

CHARLOTTE TI 99 USERS GROUP NEWSLETTER

100 8801
Charlotte

January 1988

PRINTER RAM UTILITIES

...by Robert Simms, Charlotte TI Users

This month, lacking input from other members and having nothing better to do, I decided to write a program. Actually, the inspiration for it was not so much boredom as it was a problem which cropped up when I took my Gemini 10X printer to work and put my Star LV1615 printer at home. Suddenly a number of things "didn't compute," since several codes on the LV differ from the Gemini. One of those things is the codes necessary for downloading your custom-design characters to the printer's programmable RAM. Programs like "NLQ" for Gemini, and routines others had written to convert the TI screen character set to a printer RAM set, would not work on the LV. Inserting the proper codes in place of the Gemini codes enabled me to get the LV to print "something," but it was upside down and backwards, and had funny dots here and there in it. Frustration led to study--as it usually does for me; and study to experimentation, and experimentation to invention. Viola: le Printer RAM Utilities. The full listing is here this month. Full documentation will be available at February's meeting, and perhaps a demonstration of the program and printing its product.

The main functions of Printer RAM Utilities are: (1) Conversion of Gemini 10X download character sets (D/V80 format) to Star LV1615 and compatible printers (which use codes more like those found on printers designed for IBM use); (2) Inversion of letters, since Gemini 10X counts dots from top to bottom and LV/IBM counts bottom to top; (3) Raising of letters to conform to the level of the standard character set; (4) Design of download characters from scratch for either Gemini or LV printers; (5) Editing download definitions, to fine-tune your letter designs; and (6) Download of download sets to the printer.

In addition, codes which configure the download file for Gemini or LV can easily be changed to match your printers specific requirements. (See the end of this article.)

DESIGNING CHARACTERS is easily the handiest feature of this program. I have designed a Greek alphabet and three other decorative alphabets with it in just a few minutes apiece. Samples:

ΑΒΓΔΕΖΗΘΙΚΛΜΝΟΠΡΣΤΥΦΧΨΩαβγδεζηικλμνξοπρστυφχψω
ΑΒΓΔΕΖΗΓΙΚΛΜΝΞΟΠΕΡΤΥΦΧΨΩαβγδεζηικλμνξοπρστυφχψω
ΑΒΓΔΕΖΗΓΙΚΛΜΝΟΠΡΣΤΥΦΧΨΩαβγδεζηικλμνξοπρστυφχψω

Next most useful is the editing feature, which gets into the file you create and lets you change one code at a time until you get the design right.

Some who have handled Gemini download character sets know that you can simply take a Display Variable 80 file, load it into TI Writer, print it to your printer, or make any changes you like using the CTRL U function to access the characters from ASCII 0 to 31. Well and good. The problem comes when you design sets for or convert sets to the LV printer or those that use different codes. Many printers use codes ABOVE 127 in their character definition strings. TI Writer cannot handle these codes. There is no way to input them from the keyboard. In addition, when TI Writer loads in a file in which there ARE codes above 127, it SUBTRACTS 128 from them, so that 128 becomes 0, 129 becomes 1, and so on. What it displays is what is in its memory--not the higher code, but a new, reduced code. When it prints, it prints the lower codes. Result: you can design a download character for the LV or other

GENERAL INFORMATION

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

Jim Lucas, President (704) 535-2497
 Dave Wentzel, V. President " 334-8302
 Robert Simms, Editor/Sec " 563-0820
 Arnold Wollman, Treasurer " 542-1903
 Jack Foy, Systems Operator
 Bill Morrison, Software Lib. " 525-1583
 Wayne Hollar, Hardcopy Lib. 704-264-7803

THE NEXT FIVE MEETING DATES:

February 6
 March 14
 April 11
 May 9
 June 13

=====

printer using these codes and put it in a D/V 80 format, but you cannot use TI Writer to print it to your printer or to edit it.

The solution is to have programs which read the D/V 80 files just as they are, and pass them on to the printer that way.

The DESIGN part of the program gives you a grid to make your letters or designs on, and lets you redo the design as much as you like. The numbers "1" and "2" control "on" and "off" respectively, and you use "enter" at the end of each row of dots. Remember that dots may not be placed next to each other horizontally--they must be separated by an "off" dot. Vertical dots may be touching, however. Entering the last row gives you the option "C" to calculate and add the character to your file, while entering R or a null string returns you to the grid to keep designing (does not erase what you've done.) When you have done all you want to do, you answer "N" to the "Another" prompt, and the file is completed. You may add more later to the same file.

