CHARLOTTE TI 99 USERS GROUP NEWSLETTER

December 1987

From the Editor...

December's TI meeting will be EXCITING! What better way to kick off a new year than to end the old one with a hands—on, information packed, rousing get—together? Among other things, here are some of the planned activities or demonstrations:

——>> A 99/4a console will be opened up and the GROM slot disassembled and cleaned to show everybody how it is done. Part of what has been keeping some of you from doing it was insecurity about opening up such a fancy and talented piece of hardware as the 99.

——>> While we're into the computer physically, the VDP resistor will be replaced with a 330 ohm part, according to the recommendation of the TI technical specs, and as written up in a recent issue of this and other newsletters. The replacement will improve video image.

——>> A demonstration will be given of how to get larger, longer image area to printouts of graphics programs.

——>> A demonstration of STYLEwriter will be given by yours truly, including, I hope, the new program upgrade chip just out for the device. According to its inventor, who is an acquaintance of mine, it will provide total page control.

——>> There may be a demonstration of the construction of a "moulded" type adapter plug for joysticks. Why fool with the stiff action, hand held only, tiresome TI set of joysticks when you could be using the Lincoln Town car of the industry, some suction—cupped, sleek designed, rapid firing, contoured model? Because you can't find an adapter plug, that's why. So make one! The wiring diagrams are well known (we have them) and the parts are cheap. We'll make one in front of your eyes and make it simple.

What else do you want? I think there will be some software demos, too. I heard a rumor that there will be soft drinks provided.

Pulling up my soapbox...Let's make this meeting a record—breaker!!

In OTHER Newsletters...

BCS 99ER, OCT 87
    Anne Dhein on TI Writer graphics— part 1 of how to do it; Part 2 is also in this issue— using TIArtist to create the graphics TI Writer will use; TIArtist to TI Writer conversion program listing— makes TIArt into a file of transliterate codes and characters; Progress report on 9640. (Note: BCS 99er is not a club exchange. BCS 99er is published for members of the Boston Computer Society. —Ed.)
BYTEMONGER, NOV 87
    "Box Dots," an XB game; Is 64K eventually possible with a chip conversion in the console?!—by John Clulow; A better light pen design with a game to use it on; Source for a hardware manual for the 99.
CALGARY 99ERS, OCT 87
    Schematic for RGB/Composite video converter; How to get a refund from HCM; Tips from John Willforth on troubleshooting keyboard glitches, memory chips, clock speed increase, and more; Memory architecture.
CHICAGO TIMES, SEPT 87
    Label program; Pre—Fair articles; Reviews of Fontwriter II, Enhanced Display Package; Description of a Spad XIII flight—how to do it; Anne Dhein on comparison of graphics programs—very complete and informative on each program; Use and manipulation of DOS in PASCAL.

THE CHARLOTTE TI 99 USERS' GROUP meets the second Monday of each month at the Mary Eliza Computer Learning Center (at the Department of Social Services, 301 Billingsly Road, Charlotte, NC).Visitors are invited to enjoy our meetings without obligation. Membership is only $15 per calendar year per family or individual. Privileges of membership include borrowing from the software library, monthly newsletters, special interest group meetings, and free ads in the newsletter. For more information contact any of the officers.

THE USERS GROUP NEWSLETTER is printed monthly, and includes news concerning the Charlotte TI 99 Users' Group, as well as items related to the TI 99/4A computer system in general. Product reviews and announcements should not be considered endorsements or the official stand of the users' group as a whole, but only represent the opinions of the authors. Articles from this newsletter can be reprinted freely, in whole or in part, by any other bona fide computer users' group if credit is given to both the original author and to the Charlotte Users' Group. Articles from other users groups' publications may be included in this newsletter to help broaden our range of topics. Full credit will be given to any reprinted articles. Submissions for the newsletter are welcomed. We need long or short programs, technical tips, software or hardware reviews, problems, etc. Credit is given to the author of every item printed. Copyrighted material will be not be accepted without the author's permission, and articles may be edited for reasons of space. Newsletters are also available to other TI Users Groups on an exchange basis. Any group interested in this arrangement should contact the correspondence secretary (address below).

