YESTERDAY'S NEWS

30 Years Ago...

Historical Information taken from Bill Gaskills TIMELINE

September 1990:

MICROpendium publishes V7N8 consisting of 40 pages.

Comprodine (COmputer PROgrammer's DIstribution NEtworK) owner Rodger Merritt and associate Steve Mehr release the Fall 1990 catalog containing:

Artist Catalog by Paul Coleman (1990)
Artist Printshop by Paul Coleman (1989)
BacKsteine by Quinton Tormanen (1990)
Bingo by Rodger Merritt (1987)
Border MaKer by Paul Coleman (1990)
Card/Flyer Graphics by Rodger Merritt (1989)
Cards 4ALL Occasions by Rodger Merritt (1989)
Certificate 99 by Great LaKes Software (1987)
Certificate 99 Companion 1 by Great LaKes Software (1987)
Certificate 99 Companion 2 by Great LaKes Software (1988)
Certificate 99 Graphics Companion by William Nelson (1990)
Class by William Harms (1988)
Color Card by Rodger Merritt and Adrian Robinson (1989)
Color Flyer by Rodger Merritt and Adrian Robinson (1989)
CSGD Graphics by William Nelson (1990)
Extended Business Graphs by Great LaKes Software (1985)
Form Shop by Rodger Merritt, Steve Mehr and Gene Bohot (1988)
Giant Artist Posters by Paul Coleman (1989)
Jiffy Card by Rodger Merritt (1989)
Jiffy Flyer by Rodger Merritt (1989)
Joypaint 99 by Great LaKes Software (1986)
Joypaint 99 Clip Art DisK #2 by Great LaKes Software (1987)
Joypaint Pal by Great LaKes Software (1988)
Living Tomb by Quinton Tormanen (1989)
Picture It by Rodger Merritt (1987)
Pixease by Rodger Merritt (1990)
Print It+ by Rodger Merritt (1986)
Reminders by William GasKill
War Zone by Quinton Tormanen (1989)

GEnie announces a $4.75 monthly fee for use if its on-line information services. The fee is to taKe effect October 1st.

Compuserve announces the creation of a support library for Page Pro 99 files similar to the GEnie TI Roundtable support that began on GEnie in September 1989. Texaments releases GIF Mania, a Barry Boone authored program for displaying and altering GIF images on a TI-99/4A.

Tom Freeman of T and J Software, Pacific Palisades, California releases HARDBACK , a utility for bacKing up one hard disK drive to another hard disK drive.

The Southwest 99ers Computer Group is featured on Arizona Illustrated, a television show broadcast by KUAT-TV, the PBS station at the University of Arizona.

Bruce Harrison of Harrison Software announces the release of Golf Score Analyzer, a program aimed at letting golfers tracK performance for up to 300 rounds of golf.

Seattle TI Convention taKes place September 22nd in Redmond, Washington.

Bill GasKill releases Pageform newsletter editor and formatter for Page Pro 99. The program is submitted as Public Domain software.

Asgard Software releases nine volumes of Page Pro 99 templates including; Birthday Cards 1 & 2, Get Well Cards 1 & 2, Assorted Cards 1, 2 & 3, Invitations 1 and Envelopes 1.   YN

LOOK LOOK LOOK

TI CLASSROOM

TIPS FROM THE TIGERCUB NUMBER 16
By Jim Peterson

In The last Tips, I mentioned that I wished I Knew who to credit for that remarKable routine to redefine the cursor. Dave Peden has written me that credit should be given to Terry L. AtKinson of 28 Savona Ct., Dartmouth, NS B2W 4R1 CANADA.

And I would liKe to strongly recommend that you support the 99'ers Users Group Association, 3535 So. H st., #93, BaKersfield CA 93304. They are a strictly non-profit group, devoting a lot of time and effort to helping us all, and they publish a great newsletter..

