said that the TI is dead?

### What's New in Fairware?

Another software development! Who ever thought of an improvement on an already improved TI Writer as done by the Funweb Farmers in Australia? Yep, but not by them! Just received an announcement of its release! FUNLPLUS! From Jack Sughrue, Box 459, East Douglas, MA 01516. Send him \$8. It

includes a disk of templates (for borders, boxes, letterheads, etc.), utilities, tutorials, a personalized Banner program, desk calendar, customized label maker, codes for IFFing the FORMATTER, transliterating codes for Star (and other Epson compatibles), quickref charts for key graphics, and MORE. Sounds like a great addition! Ed. Janet Ryan of the Nutmeggers raved about it! Wish it was noticeable at the TICOFF, she picked it up at the Boston Fayuh!

### Here comes Jim:

Jim Lambert may demo his FONTWRITER he recently purchased. He had ordered FONTWRITER 2 but the program is still in production and was sent the earlier version. He was promised to be sent the updated version as soon as possible at no extra charge. How do you like that for friendly support!? Though it was offered at the TICOFF, even then it wasn't ready. I'm sure the vendor and author will make good on their promise. I'm curious to find out what the differences are and I'm belabored with the support of other developers who have come out with numerous support items.

I've yet to work out the poorly explained Printer's Apprentice but those at the meeting saw some nice printouts it does of some of my practice work. VIVA TI! CSGD-3 is a handful, too.

In addition, I just received FRACTAL EXPLORER. Steve Langguth deserves my \$10 for a program that produces an infinite number of designs which can redesign themselves! A program like this for other machines cost much more. Need I say more? Well, maybe. You give the computer three mathematical entries for length, breadth, and height and the computer generates a variety of asymmetric patterns ala non-symmetric (mixed shapes without recognizable geometric shapes, though there may be some) patterns, which can be zoomed in on, regenerate itself from the zoom in point (like looking through a microscope) to find a new world in there. Y'just gotta read something on fractals to get a good preview. Hope to make it at the meeting to show y'all! P.S. it dumps to Epson and Star dot matrix printers and maybe others. Steve L. gave instructions on how to do it.

Also coming my way are the TOOLBOX and enhancement (file converter) disks

for my Printer's Apprentice program. These will give me many hours to spend learning beside my newsletter readings. I'd like some help but my phone isn't ringing with volunteers.

On that point I must leave you with a sad note. This is my LAST newsletter. It has been one and one half years of fun and excitement, besides hard work. I'm rapidly, busily, and industriously getting this old house ready for sale. My time is really cramped. That 'wotsisname' Someone Else has to take it from here. I'll try to send an article, anecdote, or something from time to time and keep my correspondence with other UGs, perhaps by going broke and buying a few subscriptions.

Furthermore, a sign of the dissatisfaction among UG's is evident regarding exchanges. Some (nameless) UGs are republishing work done by other UGs, even giving credit, but not producing anything original. We have some talent in our group which has not been forthcoming for a long while. For the past six months I held up deadlines hoping for something original to show up from a club member. This irks me, our corresponding UGs, and lets down our UG friends. Payment of dues is not enough for a membership. It's comraderie, cooperation, and initiative on each member's part to keep a club, political party, or even a nation, to hold together.

Nuff said! Keep in there babe! And to you UG's out there, as I've often addressed my students, "Peace! or Pieces!"

I'm sure some UG's out there can put together a lot of their info into book or disk form for sale to other UGs for a price suitable enough. Disk media would be cheaper, though, in the long run. Some have already done it and letting them go for a lowly \$2 to \$5 per disk of their timely articles, tutorials, and even programs. There are many conversion programs out there to transform D/V 80 text files of BASIC and XB programs for RUNNING. Clubs should pledge a modest amount for each copy made to the club of origin.

And, keep in mind, to pay FAIRWARE authors their due in ALL cases.

Let's keep our orphans solidly supported!