Most prompts seem to me to be self-explanatory. There is documentation --ten pages of it-- on the disk which will be added to the club library; in addition, the complete program with docs and a Greek alphabet is on GENie, download number 1974. The program is FREE-ware in the best sense of the word. I work elsewhere for a living. Who cares if anybody sends me any money. I loved every minute of doing this.

```
1 DIM T(128),M$(128),COLM$(1
5),DD(8):: G$="gjpqy"
2 CALL CHAR(62,"001018FCFEFC
1810")
10 PRINT : : : : "PRINTER RAM
UTILITIES": : "by Robert F.
Simms": : : : "Copyright 1988
":
20 PRINT "SELECT:": : : "1-CO
NVERT GEMINI 10X TO IBM": : "
2-INVERT LETTERS": : "3-RAISE
CHARACTERS 1 DOT": :
25 PRINT "4-DOWNLOAD A FILE
TO PRINTER RAM":
```

```
: "5-DESIGN ALPHABET": : "6-E
DIT INDIVIDUAL CODES"
30 INPUT ">": Q : : IF Q<1 OR
Q>6 THEN 30 : : ON Q GOTO 200
,610,2000,400,3000,4010
40 STOP
200 REM PROGRAM: CONVERT
210 REM FUNCTION: TO CONVERT
GEMINI 10X DOWNLOAD-PRINTER
/RAM-FILES TO STAR LV1615 (I
BM) FORMAT
214 DISPLAY AT(24,1): "ASCII
VALUE OF DESCENDER:0" : : ACC
EPT AT(24,26)SIZE(-3):VAL1
```

```

215 DISPLAY AT(24,1):"ASCII
VALUE OF ASCENDER:1" :: ACCE
PT AT(24,25)SIZE(-3):VAL2
220 INPUT "INPUT FILE:":I$ :
: OPEN #1:I$
230 INPUT "OUTPUT FILE: ":O$
:: OPEN #2:O$
235 GOSUB 6000
237 INPUT "INPUT STARTING LI
NE AND ENDING LINE OF CH
ARACTER DEFINITIONS:(SEPARAT
E BY COMMAS) ":SL,EL
238 PRINT #2:CHR$(27);CHR$(5
8)
239 FOR W=SL TO EL :: M$(W)=
CHR$(27)&CHR$(38)&CHR$(0)&SE
G$(M$(W),4,1)&SEG$(M$(W),4,L
EN(M$(W)))
240 GOSUB 270
241 PRINT #2:M$(W)&CHR$(0)&C
HR$(0)&CHR$(0):: NEXT W
243 PRINT #2:CHR$(27);CHR$(3
7);CHR$(1):: GOTO 320
270 IF POS(G$,SEG$(M$(W),4,1
),1)>0 THEN 330
280 M$(W)=SEG$(M$(W),1,5)&CH
R$(VAL2)&SEG$(M$(W),7,LEN(M$
(W)))
310 RETURN
320 CLOSE #1 :: CLOSE #2 ::
GOTO 10
330 M$(W)=SEG$(M$(W),1,5)&CH
R$(VAL1)&SEG$(M$(W),7,LEN(M$
(W))): GOTO 310
340 REM END CONVERTER
390 REM ....PRINT TO RAM....
400 OPEN #2:"PID.LF"
410 DISPLAY AT(23,1):"INPUT
FILENAME:":O$ :: ACCEPT AT(2
4,1)SIZE(-15):O$ :: OPEN #1:
O$
420 IF EOF(1)THEN 440 :: LIN
PUT #1:A$
430 PRINT #2:A$ :: GOTO 420
440 INPUT "PRINT SAMPLE ABC'
s? Y/N":ANS$ :: IF ANS$="Y"
THEN PRINT #2:"ABCDEFGHJKLMN
OPQRSTUVWXYZ abcdefghijklmn
opqrstuvwxyz 123"&CHR$(10)
450 CLOSE #1 :: CLOSE #2
460 GOTO 10
600 REM ....INVERSION.....
610 RESTORE 630 :: FOR X=1 T
O 7 :: READ Y :: D(X)=Y :: N
EXT X
620 RESTORE 640 :: FOR X=1 T
O 7 :: READ Y :: N(X)=Y :: N
EXT X
630 DATA 64,32,16,8,4,2,1