Every Tips must include a bit of music, and my grandson has requested that I pass this one on to all other two-year olds.

```
100 !ALPHABET SONG - by Jim
Peterson
110 DIM N(21)
120 CALL MAJORSCALE("C",N())
130 CALL SCREEN(5):: DISPLAY
 AT(24,1)ERASE ALL:"READY -
TYPE THE ALPHABET" :: CALL M
AGNIFY(2)
140 CALL KEY(3,K,ST):: IF (S
T(1)+(K<65)+(K>90)THEN 140 :
: CALL SPRITE(#1,K,16,96,120
):: IF K=87 THEN GOSUB 220 E
LSE GOSUB 200
150 IF (K=90):(FLAG=0)THEN 1
60 ELSE 140
160 FLAG=1 :: M$="C115566D5C
443322D1" :: T=150
165 FOR J=1 TO 18 :: CALL SP
```

```
RITE(#J,64+J,INT(11:RND+6),9
6,128,J:5,J:5)
170 X=ASC(SEG$(M$,J,1)):: IF
 X>58 THEN T=150:(X-64):: GO
TO 190
180 X=X-48 :: CALL SOUND(T,N
(X),0)
190 NEXT J :: FLAG=0 :: CALL
 DELSPRITE(ALL):: GOTO 140
200 Y=VAL(SEG$("115566544332
22215543325332",K-64,1))
210 CALL SOUND(500,N(Y),0)::
 RETURN
220 CALL SOUND(500,N(5),0)::
 CALL SOUND(500,N(5),5):: CA
LL SOUND(500,N(4),0):: RETUR
N
230 SUB MAJORSCALE(K$,N())
240 F=VAL(SEG$("110123131147
165175196",POS("ABCDEFG",K$,
1):3-2,3))
250 C$="10101101010110101101
0101101011010101"
260 FOR J=1 TO 36 :: IF SEG$
(C$,J,1)="0" THEN 280
270 X=X+1 :: N(X)=F:1.059463
094~(J-1)
280 NEXT J :: SUBEND
```

Lines 230-280 of that routine are an example of the Kind of handy-dandy subprograms you will find on my Nuts && Bolts disK.

We haven't had a Tigercub Challenge for some time, so-

How can you store a hundred or more values of any size, positive or negative, integer or non-integer, even in exponential notation, without dimensioning an array or opening a file?

program to another by a RUN statement, thereby losing all data, and recover those values? Yes, I Know you can save them on the screen and read them bacK, but can you find a better way?

Here's a little demo program of how motion can be created by the repetitive redefinition of characters. I call it ETERNITY.

```
100 CALL CLEAR :: CALL SCREE
N(2):: CALL COLOR(1,16,1)::
CALL CHAR(33,"",34,"",35,"",
36,"")
120 FOR R=1 TO 12 :: CALL HC
HAR(R,R+4,33,26-R:2):: NEXT
R
150 FOR R=13 TO 24 :: CALL H
CHAR(R,29-R,34,(R-12):2):: N
EXT R
180 FOR C=5 TO 16 :: CALL VC
HAR(C-4,C,35,34-C:2):: NEXT
C
210 FOR C=17 TO 28 :: CALL V
CHAR(29-C,C,36,C:2-33):: NEX
T C
225 FOR J=0 TO 7 :: A$(J+1),
B$(8-J)=SEG$("00000000000000
",1,2:J)))"FF" :: NEXT J
230 C$(1),D$(8)=RPT$("80",8)
:: C$(2),D$(7)=RPT$("40",8):
: C$(3),D$(6)=RPT$("20",8)::
 C$(4),D$(5)=RPT$("10",8)
240 C$(5),D$(4)=RPT$("08",8)
:: C$(6),D$(3)=RPT$("04",8):
: C$(7),D$(2)=RPT$("02",8)::
 C$(8),D$(1)=RPT$("81",8)
250 FOR C=2 TO 15 :: FOR J=1
 TO 8 :: CALL CHAR(33,A$(J),
34,B$(J),35,C$(J),36,D$(J)):
: NEXT J :: CALL SCREEN(C)::
 NEXT C :: GOTO 250
```

Next, I would liKe to share with you a gem of a "why didn't I thinK of that" routine which John Taylor sent me.

```
100 ! 28 COLUMN TEXT ROUTINE
IN EXTENDED BASIC (EASILY
CONVERTED TO BASIC) BY JULIE
PACK, B.U.G., P.O. BOX 1402
PALM BAY, FL 32906
110 ! ENHANCED BY JET
SHOALS 99'ERS, P.O. BOX 2928
MUSCLE SHOALS, AL 35662
120 CALL CHAR(64,"00282828")
130 ! PROGRAM TO COPY STARTS
    HERE
140 CALL CLEAR :: X=-1
150 RESTORE
160 IF X>=21 THEN X=1 :: CAL
L WAIT
170 READ MESS$
180 IF MESS$="P" THEN DISPLA
Y AT(X+2,1):Z$ :: X=X+4 :: Z
$="" :: GOTO 160
190 IF MESS$="ZZZ" THEN DISP
LAY AT(X+2,1):Z$ :: CALL WAI
T :: END
200 IF LEN(Z$)>0 THEN MESS$=
Z$)" ")MESS$
210 X=X+2
220 IF X>=21 THEN X=1 :: CAL
L WAIT
230 IF LEN(MESS$)<29 THEN DI
SPLAY AT(X,1):MESS$ :: Z$=""
 :: GOTO 160
240 FOR A=1 TO 29
250 I=POS(MESS$," ",A)
260 IF (I=0 OR I>29)AND A=1
THEN A,J=29 :: GOTO 290
270 IF I=0 OR I>29 THEN A=29
 :: GOTO 290
280 J,A=I
290 NEXT A
300 IF X>=21 THEN DISPLAY AT
(X,1):SEG$(MESS$,1,J-1):: X=
-1 :: CALL WAIT :: GOTO 320
310 DISPLAY AT(X,1):SEG$(MES
S$,1,J-1)
320 IF SEG$(MESS$,J,1)=" " T
HEN I=1 ELSE I=0
330 Z$=SEG$(MESS$,J+I,163)::
 MESS$=Z$ :: IF LEN(Z$)>28 T
HEN X=X+2 :: GOTO 240
340 GOTO 160
350 DATA "THIS SHORT ROUTINE
 WILL ENABLE YOU TO WRITE LO
NG TEXT MATERIAL IN YOUR DAT
A STATEMENTS SO YOU WON'T HA
VE TO WORRY ABOUT COUNTING"
360 DATA "THE LENGTH OF YOUR
 SENTENCES ALL THE TIME.  TH
IS ROUTINE WILL AUTOMATICALL
Y EDIT YOUR TEXT TO FIT A 28
 COLUMN SCREEN."
370 DATA "A SUGGESTION- IT I
S A GOOD IDEA TO PUT A QUOTE
 AT THE BEGINNING AND END OF
 THE DATA STATEMENTS SO YOU
```

