

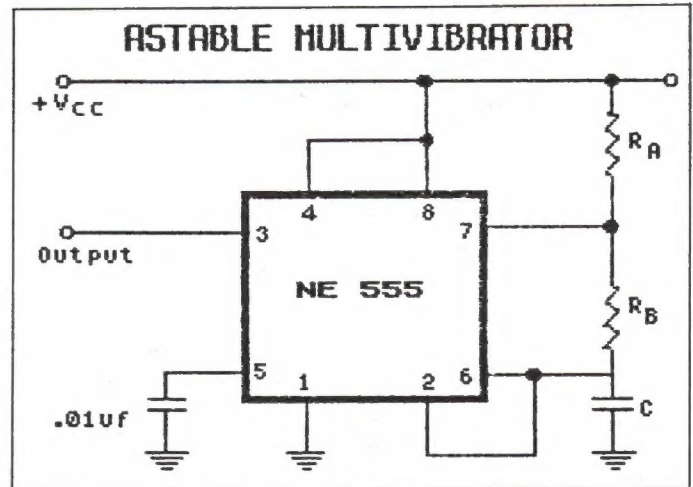
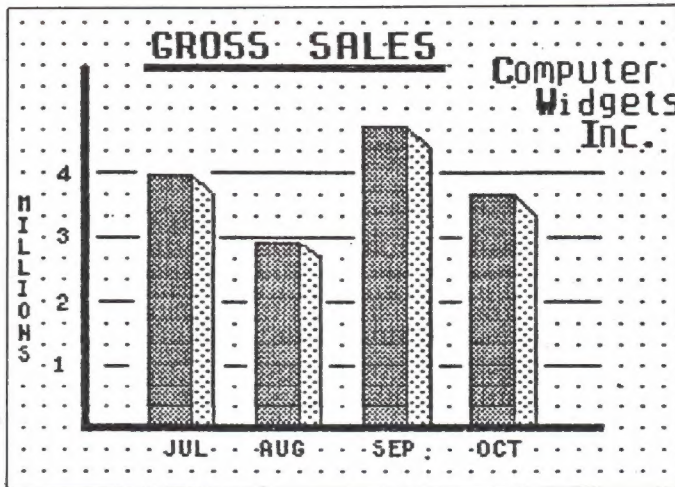
THE SINCLAIR/TIMEX USERS MAGAZINE

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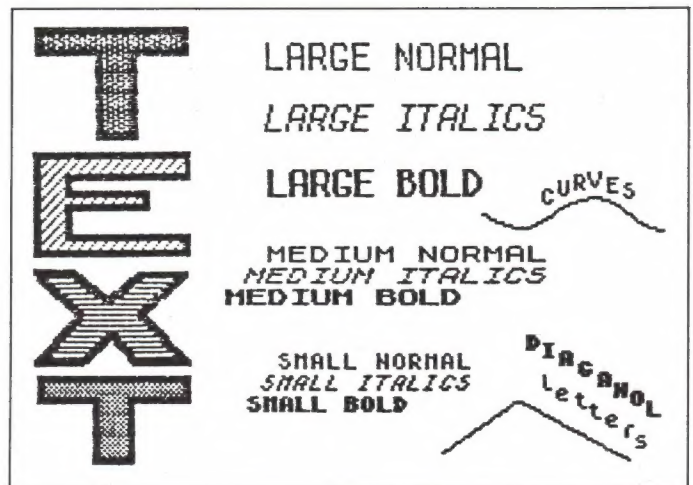
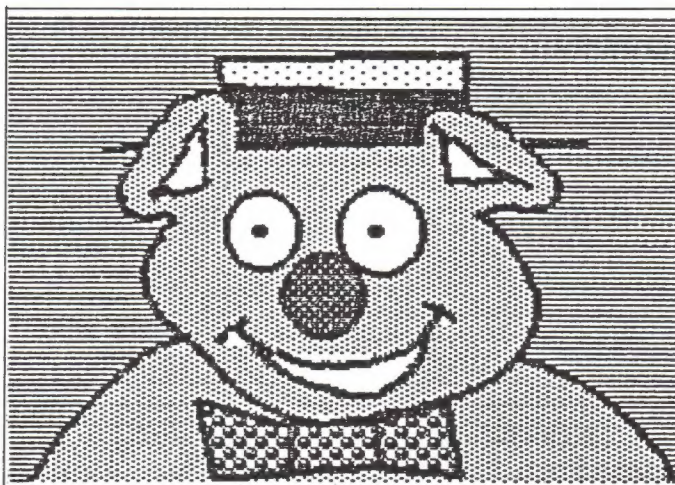
Volume III

AUGUST 1985

Number 8



Sample Printouts Generated by the Zebra Graphics Tablet using Tech Draw Software



Also inside: Telecommunication Tips, Sorting Utility, Fishing Software, and Gremlins--the Adventure!