ALL CORRESPONDENCE, SUBMISSIONS, ADS, CHANGES OF ADDRESS or other requests should be sent to:
The Charlotte TI 99/4a Users Group, P.O.Box 9353, Charlotte, NC 28299-9353

1987 OFFICERS		THE NEXT FOUR MEETING DATES:
Jim Lucus, President	(704)534-2497	
Dave Wentzel, V. President	" 334-8302	December 14
Robert Simms, Editor/Sec	" 563-0820	January 11
Arnold Wollman, Treasurer	" 542-1903	February 8
Jack Foy, Systems Operator		March 14
Bill Morrison, Software Lib.	" 525-1583	
Wayne Hollar, Hardcopy Lib.	704-264-7803	

CIN-DAY NEWS, NOV 87
Lengthy listing of excellent program to calculate sunrise, sunset, twilight, from formulas in US Naval Observatory information; An overview of TI Writer with summary chart (Editor and Formatter); Programming tips— use RS232 to dump information "into the air;" Introduction to printers; Tigercub #22.

CLEVELAND AREA 99ERS, NOV 87
Short routine for rounding decimal places; review of Designer Labels; Information on a 32K kit, and instructions for doing it; Review of Fontwriter II; Modifying PRBASE address file data disks to change the format; Transferring PRBASE files to Future Mail List; Forth for Fun; List of suppliers for TI stuff (every TI owner should have such a list in a hardcopy file somewhere).

EAR 99ER, NOV 87
Space saving desk design for computer set-up; Playing "Witness."

EDMONTON 99ERS, OCT 87
Instructions for cleaning your equipment; Mailing lists with TI Writer; Protecting yourself from spikes.

EDMONTON 99ERS, NOV 87
Short write-up on a program to help estimate building costs; Overview of TI Writer; Short tip on using the CALL KEY routine.

GREAT LAKES, OCT 87
Assembly language tutorial continued; XBASIC tutorial #3 from Funlweb Farm (covers SUB programs, gives useful samples).

HUG, NOV 87
Idea for software cartridge library; Review of fairware Christmas Songs; Mechatronic XBII and MSAVE and MLOAD; Bill Goskill's review and comparison of Acorn 99, DBMS, Data Base I, Data Base 99, Data Base 300, Data Base X, PRBase, and Turbo Dataman.

JOHNSON SPACE CENTER JUG NEWS, OCT 87
Details on a DSR card, which will expand TI's accessible memory by 16K— John Johnson, John Clulow, John Willforth, Bud Mills, teaming up to make major improvements in the TI; Review of Menu v. 6 for Horizon.

KC 99ER CONNECTION, NOV 87
Error trapping techniques in XBASIC; Back-up by flippie; Game listing of some turkey thing; Common sense about sitting at a terminal; TI Writer help.

LINCOLN 99, OCT 87
News from here and there; listing of program to put commas in numbers for display purposes.

LINCOLN 99, NOV 87
Disk labeler program listing; Illustrations of pages done with Fontwriter II.

LEHIGH 99ER, SEPT 87

Reprint of our Fast Term overlay; Computer Survival column; Funnlweb Farm Extended Basic Tutorial part 1– using subprograms–very thorough and useful, from people who know what they're doing.

LEHIGH 99ER, OCT 87

Home security system instructions, using a matrix keypad which may be hooked into the TI console; Still another disk catalloger/printer prog.

LOGOI, OCT 87

Fontwriter II overview; T–Shirt Transfers kit review. (Note: LOGOI is not a club exchange newsletter; it is available from the Editor.)

MUSIC CITY 99ERS, 3RD QUARTER 87

Programming tips, including rounding numbers, and creating files to make best use of size; A short text–to–program converter.

NEWS NET 99ER, SEPT 87

Info on how you can get double sided AND double density out of your TI controller, using an EPROM set– telephone number given for questions and ordering; Using the Fterm/Dial disk with Hayes Smartmodem– wiring diagrams too.