REVIEW: David Rose's CSGD III  
AND ENHANCEMENTS  
by Jim Lambert

For a while TI users had to look on enviously as their friends with Apples, Commodores, and IBM's cranked out cards, lettersheads, posters, and other desktop publishing products with programs such as Print Shop, Print Master, and Fantasy. No more. Within the past year or so, a number of drawing and desktop publishing programs have appeared that allow TI users to join the mainstream. In some cases, these products fall short by comparison with those for non-orphans, but in other cases they demonstrate a flexibility that the others often cannot muster. CSGD III seems to fall somewhere between these two poles of performance.

First of all, let's be clear about what the program does. CSGD III, which stands for "Character Sets and Graphic Design III," is -- as the Roman numerals suggest -- the latest revision of an earlier work. The name says it all; it is indeed a program that allows the user to print messages, labels, and letterheads using one or more of some two dozen character sets (fonts) that reside either on the program disk itself or on the enhancement disk (or on disks containing earlier renditions of the same). So much for the "CS" part. The "GD" refers to the ability of the program to incorporate graphics similar to TI-Artist "instances" in the labels and letterheads. There are about three dozen of these graphics on the CSGD III enhancement disk, and those who own earlier versions of the program have access to dozens more. A third disk contains documentation files. When printed by a command from the main menu (a blessed relief from those programs that make you load doc files into TI-writer before printout), a tidy package of twenty-four sheets is produced. The docs are clear and well-written -- which is good, because you'll need them. I don't mean to imply that CSGD III requires especially arcane commands; the program is in fact menu-driven. It's just that the screen limitations of the TI computer force the author into rather brief anemomics in his menus. Unless you are a regular user of the program, you may forget what the abbreviations stand for -- hence the usefulness of the docs. This limitation notwithstanding, the program is generally user-friendly and error tolerant. Written largely in X-BASIC, with some assembly language routines, CSGD III is no speed demon; but it generally manages to move at an

acceptable pace. The program supports the TI Impact/Epson, Star Gemini 10X, Prowriter BS10A and compatible printers.

In the message module of the program the user can select a font and print a phrase either in the normal width of the font or in the compressed mode. The length of the phrase depends on the size of the font and on whether the user also wishes to print a graphic on the left and/or the right of the phrase. The program also permits printing the graphics in inverse or rotated left to right. If a phrase is to be printed upside down (as in the making of a greeting card) the graphics that accompany the phrase will also be printed upside down. Unlike Print Shop, however, there are no provisions in the program for choosing inside or outside borders nor for printing a card of a predetermined size nor for changing the size of the graphic. Oh sure, you can make a foldable greeting card a la Print Shop and Print Master, but you'll have to do a substantial amount of work. Offsetting this is the flexibility of having more than a single graphic or font on the face or inside of the card. In similar fashion, you can also make signs -- one line at a time, but with a multiplicity of fonts and graphics. If I were in a hurry for a sign, I'd opt for a machine running Print Shop or Print Master. If you're willing to put in the time, though, you can get some pretty impressive output from CSGD III.

CSGD III fares better in comparison to Print Shop when it comes to doing letterheads. The program allows for the main title line to be a large font (four characters high) and for three lines of text beneath in normal height (one character). You can, as in the message module, use different graphics on the right and left sides, print graphics in inverse, reverse graphics from left to right, print the selected fonts in normal or compressed mode without distorting the graphics, put in or leave out dash lines, and print letterhead text and graphics at both the top and bottom of the page. I thought that in this case CSGD III was even better than Print Shop in that it allowed for greater font and graphics flexibility. The only thing I didn't care for was the fact that if one used a font smaller than four characters high for the main title line, the program did not allow the lines below to move up and close the gap.