Gainesville TUG Meetings

The Gainesville Timex Users Group has changed its meeting time and place. Meetings are now the third **Tuesday** of each month in the northeast classroom area of the **Crossroads Church** building located at 2720 SW Second Avenue in Gainesville. Meeting time is still 7:00 p.m. These facilities are somewhat larger than what we have used in the past and can accommodate a number of computer set-ups.

Anyone needing more information about the next meeting can call Joe Williamson at 904/462-1086 or Richard Cravy at 904/378-9000.



THE SINCLAIR/TIMEX USERS MAGAZINE

3224 Northwest 30th Avenue
Gainesville, Florida 32605
904/378-9000 or 462-1086 evenings

EDITOR Joe Williamson
PUBLISHER..... Richard Cravy
STAFF WRITERS Bill Woodward & John Monkus

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BACK ISSUES OF SUM AVAILABLE

The following back issues of **SUM Magazine** are available for purchase while the supply lasts. Back issues before this are no longer available except on a more expensive "photocopied" basis. To order, use or make a copy of the order form inside the back cover of this issue, check the appropriate square(s) and mail with a check to the address listed there. By popular request we have listed a **partial** "Table of Contents" for each issue.

January, 1985 — TS-2068 Printer Interface Hardware Project; Beginner's Programming, Part I; Sears RGB Monitor with TS-2068; More on Spectrum software running on modified TS-2068. 10 pages.

February, 1985 — February Vendor Report; TS-2068 Printer Interface, Part II; Beginner's Programming, Part II; Tasword II Improvements. 12 pages.

March, 1985 — Spectrum Plus Now in U.S.; TS-2068 Printer Interface, Part III; A & J Microdrive Review; SPECTAX85 Review; Beginner's Programming, Part III. 16 pages.

April, 1985 — Timex Portugal Coming; ZX Microdrive Interface for 2068 Announced by EMC; Tasword II on the A & J Microdrive; User-Defined Graphics for the TS-1000, Part I; Beginner's Programming, Part IV; Rocket Man Review; Using Aerco Interface with Spectrum Rom. 16 pages.

May, 1985 Special Issue — Publisher's Statement; Portuguese 2068 Computer and Disk Drive System Hands-On Evaluation; Rotronics Wafadrive Review; Convert Your TV into a Monitor; Pro/File 2068 Review; Zaxxon Review; User-Defined Graphics for the TS-1000, Concluded. 28 pages.

June, 1985 — The Consumer Electronics Show; 2068 Graphics Primer; Spectrum Plus Review; Keyboard Template for Tasword II Users. 20 pages.

July, 1985 — Computer Shopper Magazine; Hi-Res Graphics Utility for the TS-1000; Creating TS-2068 Character Sets; Reviewing Zebra Talker; Monitor Output for TS-1000/1500.

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The Zebra Graphics Tablet: A Review

The Zebra Graphics tablet is a hardware and software combination using the popular Koala Pad graphics tablet--the same type used with Radio Shack, Apple, Commodore, and other computers.

The hardware portion consists of an I/O board with two integrated circuits, a few resistors and diodes, and two sockets into which the Koala Pad is plugged.