NORTHEASTERN 99ERS, OCT 87

Transfer of TI Writer files to IBM with term programs and modem; Putting a reset button on your console; Murphy's Laws of Computing; Crossword Puzzle on programming knowledge.

NORTHWEST OHIO 99ER NEWS, OCT 87

Making cables for Okidata and Smith/Corona printers; Program listing to convert XB screens to TIArtist– versions for TI and Corcomp Controllers; Clulow's 32k on 16 bit bus project; TIWriter overview.

OTTAWA GROUP, NOV 87

9640 update; Analysis of Miner 49er; Expansion port interfacing– pinouts and purposes; Fast Extended Basic; TI Basic tutorial; Fundamentals of cassette usage with TI.

PUG PERIPHERAL, NOV 87

Auto logon techniques for Fast Term; TI Writer tip; Tips for beginners featuring a color coded disk organization system; Cassette system loader; Multiplan advantages; TI Support list.

SAN FRANCISCO 99ERS, NOV 87

Fixing the PE Box power supply (this one you need a copy of); Putting a footswitch on console to duplicate what the FCTN key does; Review of 99 Fortran from LGMA (Fortran is a conversational programming language).

TI–D–BITS, NOV 87

Curing lock–up on your console; Anne Dhein on high res graphics; Review of X–10 Powerhouse, a home control system using the TI; Joypaint review; Full list of TI suppliers; a FULL description with diagrams of how to build an add–on keyboard with number pad and cursor keys separate, and why you should do it.

WEST PENN 99ERS, OLC 87

Lignt pen notes; Understanding, creating and using cassette files; Dope on RAM disks; TIWriter part 14 (!) by Stan Katzman; Card trick game listing.

WEST PENN 99ERS, NOV 87

Twinkle, Twinkle listing; Pascal p–code system; Using the Imagewise Video Digitizer, by Steve Langguth; More on doing cassette files (see previous issue). RAM disk information from John Willforth; High scores for various games.

# NOMINATIONS FOR OFFICERS
Next Month

At the December meeting, a nominating committee will be appointed to bring nominations in January for 1988. All club offices are subject to elections yearly. According to our club constitution one nomination per officer is to be made in January by the nominating committee, to which nominations from the floor may be added. Elections proceed immediately during that meeting.

Power Supply Fix

This tip comes from Raymond Langevin of the Northeastern 99ers.

If you have the misfortune of having your power supply quit on you, check the transformer voltage on the primary and secondary sides. If you have the primary voltage and no secondary voltage, then check the fuse that is located inside of the transformer. The fuse is located on the opposite side from the wire connections, at the lower part of the transformer. You will have to cut away the insulation (plastic housing) from the unit to expose the fuse, which is an inline type that is soldered to the white wire of the primary side of the transformer. Next check the power supply board. The bottom left hand side has two, one—amp diodes. You will probably find that one or both have shorted internally. Check them with a meter. If you find the values are faulty, change them.

This procedure can save you from a costly replacement and extended down—time of your computer. The transformer and power supply board costs $127.50 from Texas Instruments, not to mention the delay for shipment.

LOCATION
OF FUSE
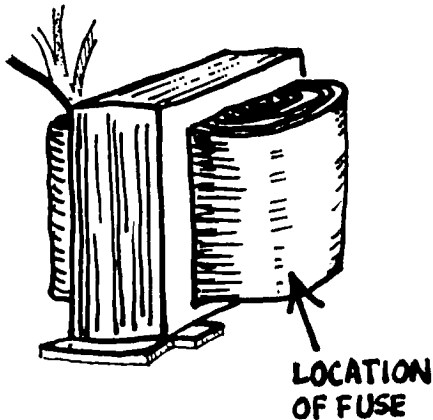
PE BOX POWER
TRANSFORMER

Small Price For Such a Big Deal

That's what our club dues are——a small price to pay for such a wealth of information and support each year. It's DUES time again, with the end of 1987 just around the corner. Dues will remain $15.00 for the year (at least, no price increase has been voted on yet). They are due January 1 for the full year of club privileges. There is a grace period of 30 days, but after February 1 little things start happening to remind you. Like, you don't get a newsletter and you wonder where it is. And the club librarian says, "Joe who?" when you call him wanting a program. And the secretary says, "Don't call me, I'll call you," when you call wanting help. Little things like that.

