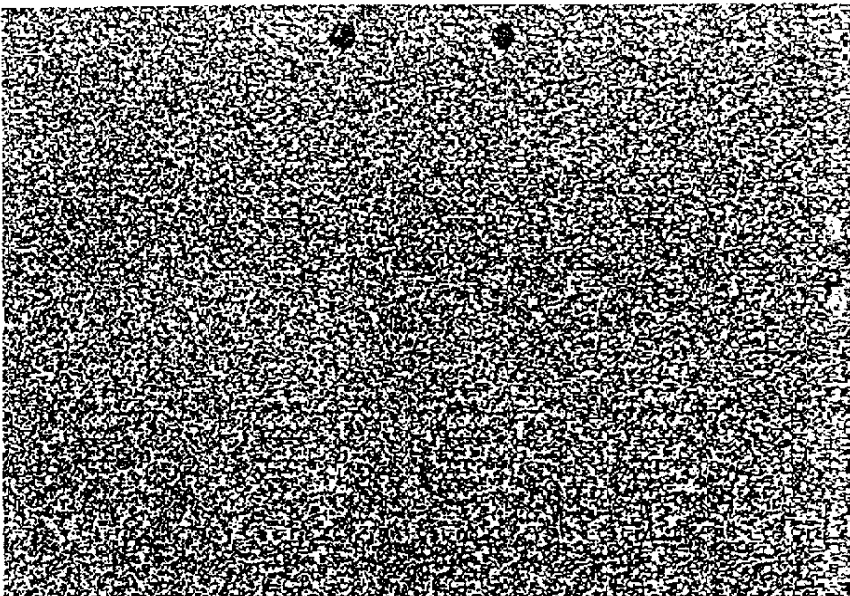# CHICAGO TIMES

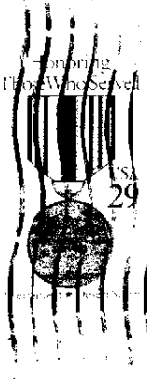**Newsletter of the Chicago TI-99/4A Users Group**

JANUARY 1993

Can You See
N.E. THING?

*To see the image above, dverge your eyes, as if looking at a faraway oblect. The two dots will fuse, forming a third central dot. When the divergence is correct, sfight, controlled variations in the placement of the random dots are rerceived by the brain as derth cues. A share will appear to float above a textured background. Some see the image in seconds. Others find it more dificolt. If you cant see it, let someone else try. If they succeed, rerhaps they cas help you. Be sure to get the full explanationand more examples by writing lor free informaion!

Dallas TI Home Computer Group
c/o: Walter Pearson
P.O. Box 29863
Dallas TX 75229

**** FIRST CLASS FIRST CLASS FIRST CLASS FIRST CLASS MAIL

FIRST CLASS MAIL

editor & exchanges

A. ZLOTORZYNSKI
3607 WALLACE
STEGER ILL. 60475

Nothing from the editor,
in this one.

January issue

MEMBERSHIP NEWS AND VIEWS

BY JAMES BROOKS

Happy New Year! And going into our tenth year, we are looking for some more new things. At the Faire, a large number of former members returned to the group.

Our NEWSLETTER was late because our editor suddenly had surgery and was unable to perform at the time. We all wish him a speedy recovery. At our last meeting, the election was held and we have a new President, Don Walden of CECURE ELECTRONICS, and vice President and a past former president, Don Jones, writer of the 9640 ARTICLES. They have taken office as of the last meeting.

Our swap meet was held during the last month and some bargains were there for the needy ones to possess.

It is becoming a problem for some of the members that do not smoke to enjoy the meetings. It has been a thorn to some of the church workers that are there serving the food during our stay for these meetings. Many buildings have prohibited smoking throughout the country. I think that the few that have to smoke should be able to take a break from their smoking while inside the meetings. I belive that some members stay away due to the smoking.

Well this being January 1993, it is time for all those that plan to renew to do so. We have a cut-off time for non-renewed members NEWSLETTERS. With the cost of everything going up, we cannot have a large number of extra NEWSLETTERS printed so please send in your renewals this month.

1

Now that time of year is here for renewals. All members are encouraged to renew by January 10, 1993. That is the date that the Newsletter articles are due for the February issue. The labels for all of the current members are also printed and sent to the editor so as to count the numbers of newsletters to have printed. If there is no month printed behind your membership number line, your membership expires DECEMBER 31, 1992.