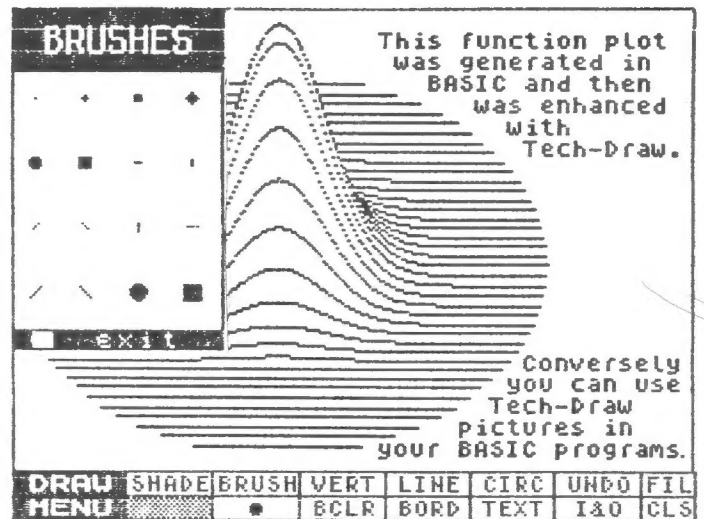
The Koala Pad has a pressure sensitive surface in the shape of your TV screen which can convert the touched portion of this surface to computerese which tells the 2068 where to draw on the TV screen. A special stylus comes with the pad, but any blunt object (even your finger) works well. Two buttons are also provided for screen control (such as writing or erasing). The drawing surface itself is 4.25" by 4.25". The entire unit is slightly larger than the 2040 printer.

The important part is the software. This is where the control comes in. The package is supplied with Zebra Painter. Zebra Painter takes the information sent from the Koala Pad and allows you to draw on the screen with the colors of your choosing. You can also give coordinates to make circles and straight lines.

Of the two control buttons, one is used for draw/erase, and the other is for command/select. You can choose what button does what with the "LEFTY" command. The screen commands are made by positioning the drawing stylus such that the corresponding pointer on the screen is over the command word and pressing the command /select button.

The keyboard commands are activated by positioning the screen pointer over the extreme right side of your menu and press the command/ select button. You are then prompted with "COMMAND?" So you type it in on the keyboard. Keyboard commands include: COPY screen to 2040 printer, CLS, WRITE text on screen, LEFTY button swap, STORE active screen to inactive screen, RESTR inactive screen to active screen, EXCHG inactive & active screens, SAVE screen to tape, and LOAD screen from tape.

You can choose any color INK, PAPER, and BORDER colors with screen commands and change them at any time. You have two sizes you can draw with, PEN is one dot



wide and high and BRUSH is five dots wide and high. Precision drawing can be accomplished by setting two points and selecting the LINE command which draws a straight line between the two defined points. Circles can be drawn by defining the center and edge. Directional drawing can be vertical only, horizontal only, or both.

Zebra Painter worked well and was easy to use. I found that I had the best control over the drawing by pressing the pad with the stylus perpendicular to the pad and don't rest any part of your hand on the surface (it may confuse it).

This article is really more of a software review of the different software packages available for the Zebra Graphics tablet. I also got Tech Draw and Zebra Circus Coloring Book. Tech-Draw is the program to get!

Tech-Draw was inspired by Apple's MacPaint for the Macintosh computer. Like MacPaint, Tech-Draw works in black and white, so what you see on your TV screen is what you get on your printer. Tech-Draw provides up to 35 black and white shades and patterns which gives you resolution to one pixel.

Tech-Draw can be printed out on either a large sized printer (with Aerco or Tasword interface), or the TS-2040. Copies to the large printer can be screen size or turned sideways to fill up a whole 8 1/2 by 11 sheet of paper.

Pop-up menus are given when choosing

shades and patterns or brush sizes and shapes (16). A FILL command is provided to fill in enclosed areas with the current shade or pattern. The shade and brush type can be changed at any time. Text can be mixed in with the graphics in three sizes and fonts (normal, italics, or bold). The current setting is always given in the sample box. The UNDO command allows you to undo the last segment done.

The different options are selected by positioning the pointer over your choice and pressing the select button. The commands listed in the ZebraPainter section are also available in Tech-Draw but everything except text is entered from the graphics tablet itself.

I found Tech-Draw more enjoyable to use than ZebraPainter. To satisfy my own curiosity, and to test out the features of Tech-Draw, I took a picture of a cat and cut it down to fit the face of the cat on the drawing surface and traced it onto the screen! It worked remarkably well, when you consider that I am no artist.

You can see from the sample that the face was widened when transferred over, but other than that, it traced very well. I used as many of the different paint brushes and shades as I could to aid me in enhancing the drawing.

The manual which comes with Tech Draw is very informative and contains many ideas and sample pictures. Uploading and downloading information for the modem is also given.

The third program I got for use with the graphics tablet was Circus Coloring Book which is just a fun program in which you go through and color in different pictures as you would with a regular coloring book.