```

```

640 DATA 1,2,4,8,16,32,64
660 CALL CLEAR :: PRINT "RAM
CHARACTER INVERTER": "SELE
CT:": : : "1-INVERSION TABLE
TO PRINTER": : : "2- CONVERT
DISK FILE" :: INPUT ">":V
670 ON V GOTO 890,680
680 PRINT "WAIT 1.5 MINUTES
...CREATING CROSS-REFERENCE
TABLE..." ! CONVERT DISK FIL
E
690 FOR Z=1 TO 127 :: A=Z ::
GOSUB 1020
700 T(Z)=L :: L=0
710 FOR X=1 TO 7 :: M(X)=0
720 NEXT X
730 NEXT Z
740 INPUT "INPUT FILE? ":I$
:: OPEN #1:I$,DISPLAY ,VARIA
BLE 80
750 INPUT "OUTPUT FILE? ":O$
:: OPEN #2:O$,DISPLAY ,VARI
ABLE 80
760 INPUT "BEGIN INVERSION W
ITH WHICH CHARACTER NUMBER
IN STRING--(FOR GEMINI, 6; S
TAR LV's,7)":J
770 INPUT "END INVERSION WIT
H WHICH CHARACTER? ":Q
772 LINPUT #1:K$ :: PRINT #2
:K$
780 LINPUT #1:K$ :: IF LEN(K
$)<6 THEN 840 :: K2$=SEG$(K$
,1,J-1)
790 FOR W=J TO Q :: A=ASC(SE
G$(K$,W,1)):: A2=T(A)
800 K2$=K2$&CHR$(A2)
810 NEXT W
820 PRINT #2:K2$
830 GOTO 780
840 PRINT #2:K$
850 CLOSE #1 :: CLOSE #2 ::
GOTO 10
880 REM PRNT TABLE TO PRNTR
890 CALL CLEAR :: INPUT "PRI
NTER NAME: ":B$ :: OPEN #2:B
$
900 FOR Z=1 TO 127 :: A=Z
910 GOSUB 1020
920 PRINT #2:Z;" ~ ";L :: L=
0
930 FOR X=1 TO 7 :: M(X)=0
940 NEXT X
950 NEXT Z
960 CLOSE #2
970 PRINT "FINISHED" :: GOTO
10
1010 REM ..INVERT ROUTINE..
1020 R=128

