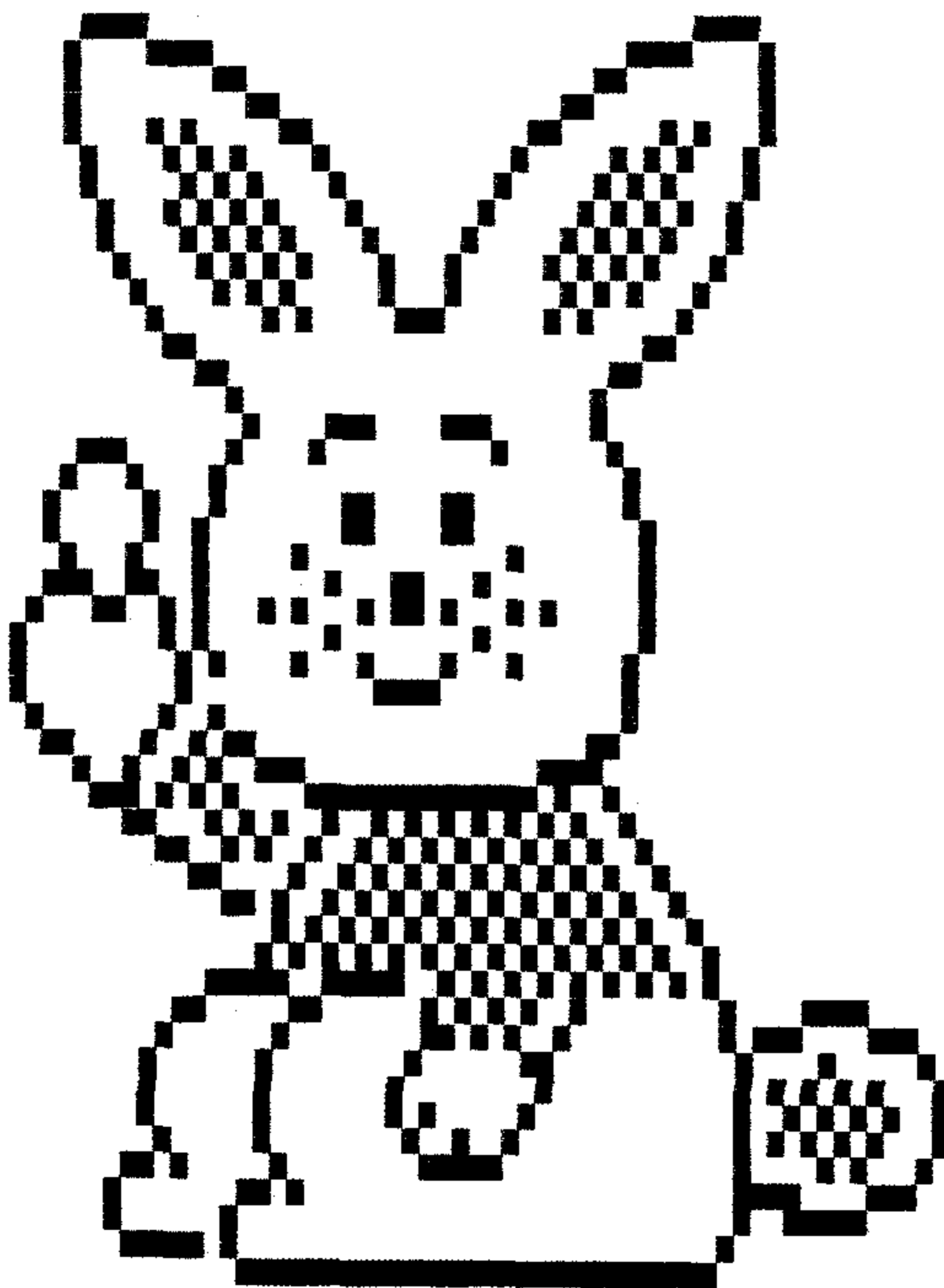# Spirit of 99

CENTRAL OHIO

NINETY NINERS INC

THE OFFICIAL NEWSLETTER OF THE CENTRAL OHIO NINETY-NINERS INC.

PUBLISHED MONTHLY IN COLUMBUS OHIO

PEACE ON EARTH

HAPPY EASTER

ttt the taylor company
hardware software

1233 N. Mesa Drive,#211B . Mesa,AZ 85201 . (602)4645-0354

Dear Computer Enthusist,

On 15 February 1992, in Phoenix, Arizona a new era in computing will begin. On that day ttc will introduce the "aTI ","xTI",and"aTI "which represent an advanced,expanded and multimedia respectively version of the Texas Instruments 99/4A home computer which was discontinued in October 1983. The 99/4A was chosen because many of its powerful capabilities lay dormant until this event. More importantly, the 99/4A is a concept computer, ttc is developing this concept hereforth to be known as "Concept 99". Like any new business I must have customers to survive but the dwindling base of 99/4A users may prevent Concept 99 from developing fully. *I need your support.*

The majority of Concept 99 software is under the trademark "t_ware" and is easily recogniable. I have developed core modules (usable but in no way user friendly) for the following t_ware:
 t_draw (a drawing program)   t_chess (a chess program)
 t_font (a bit map font program) t_sked (a schedule program)
 t_base (a dbase manager)   t_write (a word processor)
 t_learn (language tutor programs:Mid-East,European,Slavic,Asian)

I can use these programs but to make them marketable, they must be completed,tested and most importantly have manuals written. To accomplish the above task I must know where to concentrate my resources. Please let me know for which program you would be willing to make a deposit in order to support continued development. Use the address above to correspond.
Also,if you are aware of any group willing to pay for custom software (especially,educational), I'm available to discuss terms.

Thank You,
Chris Taylor

owner,ttc

DUES ANNOUNCEMENT

Dues are usually paid at or before the March meeting, and are $30 per year for full membership, library and voting privileges, plus the newsletter. You may also pay your dues in two installments if desired: $15 in March and $17 in September. If only the newsletter is desired, then payment is $17 per year. Those who join during other months of the year pay a lesser, pro-rated amount:

MAR-30.00 APR-27.50 MAY-25.00 JUN-22.50 JUL-20.00   AUG-17.50 SEP-15.00 OCT-12.50 NOV-10.00 DEC-7.50   JAN-5.00 FEB-2.50

A DEAL
YOU CAN'T
PASS UP!
SUBSCRIBE TO BOTH!

Now you can have the best of both worlds-- Keep up to date on the latest news from the TI-99/4A world with a subscription to the Spirit of 99 Newsletter AND get an up-to-date collection of new public domain and shareware programs with the Disk of the Month--Both brought to you by the Central Ohio Ninety-Niners, Inc.-- No newsletter published in August.-- January newsletter is an index of all articles published during the previous year.-- 10-SSSD "flippy" DOM's published annually.-- At times, two diskettes depending on the availability of new material.--the NL is mailed 1st of the month-- DOM is mailed about the middle of the month.

                                            SUBCRIPTION RATES

            Newsletter only----$17/yr.(Continental U.S.)
                               $27/yr.(Outside Continental U.S.)
            Newsletter PLUS----$35/yr.(Continental U.S. EXCEPT Delaware, Franklin, Licking, Madison,
            DISK of the MONTH   Piqua, and Union Counties, Ohio)
                               $45/yr.(Outside Continental U.S.)
            CONNI Club $30/yr (see above information)
            membership

                              CONTACT
                        HARLEY RYAN, Membership
                      Central Ohio Ninety-Niners, Inc
                    4178 Chandler Dr, Whitehall, OH 43213
                            (614) 231-1497

I hate to tell you this but !!!

—IMPORTANT NOTICE—

It is with displeasure that we have found it necessary to raise the annual fee for our newsletter publication and the disk of the month (DOM). We were hit with an unexpected increase from our printer for their service.

In order to keep our newsletter in publication, we are going to drop our pages from 20 to 16, but we plan to change from pica to condensed print which should still give us ample room for the same amount of material as we had for 20 pages. We have been very fortunate, so far, in finding a printer at reasonable prices and with modest price increases which we have been able to absorb in the past. The cost increase imposed last month made it necessary for our decision to increase dues.
The following increases take effect immediately:

Annual membership dues $30.00 (see exemptions under SUBSCRIPTION RATES)
Annual D.O.M. and newsletter $35.00 (continental U.S.)
                                  $45.00 (outside continental U.S.)
Annual subscription to newsletter only $17.00 (continental U.S.)
                                  $27.00 (outside continental U.S.)
D.O.M. purchased at mothly meetings $5.00

We hope these modest increases will meet with your understanding and approval.