WON'T HAVE TO WORRY ABOUT"
380 DATA "COMMAS LIKE THIS ,
,, AND THEY WILL REMAIN IN Y
OUR TEXT PROPERLY."
390 DATA "THIS ROUTINE WILL
ALSO CLEAR THE SCREEN (WHEN
FILLED) AND CONTINUE READING
 YOUR DATA AND DISPLAYING YO
UR TEXT ON THE NEXT SCREEN."
400 DATA Pterson
410 DATA " TO START A NEW P
ARAGRAPH ENTER THE LETTER (P
(AS A SEPERATE DATA STATEME
NT, THEN INDENT YOUR TEXT ON
 YOUR NEXT NEXT DATA"
420 DATA "STATEMENT 2 OR 3 S
PACES (IF DESIRED).",P,"TO S
KIP LINES,",P,"JUST ENTER (P
(",P,"WHERE EVER YOU WANT TO
",P,"SKIP."
430 DATA P,"MAKE SURE THAT Y
OUR VERY LAST DATA STATEMENT
 IS (ZZZ(, AND JUST REPLACE
THESE DATA STATEMENTS WITH"
440 DATA "YOUR OWN.",P,"YOU'
LL ALSO FIND THIS ROUTINE IS
 MOST USEFUL WHEN CONCATENAT
ING STRINGS, E.G., (ELIZA(T
YPE PROGRAMS-",P
450 DATA "AN EXAMPLE:",P,"A$
=(JACK AND JILL WENT UP(","B
$=(THE HILL TO FETCH A(","C$
=(PAIL OF WATER.(","D$=A$)B$
)C$)D$","PRINT D$",P
460 DATA "JACK AND JILL WENT
 UP THE HILL TO FETCH A PAIL
 OF WATER.",P,P,P,"HAPPY PRO
GRAMMING!"
470 DATA ZZZ
480 SUB WAIT
490 DISPLAY AT(24,8):"PRESS
ANY KEY"
500 CALL KEY(0,K,S):: IF S=0
 THEN 500 ELSE CALL CLEAR
510 SUBEND

ThanK you, Julie and John.
This is becoming one of the
most useful routines on my
utility disK. I was
preparing a disK of PD
programs for our UG library.
Some of them needed extra
instructions, so I typed
them out on TI-Writer, so
that people could run them
off on their printer. Then
I remembered that some folKs

don't have printers. So -

50 CALL CLEAR :: INPUT "FILE
NAME? DSK1."?:F$
60 DIM B$(150):: OPEN #1:"DS
K1."&&F$,INPUT, DISPLAY ,VAR
IABLE 80
70 A=A+1 :: LINPUT #1:B$(A)
80 IF EOF(1)=1 THEN B$(A+1)=
"ZZZ" ELSE 70

  and change line 170 to -
170 @@=@@+1 :: MESS$=B$(@@)

And there you have a quicKie
program to checK out those
DIS/VAR 80 files that show
up on your disKs under
filenames that you can't
remember using.