So get your dues in pronto. We have some really good demos and activities planned for 1988, and a new feel and look to the meetings. Go ahead, tell us you have not gotten anything out of the newsletter. We won't believe it. Neither do you. To pay your dues you may:

>>Come to the December meeting and hand the treasurer a check or cash.

>>Mail a check to the treasurer:
  Arnold Wollman
  8200 Eagles Pt Ct
  Matthews NC 28105

We feel the TI club really IS a big deal, and a good deal for $15.00. And in your heart, you know we're right.

FIX GRAPHX
Make YOUR Printer Work With it!

by Robert Simms

Most TI owners seem to have printers which work fine with GRAPHX, the graphics program which along with TI Artist is one of the most commonly used on the 99/4a. The version of GRAPHX owned by most people is designed for use with printers using STAR compatible codes. But some people can only enjoy the screen graphics of GRAPHX, since their printers lock up or print out a mish-mash of assorted characters. Obviously, something GRAPHX sent to the printer was not recognized.

In most cases, you can "fix" GRAPHX so that it works with your printer. The codes which need attention are those which send graphics information to the printer, and those which control line feed spacing. The chart below will guide you in changing these codes in your GRAPHX program; but first, some explanation of how to proceed, and what it is you will be doing.

1. Start with a freshly formatted disk. You will be making a back-up copy of GRAPHX.
2. Copy the main files of GRAPHX in the following order: GET/PIC, GRAPHX:INS, LOAD, PARTA, PARTB, PARTC, SCREEN, SCREEO. If you do not have all these files on your disk, you should get them and put them on the copy. The fixes listed in this article are based on the above files being copied IN THIS ORDER to a newly formatted (or swept) disk. Sector addresses will not be the same if you omit, for instance, GRAPHX:INS. (You probably can get by by substituting some other D/V80 file which occupies 4 sectors, but I have not tried it.)
3. Set your original GRAPHX disk aside, and make all revisions on your copy.
4. Using a sector editor like Disk Fixer or DiskU, inspect or (R)ead sector 5A of the disk. When the hexadecimal information appears on the screen, enter the command to (A)lter the contents of byte E0. In your copy of the original verson of GRAPHX, it should be "OOO5". With Disk Fixer, enter "A E0", and type the new byte information to the right of the present byte when it is shown. With other sector editors you may be able to cursor-down through the whole sector and type over the appropriate byte. Consult the chart below for what numbers to substitute for your particular printer. After making the change to the screen (the display buffer), (W)rite the buffer back to sector 5A of the disk. With Disk Fixer, you will type "W 5A" and enter it.
   EXPLANATION: This byte is an assembly instruction for how many bytes long the graphics code is which you will later alter. In the case of the FASTEX 80 printer, the code is longer, and the length must be changed from 5 to 6. For most other printers, the code will be standard.
5. Now read in sector 5B, and make the same change as to 5A, only to byte A, which will be in the first line or so of the sector and should be, in this case, "0500". Change according to the chart, and write the new sector back to the disk.
6. > Now read in sector 62 (hexadecimal) for the major changes. You will need to locate byte 68 to change it. The contents of that byte on your copy of the original GRAPHX should be "424B". Change it according to the chart.
   > Now locate byte 6A, immediately next to 68. You should find it to be "0042". Change it according to the chart.
   > Finally locate byte 6C, which will be "0100". Change it if necessary, according to the chart.
   EXPLANATION: The three bytes you are changing are the hexadecimal equivalents of the function codes being sent to your printer. The "42", or "B" located in this string is a separator or marker, not a part of the string itself. The string is "424B00420100", or 4B 00 01 00 without the

"B's". This translates to "75 0 1 0" in decimal, and when taken with the
1B hex code immediately before them in byte 66, the whole string is
"27 (ESC), 75 (A), 0, 1". This you will recognize as the function code to
put most printers in normal density graphics mode. But some printers
differ. Find the code in the chart, or consult your printer's manual for
the code you will need to write into these bytes. Be sure to keep all the
assembly separators (B, or 42) where they were originally.