I was really impressed with the label module of CSGD III. This section of the program permitted the creation

and printing of labels in three heights -- 15/16, 1 7/16, and 1 15/16 inches -- and in widths ranging from 3.5 to 5.0 inches. Just as in printing a letterhead, one large font is permitted along with one other for address lines. Text and graphics can be combined, however. There are provisions for creating blank lines, centering text, starting graphics on a particular line, using half a dozen styles of frame, and saving a label style to disk for future use. When some of the smaller fonts were used in the compressed mode, the output looked as though it had been typeset.

There is also a Docu Printer module in CSGD III that permits the user to print in one of half a dozen full character fonts using either the typewriter mode or text imported from specially prepared TI-Writer files. Output can be set for 6 to 8 lines per inch, with page numbers, user-determined top and bottom margins and tabs, and one or two columns of text. There are, however, no graphics capabilities in this module. The preparation of the TI-Writer files "looks difficult," the author admits, but "the results make it all worthwhile." I'm not so sure I'd agree. The preparation is indeed tedious -- something like getting text ready for use in a program like Multi-Print, only a little worse -- but the resulting output didn't appear to me to be especially aesthetic. Perhaps if the fonts were a bit more attractive in their regular width or if they could have been printed in the compressed mode and thus have achieved a more nearly typeset look, I'd have agreed that the effort was worth it, but as things stand now I'd have to say not. This is as close as CSGD III gets to desktop publishing of straight text, and it's a shame it couldn't have done it a bit better.

Don't misunderstand. I'm not down on CSGD III. I think it's a worthwhile addition to anyone's software library, especially for those who like to design labels, letterheads, and signs. I think we of the TI community are fortunate to have authors like David Rose who keep our little orphans up to date with the rest of the world. At \$22.50 (I believe) it's worth the price. I'd recommend buying CSGD III now, and I look forward to CSGD IV. Write to TEXAMENTS, 53 Center Street, Patchogue, NY 11772. In addition, CSGD I is \$17.95, CSGD II is \$12.95. The Libraries: \$5.95 for User Disk #1 and User Disks #2 and 3 together are \$10.95.

**M A I L B A G M U N C H I N G S**  
From the Editor's Desk

From the Brandon (Tampa Florida area) U6 comes a very wholesome review of Ron Albright's ORPHAN SURVIVAL HANDBOOK. This is a large collection of NL articles written by the best authors in our TI world. Included in the book are programming tips and techniques, hard copy routines, E/A tutorials (including conversions of Assembly language files into memory image files for faster loading), 'c' language tutorials with a reference sheet, discussion on FORTH and tutorials, PASCAL (P-code card needed) discussions and hardcopy, and PILOT with an index of PILOT commands. The book discourses on hardware projects, wiring projects, and more in this vein. Another section deals with telecommunications. Lastly, tips on creating graphics with TIW, references for bit-mapping and interfacing dot matrix printer commands (wouldn't you like to know what those ASCII char commands really do?) Set to know those PEEK and LOAD (POKE in non TI computers) commands. Welcome to our mailing list, Brandon, we haven't heard from you in two years! Only because our last edition from you didn't have a return address.

On a Los Angeles 99er Print Utility disk is a program that looked very familiar to me. Our own Ralph Kopperman's 2-Column program featured here 2 1/2 years ago has been modified and updated expertly by the very able Tom Freeman and can now print out up to four 28 char columns per 8 1/2" page with a dot matrix 132 column printer, or two columns, or three, depending of type style chosen. For a copy send them \$5. There is much more on the disk mentioned last month that offer programming aids and other printing utilities. Nice buy!

By the way, L.A. just had their annual fair. Haven't heard of its outcome but I HOPE it was very successful. That is one DYNAMIC group and well supported by its own good writers, programmers, and other innovative talents.

Editor's note: There's such info all over on bulletin boards. Have you logged on yet? Let me know. Send some downloads to me for editing and we can pass it along to our members and NL's.

CALL SAY NL from Kalamazoo and Grand Rapids area 99ers has a reprint of compatible disk drives for our TI p boxes or external power supplies. Need a replacement? Use this chart when shopping for replacements at computer fairs or flea markets. Some can be had for \$50 and up, much less than from regular computer outlets and NAME BRANDS, too!!