SATURDAY, 21 MAR,1992

Prior to the business meeting, President John Parkins read letters from out-of-town members, and various members discussed equipment problems and solutions. The minutes published in the newsletter were accepted. Treasurer Everett Wade reported on our financial status and forecast a crisis before the end of the fiscal year. Means to increase income were discussed. Motions were made and passed to increase annual dues by $2, to $30, effective March 1992; to increase the out-of-town dues

for newsletter and disk of the month by $5 annually; and to increase the charge for the disk of the month distributed at meetings, from $3 to $5, with the additional charge going into the general fund. Robert DeVilbiss and Jean Hall agreed to look into the possibility of savings in printing costs by using condensed print, in order to decrease the number of pages without decreasing the content. Jim Peterson brought up the subject of publicizing the Clearing House BBS, and the possibility of making material from the Clearing House available on disk. A committee was

organized to look into this. Chuck Grimes announced the contents of the disk of the month and Dick Beery announced additions to the disk library. Following the business meeting, Jean Hall demonstrated the CSGD Label Maker; Karl Romstedt demonstrated his Panorama program; and Dick Beery demonstrated GIF-Mania.

Rersectfully submitted,
Jim Peterson, co-secretary

Wednesday, 26 MAR,1992

President John Parkins opened the meeting at shortly before eight p.m. He gave a recap of the events of the previous Saturday's meeting. Minutes from the previous newsletter were approved. Everett Wade gave the treasurer's report and was more sanguine regarding our prospects of making it through the year financially, while still sounding a note of caution. He requested permission to change banks to one where our costs would be lower. This was approved. Jean Hall reported on ways to cut the cost of producing the newsletter. Basic to these were

reducing the size to sixteen pages from twenty and folding them over so that they will obtain a more favorable postal rate. It was agreed that we would implement these strategies on a trial basis. Jim Peterson once again raised the question of how to attract more groups and individuals to the Clearinghouse BBS, a project designed to help keep the 4A and Geneve alive and healthy by increasing communication among groups and individuals. Jim will write to both Micropendium and Barry Traver. John Parkins will write an article for Micropendium detailing the D.O.M./Newsletter combination offer. We discussed applying for tax-exempt

status and decided not to, as it is quite a hassle and would take two years or more to accomplish. Two letters were read aloud that had been received from "outside" members. Demos from the Saturday meeting were discussed and praised. No demos were possible at this meeting because of equipment failure. A general discussion of various labelmakers and the difficulties of loading EA-3 files where the startname is unknown concluded the discussion.

Respectfully submitted,
Dick Beery, co-secretary

✳✳

A MAY REMINDER FROM THE PRESIDENT

May is right around the corner, and, will be upon us before we realize it. This brings two very important occasions on a collosion course in May. The LIMA CONFERENCE, and our own monthly meeting fall on the same Saturday the 16th. This type of occurrance has happened in the past, and, we have had to cancel our meeting to partake of the other. This same thing will happen in May because there will be a significant showing of our group at the Lima Conference again this year. For anybody that has never been to a Lima Conference, all I can say is, "It is an immensely educational discussion and display of the finest assortment of talent affordable to any person or gathering to behold. I have gone to three of themand look forward to this one as well with the anxiety of a child. After all, Dr. Charles Good and his co-workers have always done an incredible job of mustering the best every year. At the time of this writing, I do not know what will be on the agenda, but, I do know before hand that I will nor be disappointed. It has always been a plesant and satisfying exposure for me.

This also brings to mind another facet. If there are any members of our group that are not intent on going to Lima on this particular Saturday, and would still like to hold a local meeting at our usual meeting place, please contact me with your interests and/or suggestions.

Unless I hear differently from you, There will be no meeting for Saturday 16, 1992, although it was reported as being such on the back cover of our March Newsletter. I hope this causes no hardship to anyone.

John L. Parkins

C.O.N.N.I. CALENDAR

April 1992

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
DAYLIGHT SAVINGS TIME PALM SUNDAY	6	7	8	9	10	11
13	14	15	16	GOOD FRIDAY	CONNI MEETING
20	21	CONNI MEETING	23	24	25
26	27	28	29	30		

SATURDAY MEETING 18 APR 1992
Chemical Abstracts Building -- Columbus

8:30AM Setup, coffee, and doughnuts

9:00AM Disk of Month,   10:30AM Business
       MICROpendium,   Meeting
       Beginners help,
       Libraries open   11:15AM Demos:
                                       COMMUNICATIONS
                                        Each person
9:30AM Question and   to bring a
       Answer Period   demonstration

                               1:30PM Tear down
                                      and go home

WEDNESDAY MEETING -- 22 MAR 1992
McDONALD'S -- Cleveland and Main -- Westerville

7:30PM MEETING TIME
Demos:
 COMMUNICATIONS

TI WORLD NEWS March 1992

compiled by Jim Peterson

According to Barry Traver in Computer Monthly, Mike Wright is compiling an encyclopedia of information on the TI-99/4A, known as "Mike's Cyc".

From the looks of the March issue, Computer Monthly seems to be cutting back somewhat on its coverage of the "classic" computers.

Peron Laurent of the FANATI user group in France has released an "American version" (documentation and prompts in English) of his Drawing Master Version 1.3. This is a graphics program with pull-down windows and many advanced features including a method of avoiding "bleeding" when filling areas with color. Some of the options listed in the windows are not yet in the program, but will be added in future versions. The program has been released as fairware and is available from Tigercub Software.

The TI-PD catalog of Tigercub Software, including the latest supplement, now lists over 600 disks full of public domain and fairware programs.

According to Asgard On-Line, the new Extended Basic from Germany, written by Winfried Winkler, will run your entire library of XBasic programs, without modification, up to 50% faster than the original TI version. It has also eliminated bugs that cause those multi-colored crashes. For the programmer, it offers a fantastic array of really useful new commands including closing all files with one command, variables in GOTO and GOSUB, improved IMAGE and RND, redefining characters up to 159, assigning text to a CTRL key, and many new calls including VPEEK and VPOKE. (but I did not see any mention of a 40-column screen!). XBIII is currently only available on disk, for $39.95, and requires the Mechatronics GRAM-KARTE, but a 64k cartridge version, with additional 16k of RAM and 48k of ROM, is expected to be available by the 3rd quarter of 1992 for $74.95.

Asgard no longer requires the return of the original disk in order to obtain an upgrade. Registered users can simply send a check for the required amount, non-registered owners must also enclose a photocopy of the manual cover as proof of ownership. Registered customers will be notified by mail when a product is upgraded.

Under these terms, GOFER 1.01 plus a new CLIPIX utility is available for $7.50; PIX PRO including CLIPIX for $6. Registered owners of Screen Preview can receive an enhanced version (the bug in using & and @ has been fixed) by returning their program disk or by sending a check for $2.00.

S&T Software Ltd (c/o Tim Tesch, 4346 N. 88th St., Milwaukee WI 53222) is offering the S&T MXT BBS program, which features true 40/80 column and full ANSI/ADM3A support, as well as many other advanced features. The price is $25, or $35 if the source code is wanted. To see it in action, call the Graphics Clipper BBS (414) 284-6108, the NorthSide BBS (414) 444-1309, The Orphanage BBS (918) 288-6708 or the Programmers Lair (918) 836-4325.

According to John Koloen in the February MICROpendium, the Accelerator card is on indefinite hold. The Chicago Fair will be on October 31 this year, at the same Elk Grove Holiday Inn site. Al Beard is working on a 2-pass assembler, called T-Assembler, for the Geneve. Myarc has been catching up on repairs, but it is not known whether they will resume production of the HFDC and Geneve. Comprodine has released a "Color Banner Maker" for the Star NX-1000 Rainbow and other compatible color printers.

Mark Wacholtz has formed a new TI software company called Media Ware Software (2141 NW 64th Ave., Suite 15, Sunrise FL 33313-3950). Their offerings include Page Pro pictures of mythological beasts, a routine to print labels designed through TI-Artist, programs to convert CSGD to Instance format and TI-Artist fonts from Extended Basic, and Page Pro border fonts.

A committee of vendors at Fest West '92 proposed a set of standards to define equipment requirements for new hardware and software. These will be finalized at the Lima Fair.