7.   You may also need to change the line spacing.
If so, read in sector 62 again, and locate byte 8A, and then 8C. The
information you should find there should be "1B41" and "4208"
respectively. Make the appropriate changes according to the chart.
Remember to save changes back to the disk with the (W)rite command for
your particular sector editor.
        EXPLANATION: If you own an IBM/Epson compatible printer, you will
probably find that the "ESC A n" code (27 65 n) which is used by STAR and
some older Epsons to set linefeeds at 7/72, is used in IBM compatibles
only to DEFINE a certain line spacing, but not to SELECT it. Instead of
adding the code to select this spacing, which would be ESC 2 (27 50), we
need only use another code, an IBM function code to define and use n/216
spacing. The appropriate code is ESC 3 n, or 27 51 n (in decimal.)
Remember that all the information YOU put in the bytes you change must be
in hexadecimal. The IBM code for this change will be 1B334218.

Once you have completed the changes necessary, it is time to try out your work.
Run GRAPHX and load a picture, and attempt to print it. If you have problems
with the graphics portion, return to step 4 and redo the process. If you only
have difficulty with line spacing, redo step 7.

BYTE CHANGE CHART

	68	6A	6C	
SECTOR 62 h Byte:	68	6A	6C	NORMAL DENSITY GRAPHIC CODE
Contains Star,Gemini:	42 4B	00 42	01 00	
Decimal Equivalent:	66 75	0 66	1 0	
Fastex 80, change to:	42 2A	00 42	00 01	
Epson,IBM, change to:	42 4B	00 42	01 00	
SECTOR 5A h Byte:	E0			CODE LENGTH
Contains Star,Gemini::	00 05			
Fastex 80, change to:	00 06			
Epson,IBM, change to:	00 05			
SECTOR 5B h Byte:	A			CODE LENGTH
Contains Star,Gemini:	05 00			
Fastex 80, change to:	06 00			
Epson,IBM, change to:	05 00			
SECTOR 62 h Byte:	8A	8C		LINE SPACING
Contains Star,Gemini:	1B 41	42 08		
Decimal Equivalent:	27 65	66 8		
Fastex 80, as above:	1B 41	42 08		
Epson,IBM, change to:	1B 33	42 18		