Also from above is a readable reprint of an article from West Jax

(Jacksonville, Fla) by Rick Felzien on TI-DOS. Remember those TOKEN programming commands listed in our NL last month? The CALL SAY includes a hardcopy XB program written by Bob Trautman of the Pittsburgh U6 which charts them out into a neat ref sheet.

Also noted was a bug in Barry Traver's ARCHIVER program. Change line 635 to

```
KK=(Z-1)*(100*INT((KK-1)/50)+1)+2-Z
```

Also for a fix of DM1000 for compatibility between the CORCOMP and MYARC dd disk controllers: Use a disk editor program and change byte 216 of the MGR1 (version 3.5) from (in HEX) 10 00 02 D0 00 5A. The first pair change to read 12. Rewrite the sector and you're fixed. (Make sure you backed it up before in case of a 'fatal' mistake.

From the PUG (Pittsburgh U6) is an article and short hardcopy XB program explaining and enabling the use of TI Artist instances in XB programs by Roy Carlson. (April NL). The May edition covers a 'see through' diagram of the RF modulator and an explanation by John Willforth of the circuit's functions. May be interesting for innovative experimenters who would like to convert to RGB compatibility. Also, an article by Joe Speigel with diagrams to make a 32K mem expansion chip. See pages below and thanks to the PUG for these worthy bits of info. Included in this latest of PUG's NL is hardcopy of updated, improved, MULTIPRINT program with a thorough explanation of how to use it. I explained it in our April NL and earlier editions, but they did a much better job. Thanks again, Fred and Amy Mackey.

From the Chicago (UG) Times there is a GEM of an article by Anne Dhein on TI Writer Graphics with a hard copy XB program which converts a TI ARTIST Instance into a TI Writer file enabling TIW to print graphics. WOW! What's next!? I'm sure this was an unheard of or unthought of idea by TI's original designers! Did you ever think it was possible. Now who needs a graphics program? Also in this NL is a BASIC/ASSEMBLER tutorial by Steve Peacock #6. Wish I had all of them on file. We just 'mailed' on to Chicago this month and discovered another beautiful NL. Added for our interest is a discussion of various file formats.

Jay Leber of TITEX sent me a host of pics from RLE converted into ARTIST pics. They include some interesting NASA releases, naughty girls (shame on you Jay), movie and rock stars, STAR TREK memorabilia, and more.

Scott Mueller of our U6 sent us a note begging for a PEB to replace one that blew. He ran a great BBS but since it blew it is down. He says money is no object. He does need it badly to get

the board, etc., up and running again.

FUNLPLUS! Mentioned in Newsbytes, above. A set of programs written by Jack Sughrue, Box 459, East Douglas, MA, 01516. No mailer or disk needed, JUST \$8. According to him his programs include an active cataloguer which allows PRINT, DELETE, LOAD, etc. A BANNER program permitting your own designs, a desk calendar that permits personalized dates, a labelmaker that allows you to design yourself, templates for designing borders, boxes, letterheads, etc., and MORE. He'll even send along a flipple of FUNLWARE which you should pay for by sending \$10 to its authors, Tony and Will McGovern. No bad gamble, that! Sent for one m'self.

The Boston Computer Society, as those of us saw at the TICOFF, was selling a whole library of disks of FAIRWARE and pubdom programs. The whole library may be too expensive for some individual members but should our club purchase them. I believe the price was \$150 for the complete set of about 80 disks of software. They include games, utilities, graphics programs, the new "c" compiler, PILOT compiler, music and speech generating programs and more. Anion Software, another good pubdom source, offers much of the same but I think the price is higher. We should discuss this important topic at the next meeting. The programs are more sophisticated, in general, than the original TI genre and the library should be updated. Bring your thoughts with you! What say you?