```

```

1030 FOR X=1 TO 7
1040 IF A<D(X)THEN 1050 :: B
(X)=A-D(X):: A=B(X):: IF A<O
THEN 1050 :: M(X)=D(X)
1050 NEXT X
1060 REM
1070 FOR X=1 TO 7 :: IF M(X)
>0 THEN L=L+N(X)
1080 NEXT X
1090 RETURN
2000 REM PROGRAM NAME: RAISE
2010 REM FUNCTION: TO RAISE
DOWNLOAD CHARACTERS BY ONE D
OT
2020 INPUT "INPUT FILE NAME:
":I$ :: OPEN #1:I$
2030 INPUT "OUTPUT FILE NAME
":O$ :: OPEN #2:O$
2040 INPUT "BEGINNING CHR TO
RAISE: ":BC :: INPUT "ENDIN
G CHR TO RAISE: ":EC
2050 LINPUT #1:A$ :: PRINT #
2:A$
2070 LINPUT #1:B$ :: A$=SEG$
(B$,1,6):: IF LEN(B$)<6 THEN
2140
2080 FOR W=BC TO EC :: IF PO
S(G$,SEG$(A$,4,1),1)>0 THEN
2150
2090 A$=A$&CHR$(ASC(SEG$(B$,
W,1))*2)
2100 NEXT W
2110 PRINT #2:A$
2115 GOTO 2070
2140 PRINT #2:B$ :: CLOSE #1
:: CLOSE #2 :: GOTO 10
2150 PRINT #2:B$ :: GOTO 207
0
3000 PRINT "PROGRAM TO MAKE
DOWNLOADABLECHARACTERS..."
3010 CALL CLEAR
3020 INPUT "NAME OF FILE ? "
:O$ :: OPEN #2:O$,DISPLAY ,V
ARIABLE 80,UPDATE :: CALL CL
EAR
3030 INPUT "IS THIS A NEW FI
LE? Y/N ":ANS$ :: CALL CLEAR
:: IF ANS$="N" THEN GOSUB 3
300
3032 PRINT "SELECT:": : "1-GE
MINI 10X": : "2-IBM-EPSON (AL
SO STAR LV's)" :: INPUT ">":
CHOICE :: IF CHOICE<1 OR CHO
ICE>2 THEN 3032
3033 IF ANS$="N" THEN 3034 E
LSE IF CHOICE=1 THEN PRINT #
2:CHR$(27);CHR$(42);CHR$(0)E
LSE IF CHOICE=2 THEN PRINT #
2:CHR$(27);CHR$(58)
3034 IF CHOICE=1 THEN WID=11
ELSE WID=14
3035 IF CHOICE=1 THEN HT=9 E
LSE HT=10
3036 IF CHOICE=1 THEN SC$=CH
R$(27)&CHR$(42)&CHR$(1)&CR$&
CHR$(DESC)ELSE SC$=CHR$(27)&
CHR$(38)&CHR$(0)&CR$&CR$&CHR
$(DESC)
3038 IF CHOICE=1 THEN RESTOR
E 3052 ELSE RESTORE 3050
3040 FOR X=1 TO 8 :: READ Y
:: DD(X)=Y :: NEXT X
3050 DATA 128,64,32,16,8,4,2
,1
3052 DATA 1,2,4,8,16,32,64,1
28
3060 CALL CLEAR :: CALL CHAR
(49,"FCFCFCFCFCFCFC00"):: CA
LL CHAR(50,"FF80808080808080
")
3070 FOR W=3 TO HT :: CALL H
CHAR(W,3,50,WID):: NEXT W
3080 FOR X=3 TO HT :: ACCEPT
AT(X,1)SIZE(-WID+2)VALIDATE
("12"):A$ :: F=MAX(LEN(B$),L
EN(A$)):: IF LEN(A$)>LEN(B$)
THEN B$=A$
3090 NEXT X
3100 DISPLAY AT(24,1):"C TO
Calculate,R to Redo:" :: ACC
EPT AT(24,26)VALIDATE("CR"):
A$ :: IF A$="C" THEN 3120
3110 GOTO 3080
3120 DISPLAY AT(15,1):"CHARA
CTER DEFINED ABOVE: " :: ACC
EPT AT(15,26):CR$ :: DISPLAY
AT(16,1):"DESCENDER? N" ::
ACCEPT AT(16,12)SIZE(-1):DES
$
3125 IF DES$="Y" THEN DESC=2
5 ELSE DESC=153
3127 IF CHOICE=1 THEN IF DES
$="Y" THEN DESC=1 ELSE DESC=
0
3130 DISPLAY AT(17,1):"ENTER
PROPORTIONAL WIDTH (IF A
PPLICABLE TO PRINTER) 9" ::
ACCEPT AT(19,1)SIZE(-2):PRO
F
3135 IF CHOICE=1 THEN SC$=CH
R$(27)&CHR$(42)&CHR$(1)&CR$&
CHR$(DESC)ELSE SC$=CHR$(27)&
CHR$(38)&CHR$(0)&CR$&CR$&CHR
$(DESC)
3140 PRINT #2:SC$;
3150 FOR Y=3 TO WID :: FOR X
=HT TO 3 STEP -1 :: CALL GCH
AR(X,Y,Z):: COLM$(X-2)=CHR$(
Z)

```

```

3160 NEXT X :: GOSUB 3200
3170 NEXT Y
3180 PRINT #2 :: DISPLAY AT(
20,1):"ANOTHER? Y" :: ACCEPT
AT(20,10)SIZE(-1):CHOICE$ :
: IF CHOICE$="Y" THEN GOTO 3
070
3190 IF CHOICE=1 THEN PRINT
#2:CHR$(27);CHR$(36);CHR$(1)
ELSE PRINT #2:CHR$(27);CHR$(
37);CHR$(1)
3191 CLOSE #2 :: CALL CHARSE
T :: GOTO 2
3200 CCC=0
3210 FOR V=1 TO 8 :: IF COLM
$(V)="1" THEN CCC=CCC+DD(V)
3220 NEXT V :: PRINT #2:CHR$(
CCC);:: CCC=0
3230 RETURN
3300 REM ...ADD TO FILE...
3320 IF EOF(2)THEN 3330 :: L
INPUT #2:K$ :: GOTO 3320
3330 RETURN
4010 REM .....ALTER.....
4015 PRINT "Enter a null str
ing (blank the input line)
to return to main menu."
4020 PRINT "FILE TO INSPECT/
CHANGE:" :: DISPLAY AT(24,1)
:0$ :: ACCEPT AT(24,1)SIZE(-
15):0$ :: IF 0$="" OR 0$=" "
THEN 10 :: OPEN #1:0$
4025 GOSUB 6000
4070 INPUT "EDIT WHICH? (999
IF NONE)":NUMB :: IF NUMB=9
99 THEN 4140
4080 PRINT "THE ASCII VALUES
OF THE CHARACTERS ARE: "
4090 FOR Y=1 TO LEN(M$(NUMB)
):: PRINT Y;C$;ASC(SEG$(M$(N
UMB),Y,1)):: NEXT Y
4100 INPUT "CHANGE WHICH # C
HARACTER? ":A :: PRINT "VALU
E IS NOW ":ASC(SEG$(M$(NUMB)
,A,1))
4110 INPUT "NEW ASCII VALUE?
":AA :: M$(NUMB)=SEG$(M$(NU
MB),1,A-1)&CHR$(AA)&SEG$(M$(
NUMB),A+1,LEN(M$(NUMB)))
4120 INPUT " ANOTHER STRING?
Y/N ":ANS$ :: IF ANS$="N" T
HEN 4140
4130 GOSUB 6030
4135 GOTO 4070
4140 INPUT "RECORD CHANGES T
O DISK? Y/N ":ANS$ :: IF ANS
$="N" THEN CLOSE #1 :: GOTO
4010
4150 RESTORE #1 :: FOR W=1 T
O X-1 :: PRINT #1:M$(W):: NE
XT W
4160 CLOSE #1 :: GOTO 4010
6000 PRINT "INSPECT THE FILE
..."
6010 FOR X=1 TO 128 :: IF EO
F(1)THEN 6030 :: LINPUT #1:M
$(X)
6020 NEXT X
6030 C$=" - " :: FOR W=1 TO
X :: PRINT W;C$;M$(W):: V=V+
1 :: IF V=12 THEN V=0 :: INF
UT "PRESS ENTER FOR MORE":Z$
6040 NEXT W :: V=0
6050 RETURN