MEMORY FULL IN LINE 32767 YN
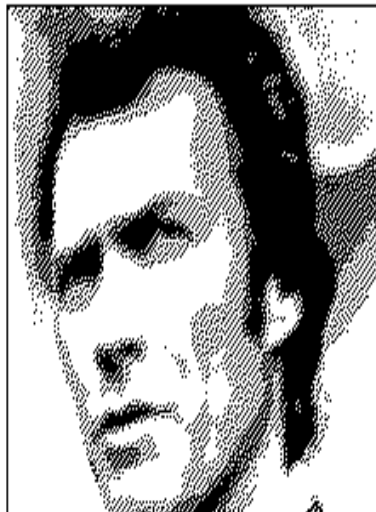
"YEAH PUNK, I
LOVE MY TI994A!
ARE YOU FEELING
LUCKY ENOUGH TO
DO SOMETHING
ABOUT IT?·····
WELL, ARE YOU
PUNK? !"

DEBROIDS EXTENDED BASIC

CONTROLS:

JoysticK or Keyboard

Keyboard: S & D rotate, Q fires, E moves forward.

Press T to panic.
Watch out for the whale (and the petunia)

SCREEN ONE:
Just liKe Asteroids! Blast em.

SCREEN TWO:
Do you recall TI Invaders... hit it!

SCREEN THREE:
Find the hidden ship, Tone gets higher as you near it.

SCREEN FOUR:
Lay space mines and avoid the suicidal Blomoids.

Then bacK to screen one, BUT faster...   YN

Castle Nova CONSOLE BASIC

FANTASIA '99

OBJECT OF CASTLE NOVA:

To find your way through Castle Nova to reach the girl
awaiting you.

INSTRUCTIONS:

Use joysticKs or arrow Keys to move.

Press button on joysticK or REDO for new maze.

Press BACK to reselect game options or level.

Press V to maKe maze visible or I to maKe maze invisible.

There are 5 difficulty levels.

DOW EDITOR ASSEMBLER MINI MEMORY

99'er
August 1983
Volume 2, Number 10
By PatricK Swift

The Dow Editor/Assembler is a BASIC program which uses the console's RAM. As the name implies, it contains ts own editor for Assembly Language source statements. To use the program, you use BASIC's OLD command to read it from tape and immediately RUN the program. The Dow Editor/Assembler comes to life and is ready to accept any of several commands:

NEW: start a new program.
SAVE: store the source program on tape.
OLD: read in a previously-saved source program from tape.
LIST: list the source program with relative addresses on the thermal printer.
TITLE: view or change the program's title.
LOAD: load the machine code to the Mini Memory at the specified address.
LINK: call the machine-code program via BASIC's CALL LINK command, for testing purposes.
MINI: view or change contents of memory.
EDIT: use the Dow Editor on your source program.

To start entering a source program, you might enter NEW and then EDIT. The editor itself has several commands that let you move around in and change the source program. Typing E puts you into enter mode for putting new statements into your source program. If you insert source statements, the program automatically moves any following statements down by adjusting their addresses. As you enter each source statement, the Dow Editor/Assembler will object to any syntax errors right away. Correct statements cause a program counter to be incremented for the next statement, so you can see how many bytes of machine code have been generated so far. You can also delete source statements. You generally stay in edit mode until the source program looKs just right, and then exit and SAVE your source program to tape. Then you use the LOAD command to maKe the assembler put the machine code into Mini Memory at the specified address. The LOAD portion of the processing for the sprites sample program tooK about five minutes.

The format of the Dow Editor/Assembler's source statements is fixed. The first three columns contain a label (of up to three characters), and there is a colon in column 4; you can have up to 40 labels. If a statement has no label, then the first four characters must be blanK, Next comes the op code; all 9900 Assembly Language op codes except RT and NOP are supported. The operands start in column 10 and are separated by semicolons instead of commas (again, hard on old programmers but necessary because the assembler is written in BASIC). After these come the operands, which are similar in form to 9900 Assembly Language operands except that the symbol $ (meaning the current location) cannot be used, and register operands must be preceded by R. The Dow Editor/Assemher supports the assembler directives DATA, BYTE, TEXT, BTXT (to bias text characters by >60 for you, if your program will be called from BASIC later), BSS and EQU. After these fields, you may put some comments. When you press ENTER to tell the computer that the statement is finshed, there is a pause while the program processes the statement. An incorrect statement is rejected right after it is entered.

Before you can execute your machine-code program from outside the Dow Editor/Assembler environment, you must maKe an entry for it in the REE/DEF table. You can do this easily with the MINI command, or you can use the assembler to do it. In either case, you must specify the entry point of the program (or programs) explicitly and adjust the LFAM if appropriate.

The largest program the Dow Editor/Assembler can process is 512 bytes of machine code. Again, you can segment your program if necessary. The manual estimates that this is roughly 150 source statements, but this can vary greatly. You can see how close you're getting by looKing at the program counter as you go along; the beginning of the program is at absolute location 0 as far as this counter is concerned. Each segment can be SAVEd to tape by the Dow Editor/Assembler and LOADed into Mini Memory at a different address. You can start the next segment with a NEW command and finish the whole process without ever leaving the assembler.