Our Sysop has made some more improvements to the group BBS. At times you may call and not be able to get online while this is going on. Please have patience and call again later or next day. Getting an upgraded BBS is not something that can be done in a couple of hours. There are test runs and debugging to be done for each area until they all work as intended. Remember the number is now (708)862-0182 which is also the hotline number. To reach the hotline, call by voice and wait while the modem checks to see if there is a modem tone. If there is no modem tone, it changes to the hotline (neat huh?).

Well that about covers it for this month. TIME TO RENEW TIME TO RENEW TIME TO RENEW

Thanks Jim!

The CTIUG Library Corner.

Disk Reviews by:
WALTER WARD Jr.

All disks are $2.00 per disk unless otherwise noted.
Shipping and handling:
U.S.A.^^^ add $0.30 per disk.
Others ^^ add $0.60 per disk.

Make check or money order payable in U.S. funds to:
CHICHAGO TI USERS GROUP

Mail to:
CTIUG LIBRARIAN
DAVID A.^CONNERY
420 FRANKLIN BLVD
ELGIN IL 60120-4439

Please allow 2-4 weeks for deleviery.

2

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**********************************************************
*^SPECIAL^SPECIAL^SPECIAL^SPECIAL^SPECIAL^SPECIAL^*
*^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^*
*^^^^MAIL^ORDERS^POSTMARKED^BY ~Thur Feb 93~ ONLY!!!^^^*
*^^^~TWO~^DISKS~#3~INCLUDES^SHIPPING/HANDLING^^*
*^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^*
*^SPECIAL^SPECIAL^SPECIAL^SPECIAL^SPECIAL^SPECIAL^*
**********************************************************
```

Diskname:^EDU-#12^^^ ^^^^^Free: 0 Used:^360
Filename^^^Size^^^^Type^^^^P ^^^Comments
-----------^-----^-----^- -----------------

1/ADDITION^^^10^^^Pgm^^^^^^N These are all addition
problems. You are supposed to count the little red
squares on top and bottom and add the two to come
up with the correct sum. For us squares who can't
count the problem is expressed in the form of an
equation e.g. 4 + 4 = ?. Unfortunately the screen
froze 1 + 9 = 10. I finally rebooted and got 10 out
of 10.

BIBLEBOOK^^^15^^^Pgm^^^^^^N This is a program to
help anyone memorize the books of the Old and New
Testaments. One major bug. The New Testament never
gets to Revelations. One would think Jude is the
last book in the New Testament!

BIORHTHMS^^^10^^^Pgm^^^^^^N Biorythms in
education? In my opinion it a waste of time, money,
paper and programming talent. But this is a free
country and some people believe in astrology BUT we
don't teach it in our schools. This is the point I
have been trying to make. For those who believe in
biorhythm fine great. BUT NOT IN EDUCATION! This
program probably has the best graph of the lot so
far.

CALLKEY^^^^^^6^^^Pgm^^^^^^N This program returns
the ASCII value for any key pressed. Since it is in
decimal form it could be used in a call key
statement to check for the value of the key pressed
and see if is equal to K. If not GOTO the call key
line. It would benefit the budding programmer to
learn the key codes in both hex and decimal.

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CAPITOLS^^^^^^27^^^Pgm^^^^^^N You are presented with
a list of four cities for each state. You enter the
number of the city which you think is the
capitol. The program then plays its version of the
Bronx cheer or chimes depending on your answer. The
Bronx cheer means, of course, that you are wrong.
Try again. Another nice touch. This one actually
keeps score.

CAREER^^^^^^^^42^^^Pgm^^^^^^N This is the kind of
computer handout school counselors are always
handing out giving the educational
requirements, opportunities, expected salaries and
disadvantages for various careers. It may help some
students but I have always wondered if some don't
look at the educational requirements, decide they
could never do that and become mechanics when they
could have have been engineers.

CAT^^^^^^^^^^^^^6^^^Pgm^^^^^^N XB catalogger runner.

DAY/WEEK^^^^^^^6^^^Pgm^^^^^^N This program will give
you the day of the week for any date after
1725. Unlike some of the other programs this is all
it does. It gives the day of the week and that's
it. It fits my definition of the perfect program. A
program which does one thing and does it very well
indeed instead of trying to be all things to all
people. A superb program.

DAYS/DATES^^^^^4^^^Pgm^^^^^^N This program will give
you the number of days between two dates. Again it
does one thing and it does it very well. As you may
have gathered I like such programs. Again a superb
job of programming. No bugs that I could find
though running a program once is hardly an
exhaustive test.

FRACTIONS^^^^^17^^^Pgm^^^^^^N This program will
perform the four arithmetic functions on
fractions. In case you have forgotten they
are:addition, subtraction, multiplication and