```

NEW KEYBOARD AVAILABLE FOR TI

First it was Rave 99, then it was the full blown Turbo upgrade, now there is a keyboard enhancement for TI which apparently only involves some wiring inside the console itself, and a plug-in keyboard.

It's called the KBM/99 Interface. It consists of a small adapter board which fits inside the console itself. You open up the computer, install the card with its plug for the new keyboard, plug it into the mother-board in place of the existing keyboard, and close up the console. Then you just plug in a standard IBM keyboard into it, and compute. Some who have made

the modification already have left out the old keyboard and covered the opening; others have adapted the unit for two plugs and use either keyboard.

According to reviews of the KBM Interface, there are 50 pre-programmed function keystrokes, for help with XBASIC and BASIC programming. Many TI Writer functions are single keystrokes.

Also according to reviews, the price of the KBM/99 Interface is significantly less than the Rave 99 system. (Of course, you have to buy a keyboard. But they can be had for as little as \$29.95 from B.G. Micro in Dallas)

STAR PRINT HEAD REPAIR

...Repair it Yourself

*A reprint of an article from
North Shore*

One of the attractive features of the Star Micronics Gemini series printers (and also some of the later models) is the user replaceable print head. As it turns out, there are a couple of drawbacks to this. One is the price of the print head, the last one of which I bought was, in 1983, \$56. The other is pretty serious, and that is the unavailability of replacement heads. When my 15X head went out, I requested a replacement from three local suppliers, and one on the mainland, and 11 months later, I have yet to see one. Needing to use my printer, and at the same time having to wait for the ordered part (which at the time I figured would be at worst a week), I decided to attempt a temporary patch-up. That temporary fix has lasted until now and shows every indication of being as good as new. And since the head on my 10X just developed the same problem, I have gone ahead and repaired in the same way and figure that the solution would be of use to other users of Star Micronics printers.

The problem that has occurred in my print heads is that the guide (which makes the "on bits") for the impact matrix pins comes loose. This guide is small --1X4X6mm --and is a piece of red glass or corundum (ruby) which is inset flush with the front of the print head body. The symptoms when it gets loose are that the characters printed lose their sharpness, and or the head tends to drag the ribbon on the paper, making a gray sudge on the paper wherever the head travels, no matter how you set the head for paper thickness.

However the pin guide is held in place at manufacture, it can be refastened in place by gluing it. It takes a bit of care to do this, because no glue must be allowed to get into the pin slot. I have found the easiest way to deal with the head is to completely remove it from the

printer. Get comfortable at a work table, and with tweezers, a needle or pin and some paper toweling, lift the pin guide out of the head. Now wipe the guide clean of ink and dust. It may be necessary to clear the pin slot with the corner of a piece of paper. Then with the needle, carefully clean out the recess in the head where the guide goes to get out all the inky ribbon lint, taking care to get the corners all clear and taking special care NOT TO BEND ANY OF THE PINS.