Level #1 is defined as TI-99/4A console, 32k memory expansion, cassette, and E/A 5 loader (E/A, Supercart, TI Writer, Multiplan, etc.) Level #2 is Level #1 plus RS232, DSSD disk drive and controller. Level #3 is Level #2 plus at least 128k of CPU RAM bankable at the >6000 space. And Level #4 is Level #3 plus 9938/58 VDP with 192k VDP RAM. (I don't get it - is Level #1 for those with 32k installed in the console, but no P-box? And why the jump to DSSD for Level #2?)

Harrison Software will release two more disks of MIDI music at the TICOFF show. They are the Two-Part and Three-Part Inventions by J.S. Bach. These files have been written so that they use the Piano voice on either Casio or Yamaha keyboards, and are in SNF format so that they can be easily modified to any voice.

Reviews of Fest West '92 state that ESD still did not have an operating prototype of their IDE controller but that they anticipate an April 15, 1992 release date. There is a mention of a sneak peek at version 3.0 of Midi Master, which is obviously still not in production. It is reported that the price of version 3.0 will be substantialy higher, but those who bought the earlier version were promised the upgrade at no additional cost. Western Horizon Technologies announced delivery and pricing of a new version of Digi-Port software and hardware, to be shipped through Bud Mills Services.

OPA announced a new EPROM for the Geneve that automatically boots it into TI mode without a disk. They also announced a new EEPROM based ROS 9 series, rather than RAM based, for the Horizon 3000 Ramdisks.

The Taylor Company, newly founded by Chris Taylor, demonstrated the "aTI", "xTI" and "mTI", described as being respectively an advanced, expanded and multimedia version of the TI-99/4; no further description of what they are, but they are apparently based on RAMBO. Taylor also announced that his company is developing a concept to be known as "Concept 99", and has written core modules of a drawing program, a bit map font program, a dbase manager, a chess program, a scheduler, a word processor, and language tutor programs. To be marketable, they must be completed, tested, and have manuals written. In order to know where to concentrate his resources, he asks us to let him know for which program we will be willing to make a deposit. There is no mention of what the price might be, or what hardware will be needed to run the programs.

END

PROGRAMMING MUSIC THE EASY WAY

PART 5 AND FINAL

by Jim Peterson

In previous installments I have shown you how to program music by an easy method which requires you to specify a duration or a frequency only when it changes from one note to the next. Now, here is an even easier method - autochording.

With this method, you do not have to key in the accompaniment - you just specify the chord and GOSUB to the proper line to play the type of chord.

Almost all sheet music has guitar chords printed above the upper staff - those little 6x4 grids with black dots on them. And those guitar chords are always labeled with the name of the chord they represent.

The most common chord is a major chord, represented by a letter - A, C or whatever, or a letter followed by a flat or sharp sign. For those, use GOSUB 1000. The second most common chord is the 7th chord, which has the letter followed by a 7, such as C7. For those, GOSUB 1100.

You might come across a minor chord, denoted by a small m after the letter, such as Cm. In that case, GOSUB 1200. And for a minor 7th, such as Cm7, GOSUB 1300.

There are many more complex chords, but I have not tried to allow for them all in this easy method. If you come to one of them, just try playing on through with the previous chord - it will usually sound alright.

To program music in this way, use the scale that I showed you in Part 1, but you will probably have to set the starting frequency considerably higher than 110. Merge in one or the other of the following routines, then program the music just as I showed you before, but only A and B. Give A the number for the melody and B the number for the chord, then GOSUB to the proper line number for that type of chord. If the next note does not have a guitar chord above it, it is the same chord so you do not have to give B a value again, just GOSUB to the same line number.

Now, here is the first routine, to play simple harmony. Let me give you a tip to save you some time. When you are keying in a series of program lines which are all nearly the same, key in the first one, Enter it, then use FCTN 8 to bring it back to the screen. Use the editing keys to change the line number and make other necessary changes, Enter it, use FCTN 8 to bring it back, etc.

```
110 D=3 :: V1=1 :: V2=9 :: V
3=9
1000 X=X+1+(X=4)*4 :: ON X G
OSUB 1010,1020,1030,1040 ::
RETURN
1010 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B),V2,N
(B)/1.585,V3):: NEXT J :: RE
TURN
1020 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B),V2,N
(B)/1.334,V3):: NEXT J :: RE
TURN
1030 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B),V2,N
(B)/2,V3):: NEXT J :: RETURN
1040 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.58
5,V2,N(B)/1.334,V3):: NEXT J
:: RETURN
1100 X=X+1+(X=9)*4 :: ON X G
OSUB 1110,1120,1130,1140 ::
RETURN
1110 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.49
7,V2,N(B)/1.585,V3):: NEXT J
:: RETURN
1120 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.49
7,V2,N(B)/1.334,V3):: NEXT J
:: RETURN
1130 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.49
7,V2,N(B)/2,V3):: NEXT J ::
RETURN
1140 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.58
5,V2,N(B)/1.334,V3):: NEXT J
:: RETURN
1200 X=X+1+(X=4)*4 :: ON X G
OSUB 1210,1220,1230,1240 ::
RETURN
1210 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B),V2,N
(B)/1.679,V3):: NEXT J :: RE
TURN
1220 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B),V2,N
(B)/1.334,V3):: NEXT J :: RE
TURN
1230 FOR J=1 TO T*D :: CALL
```

```
SOUND(-999,N(A),V1,N(B),V2,N
(B)/2,V3):: NEXT J :: RETURN
1240 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.67
9,V2,N(B)/1.334,V3):: NEXT J
:: RETURN
1300 X=X+1+(X=4)*4 :: ON X G
OSUB 1310,1320,1330,1340 ::
RETURN
1310 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.49
7,V2,N(B)/1.679,V3):: NEXT J
:: RETURN
1320 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.49
7,V2,N(B)/1.334,V3):: NEXT J
:: RETURN
1330 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.49
7,V2,N(B)/2,V3):: NEXT J ::
RETURN
1340 FOR J=1 TO T*D :: CALL
SOUND(-999,N(A),V1,N(B)/1.67
9,V2,N(B)/1.334,V3):: NEXT J
:: RETURN
```

That routine will play straight 3-part harmony, but I like this one better, although it does not work well with some pieces.

```
110 D=30 :: S=1 :: V1=1 :: V
2=5 :: V3=7
1000 FOR J=1 TO T :: X=X+1+(
X=4)*4 :: ON X GOSUB 1010,10
20,1030,1040 :: GOSUB 2000 :
: NEXT J :: RETURN
1010 CALL SOUND(-999,N(A),V1
,N(A)*1.01,V1,N(B),V3):: RET
URN
1020 CALL SOUND(-999,N(A),V1
,N(A)*1.01,V1,N(B)/1.585,V3)
:: RETURN
1030 CALL SOUND(-999,N(A),V1
,N(A)*1.01,V1,N(B)/1.334,V3)
:: RETURN
1040 CALL SOUND(-999,N(A),V1
,N(A)*1.01,V1,N(B)/2,V3):: R
ETURN
1100 FOR J=1 TO T :: X=X+1+(
X=4)*4 :: ON X GOSUB 1110,11
20,1130,1140 :: GOSUB 2000 :
: NEXT J :: RETURN
1110 CALL SOUND(-999,N(A),V1
,N(A)*1.01,V1,N(B),V3):: RET
URN
1120 CALL SOUND(-999,N(A),V1
,N(A)*1.01,V1,N(B)/1.585,V3)
:: RETURN
1130 CALL SOUND(-999,N(A),V1
```

POTPOURRI
by Bill Sheridan
(taken from K-Town NL)
(Editor Note:See Spirit of 99-Feb 1992
issue for the article that Bill is
writing about).

In reading the other User Groups
newsletters, I found an interesting
article by Jim Lesher of Dallas 99
Interface which I found reprinted in
February issue of Spirit of 99. I did
not understand parts of his article, so
I called him for clarification. He was
most obliging and said he would send me
more information. In the text below, the
NOTES will be my addition which I hope
will help you to understand the method
used to get the results of the article.

Suppose you have a page of text with
just about 3, 4 or more lines left over.
Oh, how you would like to get those
extra lines on just one page. Well, here
is one way we can do it. Looking at the
numbers at the left side of your screen,
when you are in TI-Writer edit mode, we
find for example, we have used 70 lines
and we want to put these all on one page
which normally only accepts 66 lines.