division. No major or minor bugs that I could find.
Of course I ran each function only once.

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CtHoiSuuRR^^^^21^^^Pgm^^^^^^N In this program you input data points for any one of four types of curves. The four types are: linear, exponential, log and power. The computer draws a graph and decides which curve best fits your data. Boy could I have used a program like this when I was taking college math! Oh yes. I almost forgot. A much better name would be CURVES or CURVE/TYPE. TYPE/CURVE would be even better.

LOAD^^^^^^^^^^5^^^Pgm^^^^^^N XB loader runner.

MATHTUTOR^^^^^15^^^Pgm^^^^^^N This program is an excellent tutorial on the arithmetic functions. It lets you decide the highest and lowest you want to work with and whether you want to add, subtract, multiply or divide. It then calculates your score and points out areas where you had difficulty. I would like to find some way of renaming so they won't all be called MATHTUTOR. The only thing that occurs to me at the moment would require we adopt some conventions such as H- for higher math and A- for arithmetic files.

NAME/NUM^^^^^16^^^Pgm^^^^^^N This program asks that you assign a number to a letter and then write your name or any combination of letters. DAVE! If you assign 6 and write computer the answer is 666. The fundamentalists are getting stronger every day and according to them this is the number of the beast. There are a lot of crazies out there especially on this subject.

PRECIOUS^^^^^13^^^Pgm^^^^^^N If you input the price of gold or silver this program will calculate the value of various gold or silver coins for you. Good program. So far as I could tell no bugs. To coin a phrase, "It does one thing and it does it well".

PRESIDENTS^^^20^^^Pgm^^^^^^N Learn the dates of birth and death, party affiliation, state of birth geographically speaking , dates and length of their terms for all our presidents from Washington to Carter. I haven't looked at the listing but since this is an XB program I imagine one could add Reagan and Bush and Clinton to the list fairly easily. Famous last words! Some XB programs are more complicated and harder to work with than any listing I have ever seen in assembly. An excellent

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RESISTOR^^^^^12^^^Pgm^^^^^^N This program teaches you to read the color bands of resistors. For some reason brown always shows as dark green on my monitor. Oh well! On with the sho... er review. I would strongly recommend that you memorize the numerical values for each color before trying this program. Reading from left to right the first two bands give the numeric value and the third band is the multiplier. The fourth band if there is one gives the tolerance but this is not mentioned in this program. To mint an adage, "It does one thing and it does it well".

SPELLING^^^^^^13^^^Pgm^^^^^^N This is a timed spelling test in the sense that the words you are to spell are flashed very briefly in the lower left corner of the screen. You would have to know a word to be able to spell it after such a brief glance. An excellent spelling tutorial.

STATES^^^^^^^^33^^^Pgm^^^^^^N This program teaches you to write the states in alphabetical order, their capitol cities, their largest cities and their popular names. You may choose which of these you want to learn from a menu or you may choose to have all of this information displayed for a particular state. Gee, I never knew the capitol of Kentucky was Frankford and here we have been calling it Frankfort all these years! I mean it's in the World Almanac and everthing!

TIME&SPEED^^^^4^^^Pgm^^^^^^N See Time and Speed tutorial.

TRADE^^^^^^^^^13^^^Pgm^^^^^^N This program is a data base for baseball trading cards and using CS1. Hal says we should never forget the TI'er who only has a cassette. My question:How is he going to teach his cassette system to read disks? No you jokers I am not trying to be facetious. If I only have a cassette how do I get software? Some catalogs still list a few of the original TI cassette based programs. But I have not tried to order a cassette based program or programs for more years than I care to remember. Kidware used to have all cassette based programs but I have no idea if they are still in business. Probably not. I know nothing about baseball or trading cards but this seems to be a good program. Perhaps a better name would be TRADECARD.

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WORDS^^^^^^^^^41^^^Pgm^^^^^^^N You must give the
letter A, B, C or D for your answer. The object is
to pick the nearest in meaning to the word you are
to define. The words are printed but A, B, C and D
are not. I think I would fix this before trying to
sell this otherwise excellent program. I think a
much better name would be DEFINE.