Now, gently place the pin guide over the recess, precisely lining up the pin slot with the row of impact pins. With a finger tip press lightly downward, and wiggle the guide until the pins slip into the slot. The guide will sort of rock on the pins until they line up and then it will fall into place in its recess. The guide is seated properly when its front is flush with the rest of the head and all of the pins are just flush with it. The pins must not be recessed or protrude.

Now dip the needle in some glue and apply it to the crack around the outside edge of the guide. I used a plastic glue, like the kind used for models, but epoxy should also work. Crazy glue is too fluid and may get on the pins. Be sure the glue is fluid enough, however, to go into the crack between the guide and the head, but do not allow it to get in the slot area. Let the glue dry, and re-apply until the crack is filled completely after drying. It is okay if the glue builds up a ridge, as long as it does not get on the pins.

After the glue thoroughly dries, use a sharp knife with a gentle sawing motion to slice the excess glue off the face of the print head. Be sure that the front surface is flat and flush with the impact pins. Then reinstall the print head in the head carriage, and the printer is ready to go back on line.

In Other Newsletters...

AMARILLO 99ER, OCT 87

A call load program to change your XB working screen color; A reprint of a fine article on DTE and DCE interfacing; A list of TI supporters and why we ought to support THEM; Ad for Willforth's prototype board; Swap and Sell.

AMARILLO 99ER, NOV 87

Hints on using and maintaining the RF modulator; Comparison of 4A Talk and Fast Term; Trackball tip; Another article on "digitizing" by hand; Reprint of our own September article on the Circuit Cellar digitizer; reprint of our "LabelMaker" program; Various cartoon reprints; Sale items.

BAYOU BYTE, OCT 87

Tips on getting different drives; personal ads.

BYTEMONGER, DEC 87

Lengthy article and program listings for a simple count to 99,999, for benchmarking various languages; disabling call waiting when using your modem; Ad for a true photo digitizing service; Classifieds.

CALGARY 99ERS, NOV 87

Observations on the Chicago faire; Another first-reaction to the Myarc 9640 Geneve.

CALGARY 99ERS, DEC 87

Modifying the TI controller for 80 track drives; Update on Horizon RD; A comparison of FontWriter II and Printer's Apprentice; Review of Remind Me!, a scheduling program; Review of PC Transfer; Description and sources for Genial Font Packs.

CENTRAL PA, DEC 87 (A new exchange)

Article on PC Pursuit; Letter from Jim Peterson, the Tigercub; Listing for Style-a-Line; Article on MaxRLE; diagnosing and fixing a bad memory chip; A font listing; fixing the PE box power supply (same as our newsletter in December).

CIN-DAY NEWS, DEC 87

Listing of "Decision Maker," which does the same thing as the old 8-Ball toy used to; A font design program; Some files to use with "C"; Various tips, involving DV80 and TI Writer; Understanding the function of FORMATTER in TI Writer; #23 Tips from the Tcub; Star print head repair (Note: this is probably something every printer owner should know, whether Star or not. It will be reproduced in our newsletter in some form-Ed.); Rounding decimal places; Using Miniwriter II by Databiotics; An overview of Funnelweb 40, describing some features you might not know you have; Info on a high-speed cassette loader; Review of KBM/99 Keyboard Interface—a console modification allowing use of a standard IBM keyboard; reviews of Enhanced Display Package and Legends; Using the Imagewise Digitizer with the TI 99; a review of Chainlink, a game; an announcement of an equivalent for the GramKracker, called the Gramulator, and source for technical questions and interest in purchase.

DATA BUS, NOV 87

Part 3 on using sprites; Short tutorial on strings; more lines for CATCAT (Categorical Cataloger) first printed in the August DATA BUS; Tom Freeman on XB call loads and Assembly equivalents (very detailed).

EAR 99ER, DEC 87

Finding your way through the Pyramid of Doom; Minimemory tutorial part 3; Using the special character mode of TI Writer to do graphics; Holiday music program listing;

EDMONTON 99ER, dec 87

Beginners tips for TI Writer; various reprints.

CALL SAY, NOV 87 (A new exchange)

Part 2 of the Funnelweb Farm XBASIC tutorials (lengthy, good);

GREAT LAKES, NOV 87

Very full fairware listings with sources for all; Part 6 in an Assembly Language tutorial; Part 3A in the Funnelweb XBASIC tutorials;

GREAT LAKES, DEC 87

Part 7 in Assembly Language tutorial; Part 4 in XBASIC tutorial by Funnelweb (apparently the last); Machine code mastery;

HUG, DEC 87

For sales; Tips on Fast Term, call waiting;

Discussion and definition of nibbles, bits and bytes.