NOTE: The TI Writer Formatter
automatically, "wastes" 5 lines at the
top of a page and 3 lines at the bottom,
leaving you with 58 lines for text. By
varying the linefeed of your printer, we
can "squeeze" the extra lines on the
page. Look in your printers manual for
n/216 for Epson or n/144 for Gemini INCH
LINE SPACING. The command is
CHR$(27)&"3"&CHR$(n). For Epson this
will be 11"X216=2376 line-feeds/page and
for Gemini 11"X144=1584 line-feeds/page.
Allowing for the 5 lines at the top of
the page and the 3 lines at the bottom,
and using the example above, we get
n=2376/78=30 for Epson and n=1584/78=20
for Gemini.

With the cursor at the upper left hand
corner (line 0001) of the page, press
FCTN 8 (INS LINE) to give yourself an
extra line to work with. Then press CTRL
U FCTN R FCTN D. Now look on page 145
and 146 of your TIW manual for the
calculated n value (NOTE: See last line
in paragraph above) in the column under
ASC II CODE> For the Gemini, on page 146
we find the 20 is a SHIFT T, so at this
point press SHIFT T. Then press CTRL U
again to return to normal key function.

For the Epson, also on page 146 we find
the 30 is a SHIFT 6, so at this point
press SHIFT 6 then press CTRL U to
return to normal key function. For both
printers, back space to the blank space
between the strange looking character
you got when you pressed FCTN R and the
character you just entered. Enter the
number 3 here.

NOTE: It wasn't mentioned in the
article, but in trying to get the 70
lines to print on one sheet I found out
I also had to add another line for a
page length of 80 (.PL 80). Save file
with the new additions then print the
page using the Formatter.

The first character, a small apostrophe
and a small b made by pressing FCTN R,
is an escape character telling the
printer "Pay attention here, I'm going
to give you a command." The 3 is the
code for the printer to change the line
spacing, and the last character is the
character the printer recognizes as the
value of n.

Suppose you wanted to go the other
way. You want to fill the page with only
50 lines. Works the same way. For Gemini
- 1584/58=27 which will be FCTN R. For
Epson - 2376/58=41 which will be a ")"
(close parenthesis) on page 145. Here
you will need to press CTRL U first to
get back to normal key function to be
able to enter the ")". The minimum
number of lines seems to be about 13,
the maximum is about 105. If an attempt
is made to go beyond this limit, the top
of one lines starts merging into the
bottom of the line above it.

NOTE: If you have 58 lines or less you
won't need to add the Page Length (.PL).
   To reiterate, the steps are:
1. Press CTRL U
2. Press FCTN R
3. Press FCTN D
4. Divide 2376 by no. of lines of text
+8 for Epson. Divide 1584 by no. of
lines of text +8 for Gemini.
5. Find resulting no. in column under
ASCII CODE page 145 or 146 in TIW manual
6. Press CTRL U first if no. is above
31. Press key as shown in column under
PRESS KEY
7. Press CTRL U if not done so in step 6
8. Type a 3 between the tiny b and
character just entered.

9. If text lines +8 = more than 58, then
insert another line for Page Length (.PL
nn).
10. Save to file and print using TIW
Formatter.

ADDENDUM

While working with the above, I
remembered the article that I wrote in
the November issue of our newsletter in
which I explained how to use the DEFINE
PROMPT command. With it you can get 62
lines of text. Why not combine it with
the above? Worked fine. In fact you
might want to use it if you approach the
maximum of 105 lines of text mentioned
above. The DEFINE PROMPT will save you 4
or 5 blank lines.

I went back to my original text
file (70 lines) and added the line (.LM
0;RM 79;FI:AD) to right justify the
text. Saved the file. Printed the file
back to disk using the Formatter. Loaded
the new file; changed the cursor to
fixed mode; removed the linefeeds, blank
lines and a page break. I now had 68
lines of text. At top of page I added a
blank line; next line (.PL 90); next
line (.DP 1;SET PAPER); next line (#1#).
All the steps above were explained in
the Nov article. At line 0005 is where
you set the linefeed as explained above.
With the 68 lines of text I added 3 (2
blank lines for the top of the page and
1 at the bottom.) For an Epson type
printer this gave me an n value of 33
for which I used an explanation
point(!). The printout was just as
expected. With the print head starting
just below the paper perforation, the
printout had two blank lines at the top
of the page, 68 lines of text and one
blank line at the bottom.

Of course this is a lot of trouble and
extra work for only 70 lines of text.
There is not that much difference in the
line spacing. However, with 90, 100 or
more lines or if you don't want the 5
blank lines at the top of the page,
you, might consider using the DEFINE
PROMPT command.
(See Jean Hall, Exchange newsletter
Librarian, if you would like to check
out the Nov 1991 issue of K-Town
newsletter that contains Bill's article
about the DEFINE PROMPT).

TIPS FROM THE TIGERCUB

No. 68

Tigercub Software
156 Collingwood Ave.
Columbus, OH 43213
‡‡‡‡‡‡‡‡‡

My three Nuts & Bolts disks, each containing 100 or more subprograms, have been reduced to $5.00 each. I am out of printed documentation so it will be supplied on disk.

My TI-PD library now has almost 600 disks of fairware (by author's permission only) and public domain, all arranged by category and as full as possible, provided with loaders by full program name rather than filename, Basic programs converted to XBasic, etc. The price is just $1.50 per disk(!), post paid if at least eight are ordered. TI-PD catalog #5 and the latest supplement is available for $1 which is deductible from the first order.

When I have finished reading Barry Traver's column in Computer Monthly, I like to take a look at whatever Dr. Michael Ecker is up to in his "Recreational Computing" column, although much of his math is beyond me and I can't always translate his GW Basic into TI Basic.

In the February issue, he had a routine to play Fibonacci modular music. This is the TI version; it is not very musical, but the notes are in the chromatic scale.

```
100 A=0 :: B=1 :: M=51
110 C=A+B :: C=C-M*INT(C/M):
: CALL SOUND(-100,110*2^(C/1
2),5):: A=B :: B=C :: GOTO 1
10
```

Dr. Ecker also had a challenge to swap two numbers without using a third vari-

able or the SWAP command - which TI Basic doesn't have anyway. The practical way, of course, is to use the 3rd variable, T=A :: A=B :: B=T, but just for the fun of it, if we are dealing with one-digit numbers -

```
100 A=1 :: B=2 :: A=A+B/10 :
: B=INT(A):: A=(A-INT(A))*10
:: PRINT A;B
```

But suppose we are dealing with numbers of any length - we can still do it with a one-liner, or a two-liner if we want to input the numbers from the keyboard -

```
100 INPUT A :: INPUT B
110 B=B/10^(LEN(STR$(B)))::
A=A+B :: B=INT(A):: A=A-INT(
A):: A=A*10^(LEN(STR$(A))-1)
:: PRINT A;B :: GOTO 110
```

So you got smart and tried a negative number or a decimal? OK, how about this -

```
100 INPUT A$ :: INPUT B$
110 A$=A$&" "&B$ :: B$=SEG$(
A$,1,POS(A$," ",1)-1):: A$=S
EG$(A$,POS(A$," ",1)+1,255):
: PRINT A$;" ";B$ :: GOTO 11
0
```

And another challenge was to alternately assign X the value of A and B, without using IF...THEN or any outside help. That seems to require a two-liner -

```
100 A,X=77 :: B=132
110 X=ABS(X=A)*B+ABS(X=B)*A
:: PRINT X :: GOTO 110
```