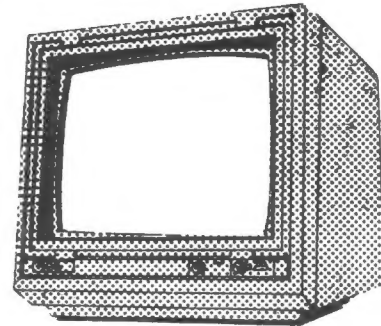
At first I wasn't all that excited about the system; I just didn't see any use for it. But after I used Tech-Draw for awhile and made the cat and a few other drawings and discovered how easy it was to draw, I became very impressed and can see all kinds of uses for it! Other than not having a full 2068 edge connector feed-through, I have really no complaints.

Once again, this works the same no matter what computer its on. The software is what makes it work so well. The software (particularly Tech-Draw) is very professional and puts this system in the same league as say the MacPaint series for the Apple, Speaking of Apple, it would be nice if a mouse could be used with this

interface as well. Rumor has it that one is being developed for the Spectrum in England.

Available from: Zebra Systems, Inc.,
78-06 Jamaica Ave, Woodhaven, NY 11421
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COLOR MONITOR



\$179⁹⁵

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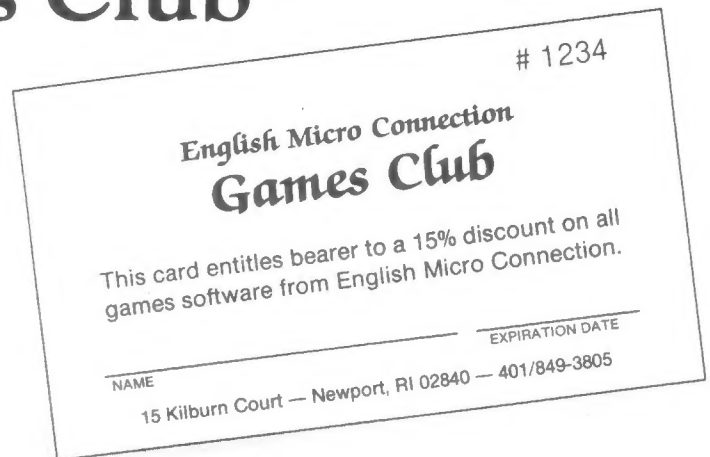
SUM Magazine has available for sale 3 Color Computer Monitors which were only used as Dealer Demos. These monitors are fully compatible with the Timex 2068 Computer, and use your present monitor output and cable. Our selection includes a Texas Instruments 11", a Amdek Color I 13", and a NECJB1215 Color 12". We have used every one and they are in perfect colorful working order. Being demos they lack their original boxes and manuals. Current retail on these monitors is \$300 to \$400 each, with even mail-order discounters asking \$220 or more.

These monitors have color and resolution exceeding most TVs and there is never any RF interference. Games and other software comes to life! However, resolution is not sufficient for 64 column mode. **As they are sure to go fast, call for availability. Our prices include shipping in the U.S.A.**

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Fish Locator

A unique use of the Timex computer: tells you when, where and how to catch more fish!

SUM Magazine has received many different programs for review. One of the most original is Fish Locator.

Fish locator is a program that will analyze the fishing environment in your area from the date, weather, and coordinate information you supply and give you a comprehensive summary of the day's overall fishing prospects. You are also provided with two major and two minor solunar fishing periods and the exact sunrise and sunset times for the date requested.

Fishing for specific species is provided for Bass, Walleye, and Northern Pike. Another section covers the use of baits and how to choose the right bait for the type of fishing you plan to do.

You can also go back and repost your conditions along with a different longitude and latitude for a different locale. Fishing times for the whole month can also be printed on the screen or to the 2040 printer.

```

          Fish Locator
        Today's Prospects
-----
CONDITION          OUTLOOK
WIND SPEED 0-5 mph Fair
WIND DIR West Good
BAROMETER Steady Fair
WATER Clear Poor
SKY Lt Overcast Good
MOON PHASE 1/4 Fair
WATER TEMP 71-75 Good
TEMP TREND Steady High Good
PERIOD Summer peak Good
OVERALL PROSPECTS Fair
Solunar Lat 29.38 Long 82.19
Times A.M. (DST) P.M.
Jul Minor Major Minor Major
21 04:49 11:05 05:20 11:35
1985 Sunrise 06:41 Sunset 08:27

```

Fish Locator General Tips for Today

Use darker colored baits today

Fish feeding/schooling! This is
the best time to fish!