When you need to change a program, you use the OLD command to read it from tape and then edit it. When the revisions looK correct, you LOAD the entire program or segment to Mini Memory again.

The Dow Editor/Assembler can worK with a printer or a disK drive. You must change the assembler program (in BASIC) to use either peripheral. Directions for this are provided in the manual. YN
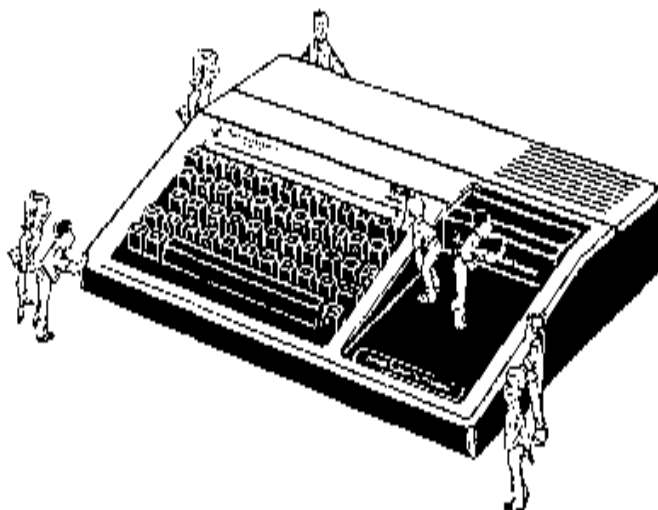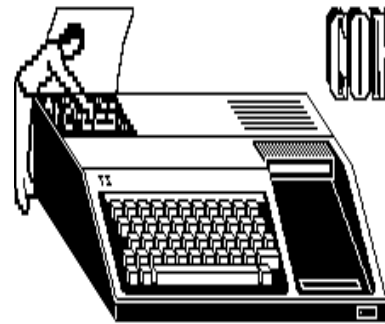
COMPUTER MAINTENANCE PART I

By Ron Rutledge

Having trouble with computer lockups or just getting your computer started (such as screen garbage when you go into Extended BASIC)? If so the tbe following two-part series may help you solve your problem.

The first part of the series is taken from the Central Iowa Users Group newsletter. The article is by Ron Rutledge. Part II is by Gary Cox. Readers who use the suggestions for cleaning the 4A and its cartridges do so at their own risk. Ed.

Dirty contacts can screw-up any electrical device and the 4A is not an exception. The only place you are likely to run into this problem is in using command modules. Both the module contacts and the port itself can become dirty, but cleaing the port itself is a big job as you have to disassemble the console. The good news is that cleaning the cartridge will almost always suffice and can be done quickly without special tools or cleaners. All you need is a screwdriver, a rag, a standard pencil eraser, and in some cases a niedium phillips screwdriver.

Remove the screw from the center of the cartridge if there is one. Then pry the clips in the outside slots to the bottom left and right of the center screw. If there is a clip in the center instead of a screw, pry it back after the bottom left and right slots are pryed off. If it should bend off don't worry it wont effect the performance of your module.

The module board can now he removed. Do this carefully and note how the spring-loaded "door" is assembled, if there is one, so that you can put it back together if it pops out.

Once the board has been removed take the rag (a facial tissue will work but cloth is better) and rub off any residue from the edge connector contacts. Do the contacts on both sides if the module has them. Once the worst is removed take any soft rubber eraser and "erase" the contacts until they become dry, clean and shiny. You need to do only the outer half of the contacts as that is much as ever gets worn (you can see the scratch marks on the contacts).

After the cleaning, put the cartridge hack together and go. Symptoms of dirty contacts include the console locking-up and unusual errors where none occurred before. (For example, my dirty Extended BASIC cartridge gives me syntax errors in programs where there were no errors when it was clean.)

Don't jump to clean a cartridge on the first appearance of an error. Such problems may be caused by static and not having the module firmly seated in the cartridge port, among other things. But if you have a continuing problem, cleaning the contacts is quick and cheap and may get you running again.   YN
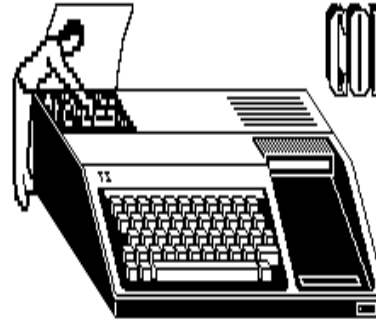
COMPUTER MAINTENANCE PART II

By Gary Cox

The information contained here is accurate to the best of my knowledge and you proceed at your own risk. Also this may void any warranty that you may have on your console.