From the DALLAS 99 INTERFACE: A light bulb saver, a silicon diode in a disc-shaped casing, is attached to a bulb's base inside alamp socket. Normally, power line current flowsthrough the lamp in alternating directions. The diode lets current flow in only one direction, reducing voltage across the bulb by 30%.

Lowering voltageby that amount cuts power consumption..But Alexander Emanuel, a professor of electrical engineering at Worcester Polytechnic Institute, says it also does other things that make the trade off unacceptable.

One problem: current flowing in only one direction injects a component of direct current into the household AC supply. Large numbers of diodes could generate a bias current across transmission line transformers, shortening the life of such units. The DC components can also corrode ground electrodes. That can impair the home's protection from high voltage peaks that could damage computers, VCRs, and other electrical appliance. This info appeared in a recent issue of POPULAR SCIENCE magazine.

## ## FRACTAL EXPLORER ##

This program allows the user to create multicolor fractal images on a color monitor or TV using a 11 99 44 computer with the Editor/Assembler module, 32k memory expansion, and at least one disk drive. The images created by FRACTAL EXPLORER can be saved to disk and then reloaded at a later time for further use. Also included is the capability to "zoom in" on an area of interest on an already created image, magnifying that area for closer study.

(The idea for this program came from an article written by A.K. Dewdney in the September, 1985 issue of Scientific American. Assistance with the necessary mathematics and explanations came from an article by Charles Jackson in the April, 1986 issue of "Antic" magazine. Examples of fractal images created with other computers can be found in those articles as well as in the May/June 1986 issue of "Amiga World".)

### What is a Fractal ?

Fractals are shapes that are "infinitely squiggly". They are said by mathematicians to occupy a "fractional dimension". In classical Euclidian geometry, a line is said to have one dimension (length), a plane has 2 dimensions (length and width), and a solid figure has 3 dimensions (length, width, and thickness). But if a line follows a very crooked path (such as fractals do), folding back and forth without ever crossing over itself, it can be said (according to "fractal geometry") to have dimension somewhere between that of a line and that of a plane -- 1.5 or 1.7, for example. Similarly, folding a plane in a very convoluted way could produce a figure with dimensions between those of a plane and those of a solid--2.3 or 2.8, for example. This is important because it seems that natural structures such as coastlines, trees, and clouds can be better described and/or simulated using fractal geometry.

The coastline of an island is a popular example of a fractal. Imagine that we were trying to determine the EXACT length of such a coastline. This would not be as simple as it sounds. Coastlines are usually quite irregular, and therefore cannot be adequately represented by smooth curves. Using a satellite photo we could get an estimate of the length. But a picture taken from that altitude would not show every bay and peninsula which would contribute to the length of the coast. If we drove a car around the entire island keeping our right wheels on the beach and our left wheels in the water, our mileage would be a better estimate, but it still would not be exact. We would still miss the many tiny bumps and irregularities too small to drive around accurately. We would run into the same problem if we walked around the island, crawled along the coast with a ruler, or measured every bit of the coast with a microscope. No matter how closely you examined it, there would always be wrinkles and bulges beyond the range of your instruments that would contribute to the coastline's "total" length.

In the real world, we can imagine "zooming in" on a coastline until we are looking at molecules or atoms. In the realm of mathematics, our imaginary "zoom lens" is no longer limited by the size of atomic particles. We can "zoom in" on our mathematical coastline infinitely. The "shape" of such a coastline is a fractal, and one of the characteristics of fractals is that no matter how much you enlarge them, there is always more detail available to examine.

With FRACTAL EXPLORER you can create and observe images of one of these "mathematical coastlines", then "zoom in" and magnify areas which appear most interesting to you. And because this is a "mathematical coastline", you can continue magnifying areas of interest almost infinitely. (The images have a beauty all their own, and the "computer art" generated by

FRACTAL EXPLORER will be of interest even to those who hate math.) As sections are magnified, another property of fractals will be demonstrated. Some small sections of the original image, almost hidden at first, will be found when magnified to be almost exact replicas of the entire original image.