--> Calm days=quiet boating! <--
--> Surf lures/shallow wtr! <--

Spinnerbait Tips

1/4 oz spinner w/#4 nickle blade
w/flash is best for buzzing!

Use 3/16 oz in shallow water

Use 1/2 & 1 oz in deeper water!

Blade should whirl just above
hook point w/o touching it!

Try using #5-#8 willowleaf blade
with 3/8-5/8 oz leadhead!

The program has a built-in directory of 75 cities in the U.S., Canada, and Alaska to provide you with accurate coordinates if you do not know them yourself. It comes pre-programmed with the coordinates of your area.

lastly, the program contains specific suggestions for using the three most common lures, i.e., spinnerbaits, crankbaits and artificial worms.

When the program comes up running, you are asked if the pre-programmed longitude and latitude coordinates are to be used or not. If not, you are given the choice of coordinates of 75 cities to select from, or you can enter your own exact coordinates. Next you are asked to enter the date and weather conditions: wind speed, wind direction, temperature trends, water surface temperature, current barometric trends, current weather trends, and water clarity.

Fish Locator then computes the day's outlook figuring the overall outlook along with the day's solunar times and sunrise & sunset. At this point, you can get a hard copy on the printer or continue. When you continue, you get suggestions on where and how to fish for the given conditions, using different techniques and lures.

Next you are shown a main menu. From this you can choose:

- 1 Today's Prospects
- 2 Select a Species

- 3 Repost Conditions
- 4 Fishing times this Month
- 5 Select a Bait

Choosing Today's Prospects (1) gives you what was just described. Select a Species gives you specific tips on how to fish for Northern Pike, Bass, and Walleye. Repost Conditions takes you back to the beginning and lets you change all your variables.

Fishing Times This Month gives you a summary of all the solunar times for the month in question along with the full and new moon. The last choice is Select a Bait which gives you all kinds of hints on how to use some of the more popular lures with tips on what color to use and types of water conditions to use them under.

Although I'm not an avid fisherman, I can see that this is a valuable tool in helping someone who is. It has been long known that the changing of the tides and the phases of the moon have had an effect on fish (and animals). And now formulas have been perfected to calculate when they have the most effect over them, causing them to seemingly lose much of their

natural caution. With this program, you should be able to coordinate your fishing times with those of the solunar peaks and greatly enhance your fishing success.

The program is well-written and has plenty of error trapping routines so as to almost make it idiot proof. The program is chocked full of information, although I would like to see it cover more than just the named species and lures. I personally am planning a trip the end of July and expect to do some fishing, with the help of this program. I think it will help. The documentation is good and states that the program has been field tested for two years.

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-- Joe Williamson

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The Wafadrive is a complete system which contains the micro interface, two 128K drives, RS232 and Centronics ports, all in one attractively-styled, compact unit. There is a minimum of connecting leads and no extra boxes to clutter the desk top. Like the majority of professional systems, the units are dual drive. This offers the optimum balance between system flexibility and cost. Built-in serial and parallel interfaces allow the direct connection of just about any popular printer.

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The Wafadrive achieves very fast loading and saving, but not at the expense of reliability. Extensive research and the use of high grade materials ensure that the Wafadrive will give years of dependable operation. Data integrity is on a par with floppy disk. The fully inter-

changeable wafers are available in three sizes—128K, 64K and 16K. Low capacity wafers give faster access. They are therefore most suitable for program development applications. The high capacity wafers are suitable for more general data storage. Loading rate is approximately 2K per second—almost twice as fast as similar products.

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MTERM (Smart II) Telecommunications

— HINTS & TIPS —

The MTERM Smart II telecommunications program for the Timex/Sinclair 2068 personal computer is a fine value. This software package exceeds the capabilities of many terminal programs far exceeding it in cost. And because of MTERM's wide versatility, its users are still uncovering more secrets of its power.

In these few pages are included hints and tips as part of an addendum to my manual entitled, "Timex Sinclair Smart Terminal Telecommunications". These additional insights are a compilation obtained from the users of Smart II software and the author's experiences.

The following SMARTIPS are from Randy & Lucy Gordon of the Timex/ Sinclair Users Group, Cincinnati, Ohio:

* To get a file from a BBS you first need to set your conversion to none. Toggle your Buffer to open. Take in a file, then close your Buffer. Next, escape to Basic. The file should be saved like a normal Basic program with SAVE "filename". You will need the modem software to read this file later.