JOHNSON SPACE CENTER, DEC 87

Overview of TI Workshop, the Databiotics integrated program offering a disk manager, program loader, editor, assembler, debugger and memory manager; Review of Sideprint; Program listing for short routine to make the Tax Investment Record Keeping module print with PIO, using a load interrupt switch;

KANKAKEE TI USERS, OCT 87 (A new exchange)

A personal experience with lightning and computers; Using command files with MG's Advanced Diagnostics; Listing of game "Crash 'em"; A fix for DM1000 for CorComp owners.

KANKAKEE TI USERS, DEC 87

Font of the month, inverse video; Christmas crossword; DM1000 cursor fix; MAX-RLE help card; handy list of PRBase commands; Customizing Funnelwriter.

KC 99ER, DEC 87

A Santa poster; Review of the three "lost games" of TI; A computer version of the 12 days of Christmas; the Tigercub on relational expressions.

LA TOPICS, DEC 87 (A new exchange)

Chicago Faire report by Mike Dodd; Lots of other information from the "disk" of Mike Dodd; A short bar-chart program which could serve as the heart of a graph-making program; A short routine to convert TI Writer program listings to merge programs (only 20 lines long); Using Fontwriter; A demo of sprite power; Basics of disks and files; Making a modem cable; Using the multicolor mode; Forth stuff; PRBase enhancements; Anne Dhein on high res graphics, part 1; more.

LINCOLN 99, DEC 87

A disk labeller program; a 28 column lister program.

NEWS NET 99ER, OCT 87

Various tips; A listing to add print-out routines to existing BASIC programs(looks problematic).

NORTHEASTERN 99ERS, DEC 87

Tips on buying an IBM clone (heretical); Requiem for someone else; Warning about a worm; various tips.

NORTHWEST OHIO, NOV 87

Thoughts on merger of groups (might apply to a wider community); Getting started with Geneve; Some advanced directions on connecting the TI BUS to external control devices (lots of good diagrams); Horizon Computer ad.

OTTAWA 99ERS, DEC 87

Chicago faire review (Note: this and other reviews of faires provide much info on what is new and coming, and occasionally give sources for making your own investigations. Worth reading—Ed.); Geneve Update; An interesting routine using MiniMemory to reclaim files on a RAMdisk (Horizon?) when a corruption or glitch has occurred; Expansion port interfacing; Sprite program with a surprise; TIWriter tip on using the asterisk; Basic BASIC; Tips and tape files.

PIEDMONT 99ERS, SEPT 87, OCT 87, NOV 87

All internal information.

PUG PERIPHERAL, NOV 87

Using the ASCII file transfer feature of Fast Term to create a semi-auto-logon feature; Getting the most from your cassette system, part 8; Tips for Beginners by Frank Zic, on disk classification; Multiplan part 1; Short promo on the Genial Traveler, a magazine on disk for TI by Barry Traver.

PUG PERIPHERAL, DEC 87

Tips for Beginners, #7, on printers; Part 2 on Multiplan, on speeding up operation; Tigercub #42; RAMdisk talk by John Willforth—general info.

QB MONITOR, FALL 87

Word Counting; Funnelweb XBASIC tutorials; Short multiplan overview.

LOGOI, DEC 87 (Personal to the Editor)

Article on quality of various disks; Speeding up Multiplan; For sales.

ROCKY MOUNTAIN 99ERS, DEC 87 (A new exchange)

Feature comparison chart for various computers; Graph sheet maker program; fix for RF box; Error code summary; Christmas card program;

SUDBURY, DEC 87

Multiplan hints; Improved video; Review of Legends.

VAST, OCT 87

Review of Certificate 99; Whereforths of Forth; Hints and Tips—the Assembly Language tutorial parts 9 and 10; Burglar alarm program; The Elements of BASIC; Joystick motion in programs.

WEST JAX, SEPT 87

A "Speech Assist" program listing for those who are vocally impaired; a conversion program for Draw'n Plot pictures to XBASIC.

WEST JAX, OCT 87

Clock for upper right corner of screen, XBASIC.

WEST JAX, NOV 87

Multiplan helps, on use of tables; Picture Show for Draw'n Plot.

FUNLWEB IMPROVED

Just in case you have an earlier version of Funlwriter and have decided not to keep up with updated versions --thinking most of them have just minor enhancements-- Funlweb version 4.0 is worth the trouble to get.