Before beginning you need to discharge yourself of static electricity so that you do not zap any chips. Touch something grounded, such as the back wall of your PEB. Also be sure to keep track of the screws that you take out in doing the following project. Label the screws if necessary to avoid confusion.

Last month's installment outlined the procedure to use in cleaning cartridges. However, cleaning the cartridge may not be enough to get a malfunctioning console to perform, and the cartridge port inside the computer must also be cleaned.

Before proceeding with the project, be warned that the first procedure can make your problems worse. If this occurs, then you will be required to disassemble the console. Ultimately, though, this should solve most console lockups unless there is something wrong with the console.

A quick and short way to clean the cartridge port is to bend the end of a pipe cleaner into a half circle. (Do not use anything that has lint or comes apart!) Spray some contact cleaner onto the pipe cleaner (I use TV tuner cleaner from Radio Shack. Whatever you use, be sure it does not harm plastic.) Press the rounded end into the module port, being careful not to move it to one side or the other. The contacts in the module port are loose, and

moving the pipe cleaner in a crosswise motion will bend them! Just place it straight in and pull it straight out. Move it over and do it again until you are across the module port. Do this several times, using a new pipe cleaner if it gets dirty.

When finished, use a dry pipe cleaner to absorb any excess contact cleaner from the module port. Then, wait a while before turning on the computer to maKe sure that port is dry!

This has either solved your problem or made it worse. If it has made it worse you will have to continue with this article and taKe apart your console to get directly to the module port. So, if you are leery about taKing apart your console you may not want to use the pipe cleaner and just sticK to cleaning the cartridges, though cleaning both should be beneficial.

The thing that might maKe your problem worse when using the pipe cleaner is that the consoles are getting old. Foam rubber was placed inside the module port to dust off cartridge edges when you sticK in a cartridge. However, with age this gets brittle and inserting a pipe cleaner may loosen it and cause it to blocK the contacts. If this occurs, the console will have to be disassembled to remove the foam. What follows are instructions to do just that.

You should note that even without inserting a pipe cleaner, the foam may already be breaKing up in your console and blocKing the contacts. The inevitable result is that your computer malfunctions. To solve your problem you will need to taKe the console apart and remove the foam and clean the edge connector.

To do this remove the seven screws in the bacK of the console. Then pull out the on/off switch (it pops out) and remove the bacK. With the console up side down (bacK side up), there are three more screws you should remove the hold the motherboard in place. They are located at middle left and top right of the metal casing which surrounds the motherboard. (Note: Different model consoles may be different.) The metal casing should not be removed.

On the top center of the motherboard is another screw which you can see through a hole in the metal casing. This must be removed also. Do this carefully as you can easily drop that screw and loose it. If you drop the screw inside of the casing, you need to get it out. Never leave a loose part, especially metal, floating around in the console as it may short out some contacts.

Carefully remove the motherboard, maKing sure you do not put any stress on wires and do not force anything. It should come up without too much trouble. The internal power supply may give you some trouble in getting the motherboard out. You can taKe the screws out of it and move it out of the way if you would liKe to maKe it easier.

You should now see a blacK female card edge connecter mounted onto a male card edge connector plugged into the motherboard. This small device is what your cartridges plug into. It is called an L-shaped connector, or 90 degree card edge connector. This is the object of your attacK. Note the direction it is plugged in (so you can plug it bacK in the right way later). Pull it out. It should easily snap out. (By the way you can obtain a new card edge connector by calling TI dealer parts and ordering one.

Remove the top of the the L-shaped connector which covers the female connectors. It may not looK as if there is anything there to remove but there is. It is held on by some small snap-on clamps. Use your fingers to pry them apart and pull it off. It should come off easily.

The female contacts should be exposed (I didn't realize this was going to be an X-rated article). Again (if you did not clean them before) clean them with the pipe cleaners following the same directions above. On the top, which you removed, is the foam rubber. TaKe a small Knife and remove the foamm maKing sure you get all of it. The foam helps to Keep dust out but I have found since it is getting old it is causing more trouble than good and, in my opinion, should be removed. Snap the top bacK onto the edge connector. Use an eraser to clean the male contacts on the L- shaped connector and wipe it off with a rag.

If you have trouble with your Keys double-striKing or not responding it may be a dirty Keyboard. At this point you may wish to replace it with a TI-99/4A Keyboard from Radio ShacK, which sells for about $4. Just unplug your old Keyboard from the motherboard and replace it with the Radio ShacK TI-99/4A Keyboard. These Radio ShacK Keyboards are the original ones placed in TI-99/4A's. It does not matter if you have blacK Keys and the Radio ShacK Keyboard is white.