The only honest way to compute interest on a loan is on the unpaid balance, although the banks and finance companies have devised more complicated and profitable ways. If you want to make an honest loan, here is how to do it -

```
100 DISPLAY AT(3,1)ERASE ALL
:"SIMPLE INTEREST CALCULATOR
":"":"For interest to be cal
```

culated monthly on unpaid balance."

```
110 DISPLAY AT(9,1):"Printer
? PIO" :: ACCEPT AT(9,10)SIZ
E(-20):P$
120 DISPLAY AT(11,1):"Amount
loaned? $" :: ACCEPT AT(11,
17)VALIDATE(NUMERIC):A
130 DISPLAY AT(13,1):"Intere
st rate?     %" :: ACCEPT AT
(13,16)SIZE(4)VALIDATE(NUMER
IC):X
140 IF X<1 THEN DISPLAY AT(1
2,1):"Enter as a percentage"
:: GOTO 130
150 DISPLAY AT(15,1):"Monthl
y payments of $" :: ACCEPT A
T(15,22)VALIDATE(NUMERIC):P
160 DISPLAY AT(17,1):"Beginn
ing in month (1-12)   of yea
r"
170 ACCEPT AT(17,27)VALIDATE
(DIGIT):M :: ACCEPT AT(18,9)
VALIDATE(DIGIT):Y
180 DATA JAN,FEB,MAR,APR,MAY
,JUN,JUL,AUG,SEP,OCT,NOV,DEC
190 X=X/100 :: DIM M$(12)::
FOR J=1 TO 12 :: READ M$(J):
: NEXT J
200 OPEN #1:P$,VARIABLE 254
:: PRINT #1:CHR$(27)&"E"&CHR
$(27)&"G"&CHR$(27)&"N"&CHR$(
6)&CHR$(27)&"M";
210 PRINT #1:"$";STR$(A);" F
INANCED AT ";STR$(X*100);"%
WITH MONTHLY PAYMENTS OF $";
STR$(P);" BEGINNING ";M$(M);
Y:""
220 I=A*X/12 :: TI=TI+I :: A
=A+I-P
230 PRINT #1:M$(M);Y;" PAYME
NT $";STR$(P);" OF ";
240 PRINT #1,USING "$###.##"
:I;:: PRINT #1:" INTEREST AN
D ";
250 PRINT #1,USING "$####.##
":P-I;:: PRINT #1:" PRINCIPA
L - BALANCE OF ";
260 PRINT #1,USING "$####.##
":A
270 M=M+1 :: IF M=13 THEN M=
1 :: Y=Y+1
280 IF A>=P THEN 220
290 PRINT #1,USING "FINAL PA
YMENT $###.##":A :: PRINT #1
,USING "TOTAL INTEREST PAYED
$####.##":TI
```

Thanks to Bruce Harrison, here is a neat subprogram to

sort strings into sequence as they are entered -

```
100 CALL CLEAR :: DIM W$(100
)
110 FOR J=1 TO N :: W$(J)=""
:: NEXT J :: INPUT "N=? ":N
120 INPUT I$ :: IF I$="" THE
N 130 ELSE CALL INSORT(W$(),
I$,N):: GOTO 120
130 FOR J=1 TO N :: PRINT W$
(J):: NEXT J :: GOTO 110
30020 SUB INSORT(W$(),I$,N):
: FOR T=1 TO N :: IF I$>W$(T
)THEN 30030 ELSE 30040
30030 NEXT T :: GOTO 30050
30040 FOR J=N TO T STEP -1 :
: W$(J+1)=W$(J):: NEXT J
30050 W$(T)=I$ :: N=N+1 :: S
UBEND
```

In the test routine in lines 100-130, give N the value of 0, input some words and then just press enter.

To start a new array, use FOR J=1 TO N :: W$(J)="" :: NEXT J, then reset N to 0. If you want to sort in reverse sequence, change the > to <. If you need to sort numbers, delete all the $, change the "" in line 120 to 0, and input a 0 when you are when finished inputting.

Someone sent me a program to figure days between dates but it would not count leap dates, so I decided to write one that would.

```
100 DISPLAY AT(2,5)ERASE ALL
:"DAYS BETWEEN DATES";"";"
including leap year days" ::
M$(1)="From" :: M$(2)="To
" :: R=13
110 DATA 31,28,31,30,31,30,3
1,31,30,31,30,31
120 DIM L(12):: FOR J=1 TO 1
2 :: READ L(J):: NEXT J
130 FOR J=1 TO 2 :: DISPLAY
AT(R-1,1):M$(J);"year     m
onth   day " :: ACCEPT AT(
R,6)VALIDATE(DIGIT)SIZE(4):Y
(J)
140 ACCEPT AT(R,17)VALIDATE(
DIGIT)SIZE(2):M(J):: IF M(J)
<1 OR M(J)>12 THEN 140
150 ACCEPT AT(R,24)VALIDATE(
```

```
DIGIT)SIZE(2):D(J):: IF D(J)
<1 OR D(J)>31 THEN 150
160 CALL LEAP(Y(J),X):: L(2)
=L(2)-X :: IF D(J)>L(M(J))TH
EN 150
170 L(2)=28 :: R=R+3 :: NEXT
 J :: R=13 :: IF Y(1)>Y(2)TH
EN T=Y(1):: Y(1)=Y(2):: Y(2)
=T :: T=M(1):: M(1)=M(2):: M
(2)=T :: T=D(1):: D(1)=D(2):
: D(2)=T
180 IF Y(1)=Y(2)AND M(1)>M(2
)THEN T=M(1):: M(1)=M(2):: M
(2)=T :: T=D(1):: D(1)=D(2):
: D(2)=T
190 L(2)=28 :: IF Y(2)>Y(1)T
HEN 220
200 IF M(1)=M(2)THEN B=ABS(D
(2)-D(1)):: GOTO 260
210 CALL LEAP(Y(1),X):: FOR
J=M(1)+1 TO M(2)-1 :: B=B+L(
J)+X*(M(1)=2):: NEXT J :: B=
B+L(M(1))+X*(M(1)=2)-D(1)+D(
2):: GOTO 260
220 CALL LEAP(Y(1),X):: B=L(
M(1))-D(1)+X*(M(1)=2)
230 FOR J=M(1)+1 TO 12 :: B=
B+L(J)+X*(J=2):: NEXT J
240 FOR J=Y(1)+1 TO Y(2)-1 :
: CALL LEAP(J,X):: B=B+365-X
 :: NEXT J
250 FOR J=1 TO M(2)-1 :: CAL
L LEAP(Y(2),X):: B=B+L(J)+X*
(J=2):: NEXT J :: B=B+D(2)
260 DISPLAY AT(20,1):B;"days
 between" :: B=0 :: GOTO 130
270 SUB LEAP(Y,X):: X=(Y/400
=INT(Y/400)):: IF X=-1 THEN
SUBEXIT ELSE X=(Y/4=INT(Y/4)
):: IF X=0 THEN SUBEXIT ELSE
 X=(Y/100<>INT(Y/100))
280 SUBEND
```

A leap year is a year that
is evenly divisible by 4 un-
less it is evenly divisible
by 100 but not evenly divi-
sible by 400. The subprogram
in lines 270-280 will give X
a value of -1 if Y is a leap
year.

Gene Hitz of Arcade Action
Software reports another un-
documented feature of TI Ex-
tended Basic. The manual
says that you can only enter
a subprogram by a CALL and
only leave it by a SUBEXIT
or SUBEND, but the manual is
wrong. You can GOSUB to a
subroutine within a subpro-
gram, providing it does not
contain a SUBEXIT, and re-
turn; and you can GOSUB from
within a subprogram to a
subroutine in the main pro-
gram, and return. In this
way, you can transfer varia-
bles in and out of a subpro-
gram without putting them in
a parameter list. See for
yourself -

```
100 CALL CLEAR
110 INPUT M$ :: CALL SUB(M$)
:: PRINT M$ :: GOSUB 140 ::
PRINT "M$ IS";X;"CHARACTERS
LONG" :: GOTO 110
120 M$="SEE WHAT I TOLD YOU?
" :: RETURN
130 SUB SUB(M$):: GOSUB 120
:: GOSUB 140 :: SUBEXIT
140 X=LEN(M$):: RETURN
150 SUBEND
```

If you are among the lone-
ly few who have purchased my
TI-PD disks, you will know
that most of them load from
a menu by full program name,
not those abbreviated file-
names. Those menus are pre-
pared quickly and easily by
my Catwriter program which
was published in Tips #47
and in MICROpendium and is
available on TI-PD 1105.2.

I was asked if there was a
way to dump those full pro-
gram names to the printer.
There is, but it requires a
big program - like this -

```
1 OPEN #1:"DSK2.TI-PD/CAT",A
PPEND
2 DISPLAY AT(12,1)ERASE ALL:
"TI-PD# ?" :: ACCEPT AT(12,1
0):N
14 FOR J=1 TO X-1 :: READ X$
 :: PRINT #1:X$;TAB(30);N ::
NEXT J :: CLOSE #1 :: STOP
17 REM
```

Save that on an empty disk
by SAVE DSK2.C,MERGE. Put
your TI-PD disk in drive 1,
boot its LOAD program, break
it with FCTN 4 and enter
MERGE DSK2.C, then RUN. Put
in the next TI-PD disk and
do the same. You will have a
D/V80 file of all the pro-
grams, followed by their TI-
PD disk number. Run the file
through Sort Experiment or
TI-Sort or whatever, and you
can print them out in alpha-
betical sequence.

If you have only one drive
just change that DSK2. to
DSK1. and swap disks after
breaking the LOAD program.