### How FRACTAL EXPLORER Works

The "mathematical coastline" being explored with FRACTAL EXPLORER is known as the Mandelbrot Set. (Named after Benoit Mandelbrot, the developer of the field of fractal geometry.) The fractal figures created with this program are the result of an iterative process. (An iterative process is one that is performed over and over again until certain conditions are met -- a FOR-NEXT loop is a good example.) Below is an explanation of the details of this process -- an easy explanation for those without a math background. (A detailed explanation for those who want to know more is included in the documentation that comes with the program.)

When the program is run you are asked to enter 3 values: 1) a beginning real value; 2) a beginning imaginary value; and 3) the length of a side. The real and imaginary values entered simply determine the point from which we will begin to examine the "coastline". The point represented by these values will be at the top left corner of the screen when the fractal image is drawn. The third value, the length of a side, determines how large a section of the coastline we will be displaying on the screen when the fractal is drawn.

Since the images are drawn using multicolor mode, there are 3072 total screen positions (48 rows by 64 columns). The numbers that are entered at the start of the program are used to determine a value for each of the screen positions. Then, for each position, the value is put into a set of equations and an answer is obtained. If this answer is less than 4, the answer becomes the new value for that position and it is put back into the set of equations. This process (iteration) continues until the answer is greater than or equal to 4. If the process is repeated 100 times and the answer is still less than 4, then that particular screen position is colored black. If the answer reaches 4 in less than 100 passes, that position is assigned some other color depending on how many passes were made (for example, 1 to 10 passes-red, 11 to 20 passes-yellow, 21 to 30 passes-green, etc.). The final multicolor fractal image is then drawn by repeating this sequence for each of the 3072 screen positions.

Once the image is complete the program automatically saves it to a previously specified disk file. The user then has the option of creating a new image by either selecting a new set of values, or by "zooming in" on an area of interest on the fractal just created. This allows portions of an image to be magnified up to full-screen size, and reveals such detail that would otherwise go unseen. Images that have been previously saved to disk can also be re-loaded so that areas on them can be magnified at a later time.

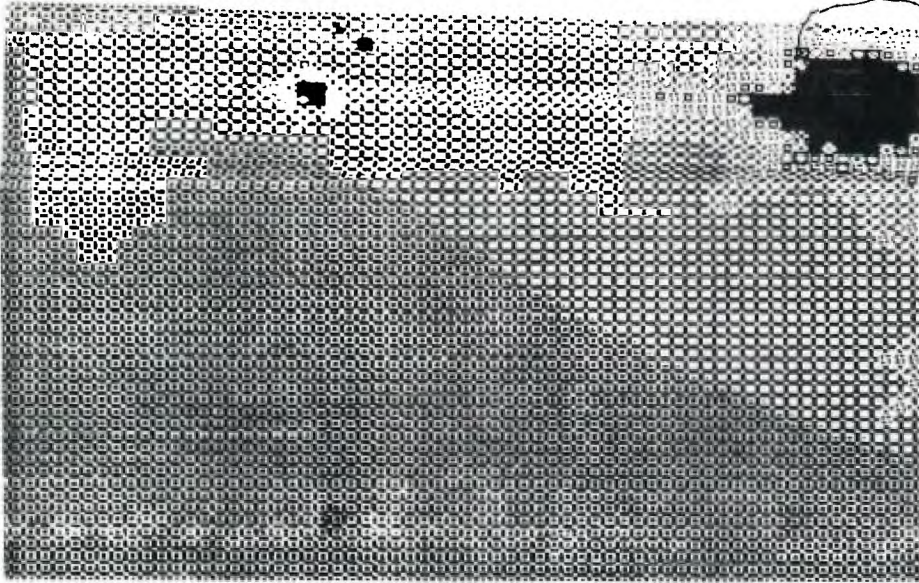
FRACTAL EXPLORER can be obtained from:

Steve Langguth  
2956 South Barnes  
Springfield, MO 65804

Any correspondence requiring a reply must include a stamped, self-addressed envelope. Requests for copies of FRACTAL EXPLORER must include an initialized disk (single density), a disk mailer, and return postage. Complete documented source code (including sections demonstrating the use of multicolor mode, floating point numbers, and disk access in A/C) will be included on each diskette accompanied by a donation (no more than \$10), or can be obtained separately by sending a disk and \$5 to the above address.