* To view the file that you just saved to tape, you must first LOAD the terminal software, escape to BASIC and LOAD "filename": PRINT USR 54016. This will return you to the terminal program with Buffer loaded. You must go to the Data Buffer menu to view or print the file. In view mode the spacerbar toggles the scrolling (on/off).

* To receive a BASIC file from another Sinclair user, you must both be in HEX conversion. Normal system setup (you may want to go to half duplex). Close the Buffer, escape to BASIC, and SAVE "filename". NOTE: Anything after VARS isn't transmitted (Buffer END=VARS). This means that any invisible variables are lost unless VARS is "moved" to accommodate the program variable stack. You must POKE VARS, E LINE. To do this you must PRINT PEEK 23641 + 256* PEEK 23642(E LINE), take the value and POKE it to 23627/23628 (VARS). You can call programs back into

the computer like any other Basic file with LOAD "".

* To send a Basic file, first be sure it will fit in your Buffer. If you cleared you will get out of memory error if the file is larger than the Buffer area (26710-54016), give or take a few bytes. Get into the terminal mode and then go to the Data Buffer menu. Press T for Transmit. At the bottom of the screen the menu Prompt Screen will appear; press enter. Next, Character Delay will appear; again press Enter. Enter again to take you to the Main Menu. Press Enter one more time to begin transmission. If you are in Half Duplex you will see what you are sending echo back to your screen. When XMIT is finished you may do normal pick-up.

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* To receive a machine code listing the set-up is the same as the Basic file, except when you escape to SAVE to tape. The BASIC editor will appear as though it has "crashed". (INVALID COLOR or NONSENSE IN BASIC, ect.). Ignore this garbage and SAVE "filename" CODE 26710, (the number of bytes in the Buffer). Then you must Load it back into the computer with Load "filename" CODE (proper or normal address), (number of bytes).

* To send a machine code program to another Sinclair user you must first POKE VARS, (53016) to leave room for Basic overhead. POKE 23627, 24: POKE 23628, 207. This gives a large Buffer to load Basic in. Then you Load "machine code" CODE 26710:PRINT USR 54016. You must be in HEX conversion. XMIT same as any other file.

* If by chance you can't get the dialtone of your phone back, a 2050 modem relay may be stuck open. Go to the main menu, press §E¶ to exit to Basic and enter WITHOUT line number OUT 119, 0.

* Some Bulletin Boards will not accept a CTRL-R or CTRL-T to open/close the buffer remotely. An alternative is to enter CTRL-S to stop transmission, then return to the Buffer menu and toggle the Buffer open or closed as required.

* MTERM patches for both TASMAN and AERCO parallel print interfaces are available for download from the Timex Bulletin Board on Zebra Systems. PHONE: (718)296-2229.

* One method of fixing all keyboard entries to upper case is to go to XLATE table §K¶ and change all lower case to upper case. These values can also be saved.

* The Bulletin Board SYSOP can read all your messages, even private ones. If you still want more privacy, how about sending ciphertext or cryptogram messages? The Smart II XLATE tabels facilitate enciphering a message, and the recipient to decipher it (provided they have the key algorithm). The folowing elementary example illustrates the principle involved:

Rotate the alphabet counter-
clockwise by three letters,
so that A=D, B=E, C=F,.....,

X=A, Y=B, ect. Where = de-
notes "replaced by" as in
Basic programming.

If you send the PLAINTEXT
message,

TIMEX IS GREAT

The CIPHERTEXT would be

WLPHA LV JUHDW

To do this, change XLATE table §K¶ so all keyboard entries will then be sent in ciphertext. The recipient can read the encrypted message by going to XLATE table §I¶ and changing it to the reverse, i.e., D=A, E=B, X=A, ect

* The Sinclair Basic commands IN and OUT operate by port command assignments (e.g. the assignments for the 2050 modem are 119 and 115 decimal). Using these commands you can program the 2068 in Basic to Autodial/Auoanswer thru the 2050 modem. Using the same procedure, you can program to redial, dial a sequence of phone numbers, etc. The following list of OUT command meanings is for reference:

OUT 119,0 - Hang up phone.
OUT 119,1 - Stop carrier
tone; do not hang up phone.
OUT 119,2 - Start carrier
tone.
OUT 119,3 - Open modem
relay contacts.
OUT 119,4 - Close modem
relay contacts.
OUT 119,31 - Take phone off
hook for dail tone.
OUT 119,34 - Start carrier
tone.