Of course, this won't work
wth fairware disks which
have the author's own loader
or some other disks which do
not have my Catwriter load
for one reason or another.
You'll have to type those
into the file.

Another user asked me if
there was anyway to key in
the ASCII above 127 into TI-
Writer's Editor. Many of
those ASCII can be entered
from the keyboard by using
the CTRL and FCTN keys - try
this -
```
100 INPUT N$ :: PRINT ASC(N$
):: GOTO 100
```
- but the Editor has been
programmed to refuse them
because so many of those
FCTN and CTRL combinations
are used as edit commands.

I had a bright idea - I
thought. I wrote a little
program to create 127 files,
named 128 through 255, each
containing just the ASCII of
the same number. Now, I
thought, when I want to put
in such an ASCII I will just
LF that file into the next
line and CTR 2 to pop it in-
to place. But the Editor re-
fused to even load a file
that began with an ASCII
above 127!

I'll fool you, I thought.
I created those files again,
but with an asterisk before
the high ASCII. Now they
loaded alright - but each
ASCII above 127 became an
ASCII 128 numbers lower! It
is too bad that the Editor
does not have a command to
add 127 to an ASCII, just as
CTRL U subtracts 64, but if
you want those graphics
characters in your text you
will just have to translit-
erate them and print through
the Formatter.

Folks take it for granted
that my Nuts & Bolts disks
are only useful for program-
mers, but they contain many
routines so simple to use
that anyone can use them to
dress up their favorite pro-
gram. For instance -

```
20083 SUB TITLE(S,T$):: CALL
 SCREEN(S):: L=LEN(T$):: CAL
L MAGNIFY(2)
20084 FOR J=1 TO L :: CALL S
PRITE(#J,ASC(SEG$(T$,J,1)),J
+1-(J+1=5)+(J+1=5+13)+(J)14)
*13,J*(170/L),10+J*(200/L)):
: NEXT J
20085 SUBEND
```

Key that in and save it by
SAVE DSK1.TITLE,MERGE . Load
your favorite program. Enter
MERGE DSK1.TITLE . Make sure
your program does not have a
line 1 or 2 - if so, RES it.
Type in -
```
1 CALL CLEAR :: CALL TITLE(5
,"MY PROGRAM")
2 FOR D=1 TO 1000 :: NEXT D
:: CALL DELSPRITE(ALL)
```

And try it. Instead of "MY
PROGRAM", put the name of
your program. Instead of 5,
put the number of whatever
screen color you would like,
from 2 to 16 - check your
Basic manual. Change 1000 to
whatever delay you want - if
you have selected a screen
color that will leave text
legible, use -
```
2 DISPLAY AT(24,1):"PRESS AN
Y KEY" :: DISPLAY AT(24,1):"
press any key" :: CALL KEY(0
,K,S):: IF S=0 THEN 2 ELSE C
ALL DELSPRITE(ALL)
```

You might also need a CALL
SCREEN(8) to restore normal
screen color.
Oops! Memory full! - Jim P END

WHAT'S HOTT
by Irwin Hott

This month I'll take a look at a couple of changes made to the BBS program, and list a few of the most recent files. There have been some requests for an easier way to find out what files are available on the Clearinghouse part of the BBS. I am setting up a new library on the main portion of the board (library 9) which will contain archived lists of the files on the Clearinghouse. Each Clearinghouse library (currently 1-11) will have a separate archived file containing descriptions of the files it contains. Each file will have a name similar to that of the appropriate library i.e. BLUEGRASS^, BRISBANE^, CONNI^, LIMA1^, LIMA2^, MISC-ART^, SWEDEN^, TI#MES^, TIGERCUB^, TIGERTIPS^ and UGOC^. The "^" is used throughout the libraries to indicate that a file is archived. These descriptive files may be downloaded by anyone whatever your access level or number of uploads. These files will not be counted as a download so they won't affect the 5/1 ratio of downloads to uploads in effect on the main board for most users.

Thanks to Jim Peterson for all of his efforts in making material available for the Clearinghouse. Be sure to see his article elsewhere in this issue.

I recently made some changes to the BBS code so that 2-digit numbers could be entered for a library number. There were some initial bugs, but I think I have those worked out. If you have any problems, please let me know.

I also changed the code at the point of User Number entry. Sometimes when a 3-digit user number was entered the password was reported as invalid. It was formerly not necessary to hit "ENTER" after entering a 3-digit user number. If "ENTER was pressed it was taken as the password and was invalid. That has been fixed. ENTER must now be pressed when entering your user number.

✳✳

NEWEST FILES ON THE MAIN BBS SECTION
by Irwin Hott

On library 2:

OPA_CAT^ 125 sectors INT/FIX 128
From Irwin Hott on 03/30/92
Note from Irwin: GEnie file number: 4676
Name: OPA_CATALOG.SPRING_'92
Address: GENIAL.AL Date: 920324
Here's the Spring '92 catalog from OPA (Oasis Pensive Abacutors). Read about TASS 2001 (TRI-ARTIST-SLIDE-SHOW), DISKODEX 2001, RECALLIT 2001, SATURDAY NIGHT BINGO, BRAIN BUSTER, SCRABBLE, HORIZON ROS_9 SERIES, R.A.M.B.O. HORIZON UPGRADE KIT, MORNING STAR RAMBO, RAMBO DEVELOPER'S PACKAGE, GENEVE EPROM UPGRADE, TIM (TI-IMAGE-MAKER), SON OF A BOARD, GPL PROGRAMMING PACKAGE, POP CART, and more! (If you downloaded this catalog elsewhere and had difficulty loading the files into TI-Writer, try this version!) Archived, 125 sectors.

DEFRAG^ 128 sectors INT/FIX 128
From Irwin Hott on 03/30/92
Note from Irwin: GEnie file number: 4658
Name: DEFRAG.ARK
Address: BW.MILLER Date: 920313
This is a Floppy Defragmenter that works on the Geneve or TI-99/4A. It will not defragment hard disks. Includes source code.

PPFONTED^ 49 sectors INT/FIX 128
From STEVE BURNS on 03/30/92
PAGE PRO FONT EDITOR by Ed Johnson. He says it's a beta version but is fully functional.

MORE70S^ 72 sectors INT/FIX 128
From HAROLD TIMMONS on 03/30/92
This file contains more popular songs from the 1970s. Included are SOMETHING, CAN'T TAKE MY EYES OFF OF YOU, ON AND ON, MY SWEET LORD, WILDFLOWER, and THE WAY THAT I WANT TO TOUCH YOU. Hope you enjoy!!
   HAROLD TIMMONS

On library 1:
UG/LIST^ 96 sectors INT/FIX 128
From JIM PETERSON on 03/04/92
Listing of TI user groups, with address and phone number, based on a mail survey in Dec. 1991. Also includes a list of all known vendors who are probably still selling TI products.

On library 6:

MDOS-BUY 34 sectors DIS/VAR 80
From Irwin Hott on 03/30/92
Note from Irwin: GEnie file number: 4659
Name: MDOS-BUY-OUT
Address: BW.MILLER Date: 920314
Negotiations are taking place to purchase the rights to MDOS source code. If you want to help contribute to the survival of the Geneve 9640 and potentially the TI-99/4A, please download and read this article.

Enjoy the BBS.

✳✳

"Give a woman an inch — and right away the whole family is on a diet."

✳✳

THE CLEARING HOUSE BBS

by Jim Peterson

At the Lima Multi-User Group Conference in 1990, the problem of dissemination of TI information was discussed. It has always been the custom for user groups to exchange newsletters, and to reprint articles from each others newsletters. With decreasing membership, it was becoming too expensive for some groups to maintain this exchange. Others were mailing them in bulk every few months, which delayed receipt of new information.

It was therefore decided to establish a Clearing House BBS, to which text articles could be uploaded and downloaded for rapid circulation. Irwin Hott, SYSOP of the Spirit of 99 BBS of the Central Ohio 99'ers, agreed to be the SYSOP, and the Central Ohio 99'ers assumed responsibility for establishing the BBS.

It was necessary to add a hard drive and other equipment to the existing BBS, in order to receive this large volume of files. To defray the cost, it was decided to charge participating user groups $30 for initial membership, and a lesser fee to defray maintenance costs in future.