FRACTAL EXPLORER - Ver. 2.0



Filename : XX

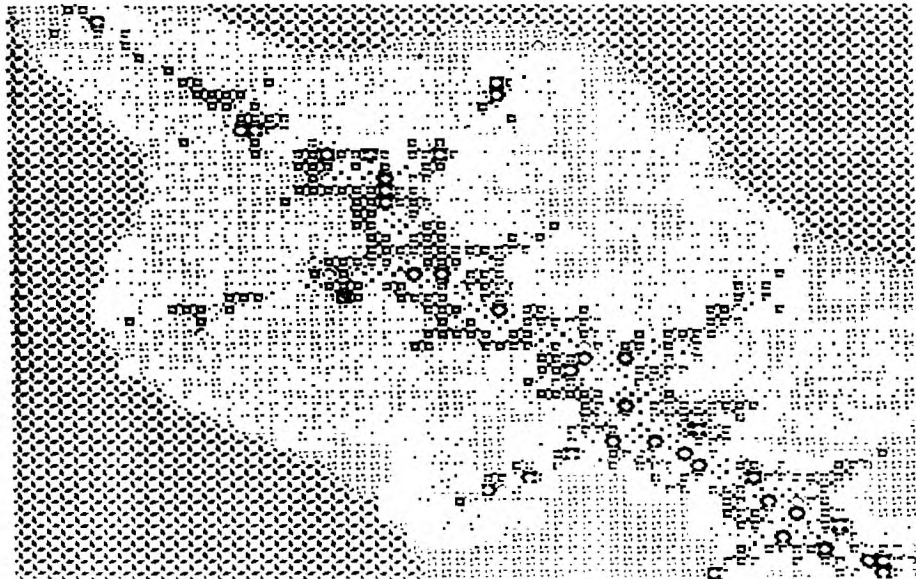
Beginning Real Value : -2

Beginning Imag Value : -.1

Length of Side : .75

*This is a ZOOM of*

FRACTAL EXPLORER - Ver. 2.0



Filename : YY

Beginning Real Value : -1.42578

Beginning Imag Value : -.053125

Length of Side : .015625





## FONT WRITER - Review

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by Bonnie L. Snyder - Front Ranger, CO - Mar '87

Font Writer turned out to be all I wanted and more! It is a very user-friendly program package, and it includes some very well written, well thought-out documentation.

Although Font Writer is in Extended Basic, it runs surprisingly quickly. The speed can be attributed to its many assembly language CALLs. Each section of the package has its own menu, many appear like the pull-down menus you see for other computers.

Within the Editor, you can build new fonts or take an existing font and add to or modify it. All you do is open it, scan through, load the letter you wish and work on it on the editing grid. When you have what you want, you can save it into the output file. For example, many of the TI-Artist font files do not have lower case letters. By looking at the upper case letters, it is fairly easy to create lower case letters which match. I have discovered if I decide to change an existing letter in the file, the new letter will be appended, and the old letter remains, also. Working on the editing grid of Font Writer is a Joy!

Using the Formatter is extremely simple. You can choose to print text prewritten in the TI-Writer Editor and variants, or in the Editor of E/A. You can use the CTRL U codes, the "dot" formatting commands, or you can type directly from the Formatter and use any of the formatting commands while doing so. You can use any of the TI-Artist or CSGD fonts in the Formatter and the text will be printed out in that font. You can also mix graphics and text!