A typical application is programming a 5 cycle loop containing OUT 119,3 and OUT 119,4 in sequence. This would be the equivalent of dialing the number 5.

* The following list of popular Bulletin Boards have Timex/Sinclair coverage:

Zebra Systems (718)296-2229 NY Omni-net
(718)837-2881 NY Compuserve Go PCS 54 OH
Micro-Systems (305)832-2503 FL River
Cities (304)652-1416 WV Serial Port
(313)286-0145 MI -- Barry Carter

EDITOR'S NOTE: Barry's MTERM II manual is available for \$6.50 at BOX 614, Warren, MI 48090.

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Gremlins, the Adventure

First it was on the movie screen and now it has made its way to your monitor screen. GREMLINS, THE ADVENTURE is a graphic/text adventure of the highest caliber for the Spectrum from Adventure International. It has made the most of the graphic capability of the machine and provided a most amusing entertainment for the whole family.

I had not at this point had any exposure to any of the adventure type game programs for the computer and I find this one a most pleasant introduction. Requiring logic and a bit of skill, this is a change from the shoot and run variety of arcade games that most associate with computer games.

The task at hand here is to rid the town of Kingston Falls of Gremlins which threaten to overrun it. If you have seen the movie, it might help, but it is not necessary.

At this point I (with the help of the rest of the family) have found 27 graphic locations and 6 text locations and elimi-

nated a few Gremlins...but Kingston Falls is not safe yet.

The use of graphics in the program is outstanding. It is clearly an amazing feat in itself to fit this much in 48K and still have enough left for a good adventure. The icing on the cake is the use of animation in many of the scenes.

On the text side, the ability to accept more than one command per entry can speed the game along a bit once you begin to find your way around. Then if you find your mind and fingers growing weary, you have the option to save the game in progress to tape for continuation at a later time.

REMEMBER...Don't let the Gremlins get wet...they don't like light...and never feed them after midnight!

GREMLINS is a lot of fun and I recommend it for first time adventurers and veterans as well; even my brother-in-law who is an Atari 800XL owner admitted that he was impressed.

Gremlins is available from the English Micro Connection, 15 Kilburn Court, Newport, RI 02840. The price is \$13.95 + \$1 for postage.

-- Jack Keene

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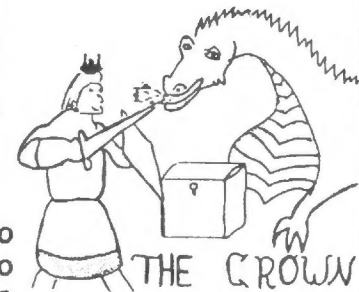
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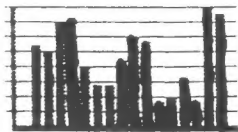
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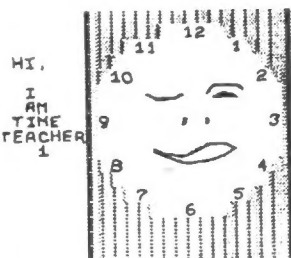
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Time Teacher 1

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Unisort a sorting program you can incorporate into your own programs

"UNISORT" is a universal sort program. It will do numeric as well as alpha sorts. It is a utility program in that it has no defined areas - they must be entered. The program receives input to sort from tape and will output the same. Sorted data is saved in K\$. The only holds are:

- a. Max columns to sort is 32
- b. Program uses 2056 bytes
- c. Sort output will be in this order:
 Numeric
 Cap Alpha
 Sm Alpha
- d. File name max 6 chars.

Type program in just as shown. For tape save of program, enter GOTO 9000 (will save three times) then rewind tape and verify.

Load program as "UNISORT". Once loaded, enter RUN and answer the prompts.

1st enter ROW count - if the array is DIM(ed) (100,30), ROW count is 100.

2nd enter COLUMN count - if an array is DIM(ed) (100,30), COLUMN count is 30

3rd enter END sort column - if area to be sorted is columns 10 to 18, END column is 18.

4th enter BEG sort column - if area to be sorted is columns 10 to 18, BEG column is 10.

Next request will be to enter array file name - max 6 positions.

Note: at the end of the sort, a prompt will ask if you want to SAVE or PRINT. PRINT will scroll the the sorted columns in sequence on the screen till done and then return to the prompt. Each save is done three times.