Of course, various enhancements have come out over the course of Funnelweb Farm's development of the all-environment program. One thing which many users of Funlwriter don't know about is the feature in DM1000 for determining the type of program listed in a directory. After getting the directory, type FCTN and DM 1000 checks all programs and puts a "BX" by BASIC and Extended BASIC programs, and a "EA" by assembly programs.

The newest version of Funlweb (now called that instead of Funlwriter) has some long awaited improvements to TI Writer. One is in the speed of line-acceptance. In TI's release, and all subsequent revisions which principally added loaders and such, when typing at the end of a line in word wrap mode, if an incompleated word was wrapped to the next line, a letter might be dropped in the process if the typists speed was sufficiently rapid. An improvement has been made in the code which relieves this to some degree. A review I saw indicated that the author had never experienced the problem before anyway, since he was not that fast a typist. Because of my typing speed, I have always had the problem, and, in fact, even with the improvement TI Writer occasionally misses the letter I am typing when a word is wrapped. But it happens only about a third as much, or less, than before. The improvement is well worth getting version 4.0.

Another improvement shows up when you Show Directory from TI Writer. After the directory comes up, you may press a number key for the file you wish to load into the Editor, and upon returning to the Editor and selecting LF, your choice will be the default line. To restore the previous name, from the Directory hit "O," or to view a file, as with DM 1000, simply mark the file with a number, and hit "V". You can use this to refer to a related text file without having to lose what

you are working on at the present.
Nice!

Asterisks indicate fractured files in version 4.0. And here is one I have wanted for quite a while: pressing "P" from directory prints it to printer. In fact, if you will simply go to the Editor's PF function and enter "DSK1.DIRECTORY" (and print to disk any old file—even a blank line,) when you print your directory, the name in memory for PF will be the default for the directory, and will open in APPEND mode. (Be sure to change the PF default next time before saving another file, of course.)

Deletes are handled more easily (which also means more mercilessly) from the directory. Mark it and push "D". A right margin warning beep has been included. And Alpha case conversion can be done with a CTRL ;. Change a whole line from lower to upper by placing the cursor on the first character and holding down CTRL ;. Reverse the process by using CTRL . instead.

In FORMATTER, there are also a few additions: Printer device is changed by altering the load program with the CONFIG program. Formatter will display the last filename used or marked. Even when you have cut the computer off. Pressing FCTN 7 (AID) invokes a directory routine. Nice!

These are just SOME of the enhancements available on Funlweb 4.0. It is in the club library.

...Editor

Video Digitizer Update

by the Editor

For those of you in the Charlotte club in particular who have been following the saga of the incomplete Imagewise Video Digitizer, I provide this update:

Upon finally receiving the last part in the mail, an RS232 transmitter-receiver, (an extremely hard part to find around Charlotte for some reason) I inserted it and tested the board. Nothing. That made me suspect another part I thought was defective when I first got it out of its package: the clock oscillator crystal.

The clock oscillator crystal rattled when shook. Couldn't be right. Wasn't. Ordered from Jameco Electronics in California. Took two more weeks plus some to get a replacement. Put it in. Tried it out. Nada. That made me suspect one or two of the capacitors I had only been able to roughly match to the specifications. So far, not able to replace them.

All this suggests very strongly that whenever you buy a kit, unless you own a supply house, you are better off to get the parts with the board from the people who invented the thing.

Despite these tribulations, I am determined to have a working digitizer shortly, and am excited about what it will do. I have seen the results.

Steve Langguth, if you're out there, I surely wish you would call me at 704 563 0820. I just KNOW you could help.

TIP FROM KD

Our own intrepid K D Wentzel informs us that if any of us or our readers has the Jet Checkbook program, by John E. Taylors, there is an updated version of the reconciliation program for it, as well as a Quick Search Item routine and a Quick Balance routine. You can get a copy of the update from Dave by sending a disk and return postage to:

K.D. Wentzel
3454 Washburn Avenue
Charlotte, NC 28205-7027

LATE BREAKING AD - GEMINI 15 PRINTER, LONG CARRIAGE, BOTTOM FEED, TRUE PROPORTIONAL CHARACTERS. 100 CPS, MOST FEATURES OF GEMINI 10X EXCEPT RAM CHARACTERS AND QUAD DENSITY GRAPHICS. HAS SINGLE AND DOUBLE GRAPHICS, ALL STANDARD COMPRESSED AND EXPANDED FEATURES, TAKES SIMPLE SPOOL RIBBON. A STEAL FOR THE MONEY. PARALLEL INTERFACE. \$150.00. CALL ROBERT SIMMS, 704 563 0820.