GRAPHICS OF THE MONTH

This month we feature some graphics off the editor's artboard. All the
graphics reproduced here were done with GRAPHX by the editor. Some have been
uploaded to GEnie. As with all graphics reproduced in 1987 newsletters, all
are currently in the editors files.
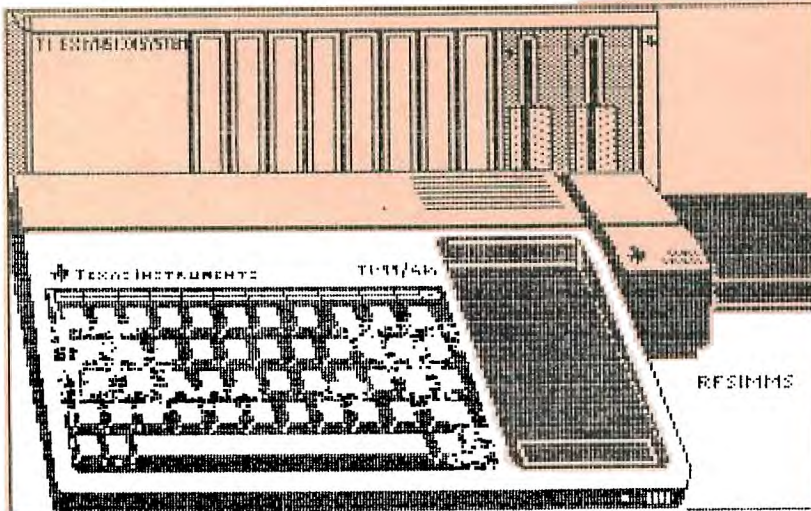
A thousand pictures of the TI 99/4a exist. Most of
them fall short of accurate representation. Here is
our entry. If you have a better one, we'd like to
see it!
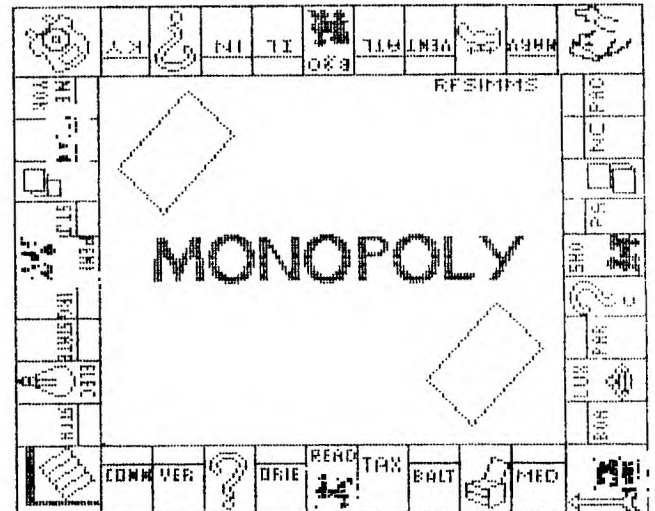
NOTE: This file is in color. Proportions are
slightly out of square for best use of the color
blocks inherent in the 99/4a.

NOTE: After this picture appeared at the last
Charlotte TI meeting, the query arose as to
where the "rest" of this alluring lady is. Alas,
this was all there was. The LIFE magazine picture
which inspired it was only a head-and-shoulders
shot. But in the artists' mind the rest of the
figure took shape. Three more GRAPHX files chain
down from this one to form a complete picture.
To be demonstrated at the December meeting.

USA
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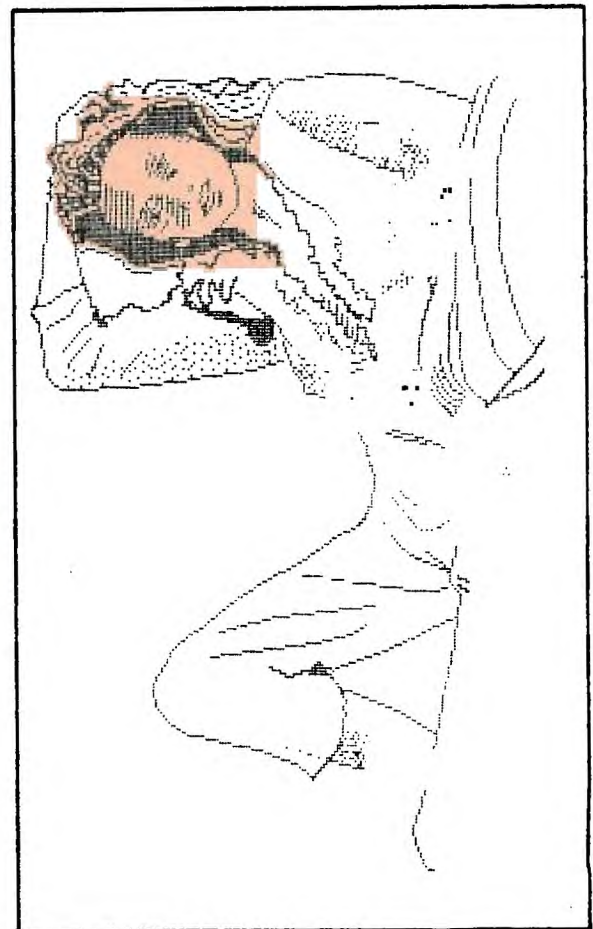
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