The following user groups and individuals contributed - Lima 99/4A Group, Twin TIers User Group, Blue Grass 99/4 Computer Society, Tigercub Software, Atlanta 99/4A Computer Users Group, Philadelphia Area TI Users Group, Sacramento TI Modem Users Group, E. L. Edwards, Great Lakes Computer Group Inc., NEWJUG 99ers Group, Boston Computer Society TI 99/4A User Group, K-Town 99/4A User Group, S. Jean Hall, Cedar Valley TI User Group, and C.O.N.N.I. Of these, the Lima User Group contributed $200 and S. Jean Hall, C.O.N.N.I. and Tigercub Software each contributed $100.

Because of Myarc's unreliable support, we were reluctant to purchase their hard drive controller. The ESD corporation had announced a new hard drive controller to be soon available. We waited for it - and waited, and waited.

Finally in November of 1991 the Clearing House went into operation, with a MYARC HFDC loaned by Chuck Grimes. Irwin Hott, Chuck Grimes, Karl Romstedt, Ken Marshall and Dick Beery donated much time in getting the drive installed and operating, and in modifying Irwin's already highly-modified TIBBS to work with a hard drive.

Unfortunately, there were still further delays in announcing and publicizing the opening of the Clearing House, and it has still not been well publicized.

However, a large number of articles have been uploaded and are available for downloading by those who have subscribed by becoming associate members of C.O.N.N.I.

The Lima Users Group alone has contributed about 125 files, including Charles Good's articles about many rare and unreleased peripherals and software, Andy Frueh's software reviews, etc.

The Bluegrass User Group has contributed about 15 articles by Mark Schafer, Steve Burns, and others, and recent articles from the C.O.N.N.I. newsletter are also on file.

I have uploaded all 67 of my Tips From The Tigercub, updated and edited and with obsolete advertising removed. I have also uploaded about 40 other articles I have written - XBasic programing tutorials, product reviews, TI world news, commentary, etc.

Additionally, I have uploaded many excellent articles from foreign newsletters which have not been widely distributed in this country. These include 26 contributions from the Brisbane User Group in Australia, written by Col and Garry Christensen, many of which would

be of great interest to assembly programmers; several articles by Jan Alexandersson, from the Swedish newsletter (but written in English!) on assembly programming and the hidden commands in the PRK and Statistics modules, etc.; and about 25 articles from the TI#MES of England, mostly by Stephen Shaw, on many subjects.

I have also uploaded numerous files from disks supplied to me in the past by the now-defunct Central Westchesters and by the K.C. 99ers, and another 37 files written by a prolific author, Jim Swedlow, for the User Group of Orange County newsletter.

And I have a stack of about 30 other disks full of articles which I will check, catalog, archive and upload if I see any evidence that the board is getting enough use to justify the considerable time that it will take me to do so.

All files in the Clearing House are archived to cut down on downloading time. Irwin is preparing a condensed catalog of file descriptions for each library, which will also be archived and can be quickly downloaded for reference, rather than wasting long distance time in browsing through file descriptions.

User groups which have not joined the Clearing House are urged to consider doing so. Any individual TI user who would like access to this great collection of information is also welcome to join, for the same $30 fee.

And anyone at all is welcome to browse through the clearing House and see what we have to offer, although you will not be able to download if you have not joined us. Call the Spirit of 99 BBS at (614) 263-3412 and at the main menu enter O for other.

And finally, the board will gladly accept uploads of text files from anyone, and anyone who writes an article for a TI newsletter is urged to upload a copy to us.

* *

QUESTION AND ANSWER:

This question comes from one our friends in Florida. Q-- I have a 24 pin printer and I was wondering how I can get to operate from my TI-99/4A. A-- I am sorry to inform you that a 24 pin printer will not work from your TI unless that printer can be emulated to operate as a 9 pin printer. I suggest you check the manual for that printer and see if this emulation fearure is mentioned. --ED.

LIMA MULTI USER GROUP CONFERENCE:
An all TI/Geneve event

4PM Fri May 15 through 6PM Sat May 16
REED HALL, OHIO STATE UNIVERSITY CAMPUS
Final update (prepared March 25)

COST: Free! No admission charge; no charge for exhibit room tables.
HOW TO GET THERE:

The OSU Lima campus main entrance is on state route 309 approximately 3.5 miles east of the intersection of 309 and I75. Many of the hotels in our list published in the March newsletter are at this intersection. Turn left at the large highway sign to enter the campus. Then turn right at the first opportunity and park in the parking lot. Lima is served by Greyhound Bus. The closest airports are Dayton or Toledo OH. From these airports you have to rent a car or take the Greyhound Bus to get to Lima.

SPEAKER LIST TO DATE:

KEN GLADSZEWSKI--"Do it yourself products for the TI, including analog to digital conversion."
EUNICE SPOONER--"Teaching TI LOGO to first grade students, an actual demonstration with a first grader."
JACK SUGHRUE--"Using the TI Computer to educate children"
BRUCE HARRISON--"New non-music products from Harrison Software."
DELORIS WERTHS--"Programming music for the Midi Interface; new music from Harrison Software."
CHARLES GOOD--"A preview of Funnelweb

v5 with a totally rewritten text editor."

LEE BENDICK--"A demonstration of the TI 99/8 and its unique set of peripherals."
BARRY TRAVER--"Topic to be announced."
BUD MILLS--"Hardware products from Bud Mills services"
GARY BOWSER--"O.P.A. products"
BOB NELSON--"Comprodine Products"

We expect additions to this list of speakers as Conference Time approaches.

VIDEO TAPES:

All formal presentations will be video taped and made available at nominal cost to any user group and to individuals who are members of the Lima Ohio User Group. Right now it looks like we might be able to squeeze the presentations onto two VHS tapes, but it is quite possible we will have to go to a third tape. The cost is $5 per tape ($10 or $15 total) which includes our media and postage OR your blank tapes and $1.25 postage per tape ($2.50 or $3.75) available. Blank tapes (clearly marked with a return address) and/or checks can be left at the Lima table during the conference. Optionally, tapes and/or money can be sent to the Lima UG address at the end of this article. We have purchased some wireless lapel microphones for our speakers to use. This equipment should solve problems we have had in the past with background noise making the speakers difficult to hear on our video tapes of past MUG Conferences.

COPYING DISKS FROM THE LIMA UG LIBRARY:
Only those disks added to the Lima software library since April 1991 will be available for copying, at no charge, by a representative of any user group. Approximately 120 FLIPPY SSSD disks (240 disk sides) will be available for copying. An annotated description of these disks is being mailed on a disk with this newsletter to all Lima UG members and to all User Groups likely to attend the Conference. BRING YOUR OWN BLANK DISKS.

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We expect additions to this list. We also expect lots of user groups to have tables loaded with software and used hardware.

FOR MORE INFORMATION:
To reserve free tables, to schedule a formal presentation, or for motel or other information phone Dave Szippl (419-228-7109) or Charles Good (419-667-3131) evenings, or write the Lima UG at PO Box 647, Venedocia OH 45894.

ABOUT THE DOM . . .

Q.- I have been getting the Disk of the Month for several months, but can't seem to get anything to run. What's wrong?
A.- You may be trying to run an archived file without first unpacking it. As a rule, Chuck archives all the files on the D.O.M. except the Read--this, and sometimes even that is archived. He sends with your first D.O.M. a second disk that contains Archiver 3.03 and a lot of other useful goodies. Use Archiver to unpack the files to another disk (or several). You should then be able to run them.
Q.- I wrote a letter to Harley Ryan last month. He told me to use Archiver

to unpack the files on the disk. I did and they still wouldn't run. What can I do?
A.- Let's review the equipment needed to run the programs: at least one drive and of course a disk controller; 32K memory expansion; and of course, Extended Basic. Be sure to print out the Read--me file and read it carefully. Occasionally some files are for MIDI, which you must have in order to run them. Others (occasionally) are for the Geneve. Again, they will not run on the 4A.
Readers: this column will be run for several months on a trial basis. Send

in your problems with the D.O.M. Please be as specific as possible. Include the type of equipment you are using, any error messages you got, etc. We will respond in the next available issue, depending on number of requests and when we receive them with respect to the printer's deadline. If you particularly like any program on the D.O.M., let us know that too. If we have space we will print your comments, but we warmly welcome such feedback in any case.

ASSEMBLY LANGUAGE
   Lesson 1
   Bob Webb
  Reprinted from
POMONA VALLEY 99ERS

Inside your console there are many chips. It looks confusing and near impossible to sort out what chip does what.

Don't think about it like that. Your 9900 Microproccesor looks at all of those chips from the inside and all it sees is a single, One Lane Country Road. No one else drives on this road but him. Without a threat of a collision he drives at about the speed of light. He wears a watch and only goes down the road to another address at certain intervals. This clock controls the timing of his movements. There are a few other devices that are located on this road at specific addresses. Those devices will be explained later.