The Manager portion of the main menu allows you to convert CSGD graphics and pictures to TI-Artist compatible images and vice versa. You can create wonderful images in the Editor, save them in TI Artist format and then, should you decide you want to use them in a CSGD option (or with programs that use CSGD graphics, such as the Ottawa group's Graphic Label Maker), you can use the Graphic conversion options in Font Writer.

The Sprite making option is found on the Editor menu. You can create in the Editor, graphics up to 16 x16 (or use previously created images of that size) then press FCTN(9) out of the Editor, select option 6 of the menu, Sprites. The Sprite menu will allow you to 1 [SAVE] the graphic in the Editor as DATA hex statements in D/V 163 (MERSE) format which can then be MERSE'd into an XB program. These D/V 163 files can be appended and each DATA line will automatically increment by 10 from the previous one. You may also create blocks of four graphics in the Editor which will save as magnified sprites. Option 2 [PRINT] will send the hex code to the printer for the sprite (or blocks of 4 for magnified sprites). Option 3 [EXIT] will send you back to the Editor menu.

The Macros are accessed through the Editor. There is a demo Macro loaded with the program. The demo shows how Macros draw on the editing grid a series of partial characters which can be used over and over to create several letters of a font file. Using Macros can save time and simultaneously ensure consistency in the creation of font characters. I created a Macro file which I could use to make a Braille font. My Macros made the basic dot, when saved, then loaded into the Editor. I could call up the braille Macro dot and place it where I wanted in order to create the proper configuration for each letter of the alphabet. It sure beats drawing the dot over and over, as a readable dot for this font requires several pixels in a filled in, circular shape!

My enthusiasm for Font Writer has not diminished with successive use. If anything it has increased. I find Font Writer to be one terrific program package and well worth the advertised cost of \$24.95.

## FONT WRITER - Another View

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by Steve Langguth - Ozark 99ers  
via Jackson County 99ers Mar '87 Cleveland Area Users Group Apr '87

I wanted to like Font Writer, I REALLY did. The ad implied it was comparable to Printshop and Newsroom. Apparently the person who wrote the copy for the ads doesn't expect much creativity from 99/4A users because Font Writer provides only a limited ability to combine the various graphic files and text on the same page. I have seen pages created with the Newsroom program, and after working with Font Writer for several weeks, I was not able to produce anything close to their quality.

The program is written in Extended Basic with Assembly Language subroutines, which probably explains why it seems to run fairly slow at times. The Font Manager allows the user to convert CSGD fonts to the TI Artist Format and vice versa. If you have a version of a font that works with one of these programs, you can now manipulate it to work with all three programs. The Font Manager will allow two different font files to be merged and saved as a single file (for example putting the numbers of one font with the letters from another).

The Formatter allows the user to combine text with the various graphics. A file can only use one font. If you want a headline in one font and the body of the text in another, the only way is to use one of the type styles built into the printer for either the headline or the text. Text and graphics can be printed on the same line only if the text is printed with a font file. There is no way I could find to print two different graphics on the same line. Printer-resident type styles cannot be used on the same line as graphics. There is no built-in way to get text printed out in multiple columns.

In general Font Writer is very easy to use. The Font Editor has "drop down" menus and the choices in both the Font Editor and Font Manager are very straight-forward. The Formatter is almost "second nature" to anyone who is familiar with TI Writer Formatter.

If it did everything the advertising implied, the price of \$24.95 for Font Writer might be appropriate. But there are programs available that do a better job of mixing text with graphics that cost less, and to use Font Writer most effectively you will have to either already own or purchase TI Artist, and/or CSGD, and/or one of the various companion disk sets with ready-to-use fonts and graphics.

If you are looking for a "page layout" type of program that gives you a lot of control over the placement of text and graphics using multiple fonts on the same page, this program will disappoint you. But, if you already own TI Artist, or CSGD, and you are looking for an easy-to-use program to occasionally add a small amount of graphics to your text files, you will probably be well satisfied with Font Writer.