-- S. Page Emory

```

1 REM "Universal Sort - #/ALP
ha"
5 CLS : PRINT "SORT-EMORY"
10 PRINT "Enter ROW count T."
: INPUT a: PRINT AT 1,25;a
15 PRINT "Enter COLUMN count T
C.": INPUT b: PRINT AT 2,25;b
18 PRINT "Prog. max 32 Column
Sort"
20 PRINT "Enter End Sort Colum
n": INPUT c: PRINT AT 4,25;c
25 PRINT "Enter Beg Sort Colum
n": INPUT d: PRINT AT 5,25;d
28 PRINT "Sort output will be
in order by NUMERIC-ALPHA"
30 PRINT "If input is correct
then          press 1 if not press
2"
35 IF INKEY#="1" THEN GO TO 10
@
40 IF INKEY#="2" THEN GO TO 5
45 GO TO 35
100 CLS : PRINT "Enter 6-pos fi
le name or less": DIM F$(1,6): I
NPUT F$(1)(1 TO 6): DIM K$(a,b)
105 CLS : PRINT "Load file-read
y-press enter": PAUSE 32800: CLS
110 LOAD F$(1)(1 TO 6) DATA K$(
)
115 PRINT "File Loaded-Press En
ter": PAUSE 32800: CLS : GO TO 1
000
130 PRINT "Load Recorder w/Blan
k tape          will save twice-pres
s enter": PAUSE 32800: CLS
135 SAVE F$(1)(1 TO 6) DATA K$(
)
140 PRINT "Rewind tape for VERI
FICATION          press enter when rea
dy": PAUSE 32800: CLS

```

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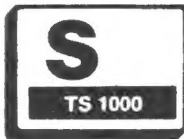
145 VERIFY F#(1) (1 TO 6) DATA K
#(): VERIFY F#(1) (1 TO 6) DATA K
#()
150 PRINT "Verification of sort
completed": STOP
1000 DIM X$(a,b): DIM Y$(1): DIM
P$(1,32): CLS
1010 LET e=c-d: LET e=e+1
1015 LET q=c
1020 CLS : LET w=31
1021 LET w=w+1
1023 IF w<33 OR w>47 THEN GO TO
1026
1025 GO TO 1021
1026 IF w<58 OR w>64 THEN GO TO
1028
1027 GO TO 1021
1028 IF w<91 OR w>96 THEN GO TO
1030
1029 GO TO 1021
1030 PRINT AT 1,17;w;" ";CHR# w
1031 IF w=123 THEN GO TO 1080
1035 LET Y#=CHR# w
1040 FOR n=1 TO a
1041 IF K$(n)(d TO c)=P$(1) (1 TO
e) THEN GO TO 1050
1045 IF K$(n)(q)=Y# THEN GO TO 1
050
1050 NEXT n
1055 GO TO 1021
1060 FOR m=1 TO a
1065 IF X$(m)(d TO c)=P$(1) (1 TO
e) THEN LET X$(m) (1 TO b)=K$(n)
(1 TO b): GO TO 1050
1070 NEXT m

```

```

1075 CLS : PRINT "Run ERROR-Rest
art Fr Beg.": STOP
1080 DIM K$(a,b)
1085 FOR n=1 TO a
1090 LET K$(n) (1 TO b)=X$(n) (1 T
O b)
1095 NEXT n
1100 DIM X$(a,b)
1105 LET q=q-1
1110 IF q=d-1 THEN PRINT "Sort E
nded-Press Enter": PAUSE 32800:
CLS : GO TO 2000
1115 GO TO 1020
2000 CLS : PRINT "Press 1 to SCR
EEN Prt Sorted Columns or 2 t
o SAVE File"
2005 IF INKEY#="1" THEN CLS : GO
TO 3000
2010 IF INKEY#="2" THEN CLS : GO
TO 130
2015 GO TO 2005
3000 CLS
3005 FOR n=1 TO a
3010 PRINT K$(n) (d TO c)
3015 NEXT n
3020 PRINT "Print Ended-Press En
ter": PAUSE 32800: CLS : GO TO 2
000
9000 SAVE "UNISORT": SAVE "UNISO
RT": SAVE "UNISORT"
9005 PRINT "REWIND-press enter":
CLS
9010 VERIFY "UNISORT": VERIFY "U
NISORT": VERIFY "UNISORT"
9015 LIST

```



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