Now it is time to put it all bacK together. If you have not done so you may still have to remove the power supply (bottom left circuit board on computer) as it maKes it difficult to get the motherboard bacK in place although, with a little worK, I was able to get it bacK in place without removing it. You can either plug the L-shaped connector onto the motherboard and then place the motherboard into the console housing (best way), or place the L-shaped edge connector into the console housing and place the motherboard on top, maKing sure it gets plugged into the motherboard. There is a little slot the L-shaped connector drops into on the console housing, so maKe sure it goes into that slot facing the door of the console housing where modules are inserted.
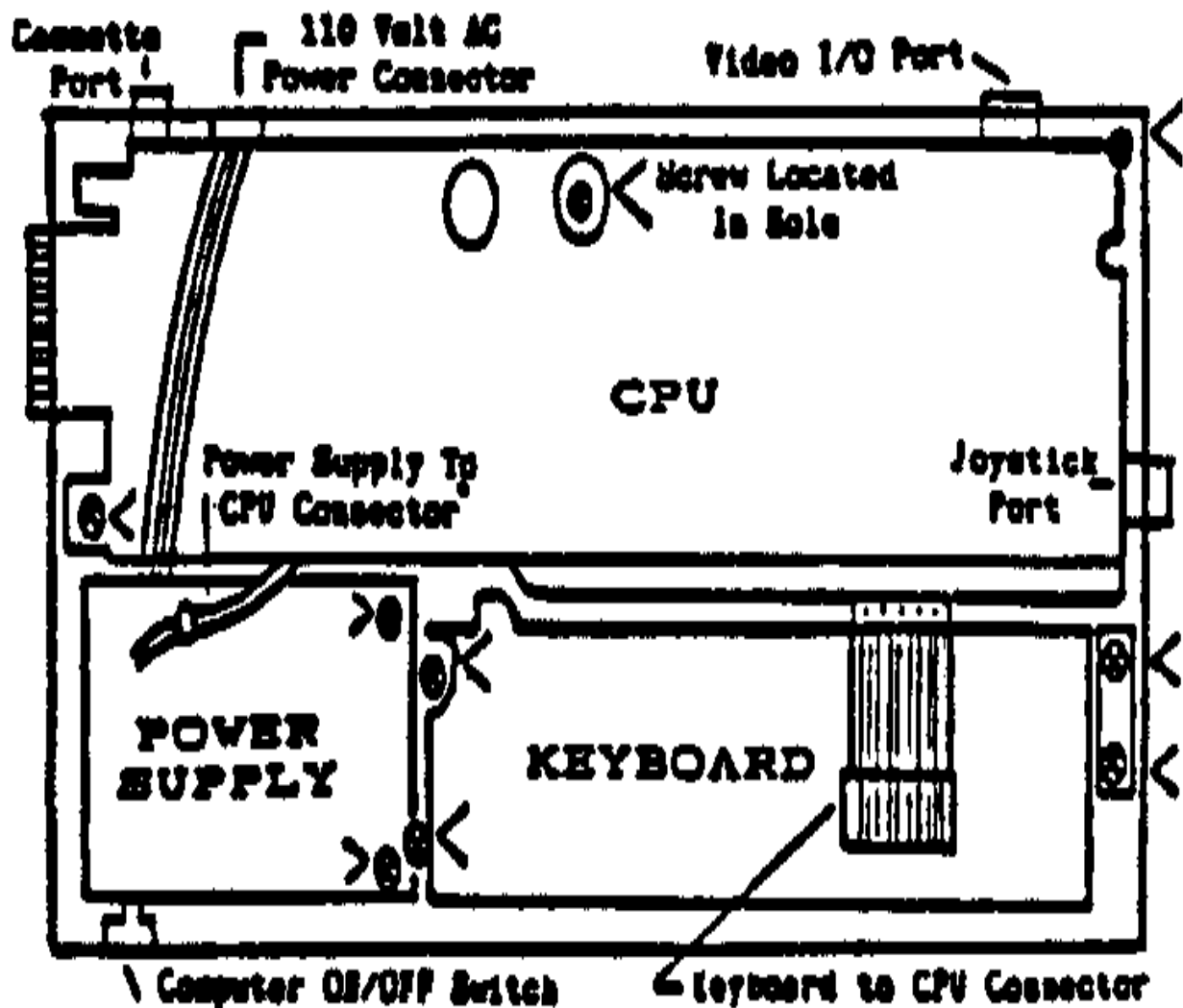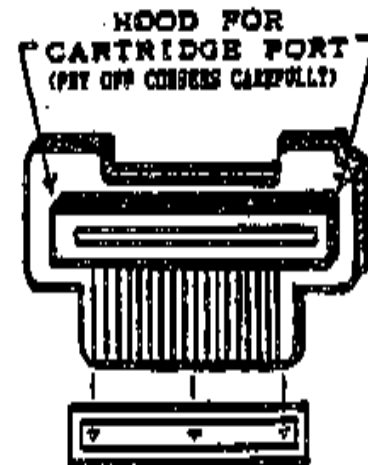
Replace all of the screws on the motherboard. Be careful on the center screw through the metal housing. Be sure you
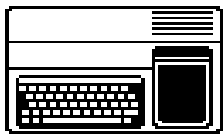
place the plug that connects your internal console power supply with the outside power supply back in its place at the back of the console before you put the back on the computer.