This paved country road has a Mail Box at nearly every address. Each mail box can hold one BYTE of information. No more, no less. As you may know Computers operate with a language called machine code. We speak English, our TI Speaks in Machine Language. The Alphabet of Machine Language is only 2 characters long. ZERO 0, and ONE 1.

This alphabet is known as the BINARY numbering system. BI meaning two. Each of the boxes contain a Post Card. It will hold a BYTE of data. This means it has 8 squares drawn on it. Each square will hold one ZERO 0 or one ONE 1. When you turn on your computer all of the Post Cards in all of the Mail Boxes have ZERO's drawn in all of the Digit Places or Squares. The Mail Boxes are all on one side of the road. The other side of the road is nothing but a lush green field. We will only need to concentrate on the side with the Mail Boxes. These Boxes are real. They do exist and are known as parts of RAM chips. We all know our program will evaporate when the computer is turned off. On the Post Cards, the ONES and ZEROS are like 8 light bulbs, either on or off, with one bulb in each of the Digit positions. If you turn off the power, all the bulbs go go out in the Post Cards, in all the Boxes. The information that those bulbs represented is lost forever because they were not saved in some way. We save our collection of ONES and ZEROS with our disk drives and Cassette recorders. RAM stands for Random write to those locations.

The 9900 Microprocessor is a great piece of engineering but it is very dumb all by itself. It needs to follow a list of instructions to do any task. Even when you first power the Console up it needs to have some program to follow or it will just sit there waiting for its first instruction. Where is its first instruction located? We know that there are mail boxes along the way. But how many Addresses are there and where do they begin? They begin, quite naturally, at ZERO. The First Address on the road is ZERO, the Second is ONE, the Third is TWO and so on. When your Console is first turned on the 9900 Microprocessor looks for the data at address Two on that country road. It knows to look at Address Two and use the Binary number there as its first address to look for its program. Much like a GOTO statement in Basic. TI did this first because changes are made during production when mistakes are found in earlier Consoles. Later Versions of this program might jump to another address in memory. This is called VECTOR TABLE. But wait, the Mail Boxes contents are zeroed out each time power is removed. That is right. So, that is why ROM is needed. At Address TWO, the Mail Box is replaced by a sign. The sign is painted with permanent ink. In our Consoles Addresses ZERO through 8, 191 have signs placed where the Mail Boxes normally reside. Texas Instruments placed those signs there. This is the so called BOOT STRAP program. The 9900 Microprocessor must pull its boots on before it can walk. The 8, 192 signs along the road do things like clear the screen and place the familiar color bar picture up. Part of Basic resides there as well (more on Basic later). ROM stands for Read Only Memory. Texas Instruments made about seven versions of this ROM. The One Lane Country Road has Addresses starting at ZERO going all the way up to 65,535!(With 32K) 8 X 65,536 = 524,288. If each Mail Box holds 8 digits, and there are 65,536 Mail Boxes, that means there are over half a million ZEROS and ONES inside our Consoles!

What else is along this road?

What is GROM and GRAM?

What do they mean when they say we have 16K of RAM for our programs?

Answers to these and many other questions in later lessons. BYE!

                                                         END

If you like to experiment with recipes, you should try this one out. It has been in our family for a long time. Nothing like it over chicken when cooked on the grill.

   BAR-BQ-SAUCE

1/2 cup brown sugar
1/4 cup vinegar
1 tablespoon horseradish
2 tablespoons mustard
1/4 teaspoon black pepper
1/4 teaspoon chili powder
2 teaspoons Worchestershire sauce
1/2 cup catsup

Mix together. Bring to a boil and simmer until the desired thickness is reached.
Enjoy.

```
N(A)*1.01,V1,N(B)/1.334,V3)          :: RETURN                         1340 CALL SOUND(-999,N(A),V1
: RETURN                             1240 CALL SOUND(-999,N(A),V1      ,N(A)*1.01,V1,N(B)/1.497,V3)
140 CALL SOUND(-999,N(A),V1          ,N(A)*1.01,V1,N(B)/2,V3):: R      :: RETURN
N(A)*1.01,V1,N(B)/1.497,V3)          ETURN                             2000 FOR Y=1 TO D :: NEXT Y
: RETURN                             1300 FOR J=1 TO T :: X=X+1+(       :: RETURN
200 FOR J=1 TO T :: X=X+1+(          X=4)*4 :: ON X GOSUB 1110,11
=4)*4 :: ON X GOSUB 1110,11          20,1130,1140 :: GOSUB 2000 :
0,1130,1140 :: GOSUB 2000 :          : NEXT J :: RETURN
 NEXT J :: RETURN                    1310 CALL SOUND(-999,N(A),V1
210 CALL SOUND(-999,N(A),V1          ,N(A)*1.01,V1,N(B),V3):: RET
N(A)*1.01,V1,N(B),V3):: RET          URN
RN                                   1320 CALL SOUND(-999,N(A),V1
220 CALL SOUND(-999,N(A),V1          ,N(A)*1.01,V1,N(B)/1.679,V3)
N(A)*1.01,V1,N(B)/1.679,V3)          :: RETURN
: RETURN                             1330 CALL SOUND(-999,N(A),V1
230 CALL SOUND(-999,N(A),V1          ,N(A)*1.01,V1,N(B)/1.334,V3)
N(A)*1.01,V1,N(B)/1.334,V3)          :: RETURN
```

Both of those routines cycle through four inversions of the chord, to avoid a monotonous drone.

There are many ways to vary those routines. Just for instance, right after each N(B) put *2 to raise the harmony above the melody. Also try *4. Or alternate *2 and *4. Experiment! Have fun!

END

✳✳✳

CLEARING HOUSE

What: a means of sharing text files between clubs and to cut down on newsletter costs.
Who: Any T.I. users group (or individual) may participate.
Cost: $30 the first year; $15 each succeeding year.
Mail check to CONNI membership registrar (see page 3).
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1 SPIRIT OF 99 (CONNI)	2 TIPS FROM THE TIGERCUB
3 TIGERCUB ARTICLES	4 BLUEGRASS 99'ers
5 TI*MES NEWSLETTER	6 LIMA UG NEWSLETTER
7 PROGRAMBITEN (SWEDEN)	8 LIMA OLDIES/GOODIES
9 MISC. ARTICLES	B BULLETIN
H HINTS	

XMODEM
by Jim Swedlow
(taken from TI-BITS NUMBER
13 from ROM newsletter)

You may have heard of a transfer protocol calleed XMODEM and wondered what it is. If you use FAST-TERM or 4A TALK, you probably use it. The following should give you some idea of how it works.

When you communicate with another computer on phone lines through modems, your data must travel through the same voice phone lines that we use everyday. Some connections are better than others. Most have noticeable static.

Your brain, a computer whose power has never been equalled, can usually distinguish the 'data' (voice) from the 'noise' (static). It is almost impossible for your computer to make this judgement.

In the early days of data transfer, data was simply sent and the receiving computer had to do as good a job as it could to distinguish between data and noise. In a text, or DV80 file, this was not a major problem. If one character

was bad you could easily find the problem and edit it.

With a memory image or Program file, however, one bad byte could render an entire file useless. Although editing is possible, it is very tricky. In August 1977, Ward Christensen developed an error detection method called MODEM2. It was also dubbed "Christensen" protocol or XMODEM. It is very simple. Data is sent in blocks of 128 bytes. XMODEM adds up the values of all the characters in each block and compares that number with a total that is sent by the sending computer. If they do not agree, the receiving computer sends a code to the sending computer and the block is transmitted again.

In 1982, Ward Christensen and Chuck Forsberg released an enhancement called Cyclic Redundancy Checking (CRC). CRC does sequential division on each character in the block resulting in a significant improvement in error detection.

Both protocols continue to be called XMODEM. Although others have been developed, XMODEM is used by all major systems, including Compuserve. (Source: an article in FOGLIGHT)

MEETING DATES
FOR
1992

3RD SATURDAY
18 APR 1992
→ 16 MAY 1992 *Lima Fair*
No Meeting
20 JUN 1992
18 JUL 1992
15 AUG 1992
19 SEP 1992
17 OCT 1992
21 NOV 1992
19 DEC 1992

4TH WEDNESDAY
22 APR 1992
27 MAY 1992
24 JUN 1992
22 JUL 1992
26 AUG 1992
23 SEP 1992
28 OCT 1992

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