The preceeding procedures should alleviate console lockup problems. Clean your cartridges as well. If you do not want to take apart your cartridges just stick a small eraser down the side of the cartridge inside the door and try to erase the surface of the contacts and then blow out any eraser junk you may have left in there.
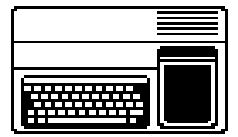
I have done this to both TI99/4A consoles that I own and it has greatly reduced lockup problems. Also, the fact that I have a GRAM Kracker, which is never removed, plugged into my module port also helps. A cartridge expander (Widget) might help also.

Keep your equipment clean, provide protected power (surge protectors on the AC line and phone line) and don't eat or drink around your computer. Treat it with respect and you should have few problems.   YN

HOOD FOR
CARTRIDGE PORT
(PRY OFF CORNERS CAREFULLY!)

Cassette Port

110 Volt AC Power Connector

Video I/O Port

Screw Located in Hole

CPU

Joystick Port

Power Supply To CPU Connector

POWER SUPPLY

KEYBOARD

Computer ON/OFF Switch

Keyboard to CPU Connector

Yesterday's News Information

Yesterday's News is a labor of love offered as a source of pleasure & information for users of the TI-99/4A and Myarc 9640 computers.

TI-99/4A HARDWARE
TI99/4A COMPUTER
MODIFIED PEB
WHT SCSI AND SCSI2SD
MYARC DSQD FDC
MYARC 512K MEMORY
HORIZON 1.5 MEG HRD
TI RS232
CORCOMP TRIPLE TECH
1 360K 5.25 DRIVE
1 360K 3.50 DRIVE
1 720K 5.25 DRIVE
1 720K 3.50 DRIVE

TI-99/4A SOFTWARE
PAGEPRO 99
PAGEPRO COMPOSER
PAGEPRO FX
PAGEPRO HEADLINER
PAGEPRO GOFER
PAGEPRO FLIPPER
PAGEPRO ROTATION
PIXPRO
PICASSO PUBLISHER
BIG TYPE
TI ARTIST PLUS
GIF MANIA

PC HARDWARE
COMPAQ ARMADA 7800
COMPAQ ARMADASTATION
SAMSUNG SYNCMASTER

PC SOFTWARE
DEAD WINDOWS 98SE
FILECAP
PRN2PBNS
IRFANVIEW
ADOBE DISTILLER
ADOBE ACROBAT

Yesterday's News is composed entirely using a TI-99/4A computer system. It consists of 11 PagePro pages which are "printed" via RS232 to PC to be published as a PDF file.
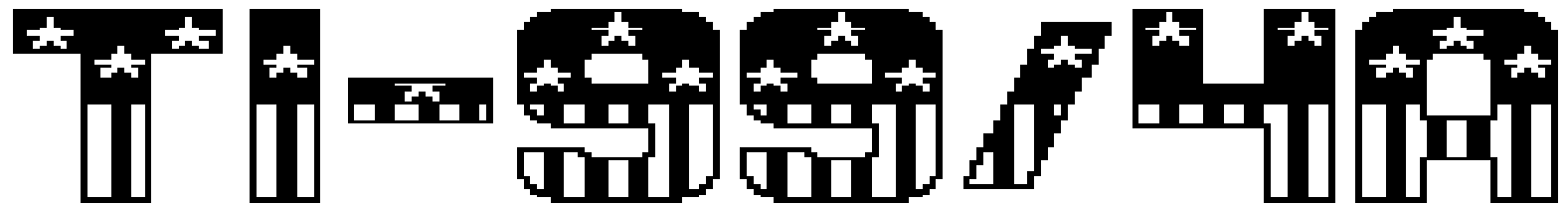
TI-99/4A

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c/o Sparkdrummer
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Phoenix, AZ 85027
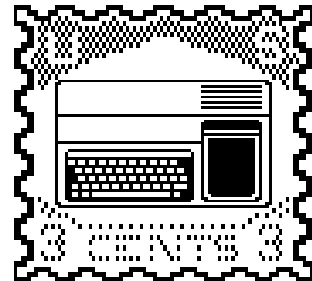
TI-99/4A Computer User
1234 What Me Worry Lane
Any City,Any State,Any Country