WORDTOTAL^^^^^^^9^^^Pgm^^^^^^^N This program assigns
values of A = 1 through Z = 26. You are supposed to
pick a legimate word. That is a word which can be
found in the dictionary. The letters are supposed
to add up to a preselected target. This is supposed
to teach you vocabulary?

^^^^^^^^^^^^^^^^Time and Speed

^^^^ The correct answer is 51.41176471 hours? No
way! The problem is: A car traveling 55 mph can
make a certain trip in 23 hours less than a train
going 38 mph. How long does the trip take by car?
^^^^ My more astute readers will have noticed
that this problem has what logicians call a hidden
assumption built in. That assumption is that the
car will travel exactly the same distance as the
train. I think it would be rare in real life but
for this problem let us assume it is true. Then we
have:

When multiplying or dividing the rule is that your answer
may contain no more signific digits than the least number of
significant digits you are working with. What are
significant digits? They are the number of digits
which determine the accuracy and precision of a
measurement. Some examples: 93, 000, 000; 2
significant digits. The zeros are just place
holders. 0.01; 1 significant digit. The zeros are
place holders. 3.001; 4 significant digits. The
one at the end tells us this was measured to the
nearest one thousandth. Look at our problem again.
Notice that all the numbers we are given have two
significant digits. Therefore our answer can have
no more than two significant digits.

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^^^^ I thought I should speak at length about
this. In my experience the hardest thing to try to
teach a beginning science student is that one does
not copy all those decimals from the calculator
simply because they are there. The most nearly
correct answer is 51 hours.Yet this program commits
the same error as a beginning science student. It
demands that you enter 51.41176471 as your answer
or it will count it wrong!
^^^^ Of course they write books on these
topics. Error analysis, range of error, error in
the statistics of sampling, etc.
^^^^ I hope all this has helped instead of
making it as clear as mud. If anyone has any
questions you may write to me in care of Dave or
leave me E-mail on TI South. I am always happy to
answer questions because this shows not only that
someone is reading but paying attention.
^^^^ Walter Ward

Diskname:^EDU-#13^^^^^^^^^^^Free: 2 Used:^353
Filename^^^Size^^^^Type^^^^P ^^^^Comments
--------------^-----^----------^- --------------

ALGEBRA^^^^^^^^^8^^^Pgm^^^^^^^N This program assumes
that all simultaneous equations are the same
equation. I suppose they are in the sense that Y =
m*X + b represents all straight lines. Actually
simultaneous equations using a common multiple form
a series of parallell lines. And parallell lines
never meet so they cannot intercept each other. It
is a shame. Except for the false premise this a
great program. Probably this would be more trouble
to fix than it would be to find a program written
on the correct premise.

ARITHMETIC^^^14^^^Pgm^^^^^^^N This program uses
brown blocks to give practice in addition or
subtraction. No multiplying or dividing just
addition and subtraction. One especially nice touch
I liked is having blocks appear when adding and
disappear when subtracting. All in all an excellent
addition, subtraction tutorial!

CAT^^^^^^^^^^^^^6^^^Pgm^^^^^^^N XB catalogger.

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DIVIDE^^^^^^^^^^3^^^Pgm^^^^^^^N Enter the data and
this program will actually do your division
problems for you. In that sense it acts like a
pocket calculator. But there is one difference.
Like the fix button which is appearing on more and
more calculators this program lets you choose the
number of decimal places! Probably the best
division tutorial I have seen for the TI.

DRAW^^^^^^^^^^^^9^^^Pgm^^^^^^^N This an another
program which uses the arrow keys i. e. S not FCTN
S etc. You may draw two pre-programmed objects;a
man or a truck. So far as I can tell there is no
provision for doing your own sketches. Another
thing I don't like is having the drawing disappear
a minute or so after it is done. Probably a good
program for four year olds.

FINGERSPEL^^^36^^^Pgm^^^^^^^N This gives the
American sign language for all capital letters and
the digits 0-9. Some of the digits have the exact
same finger placement as some of the others as far
as I could tell from the not so great
drawings. Except for the poor sketches which should
be in 3-D this is really a nice little program.
Well 36 sectors is not so little but compared with
some of the two hundred plus sector monsters they
are writing today it is. Thank God some of the new
young programmers are trying to get back to the
basics. No pun intended. They are taking some of
the older monster sized programs and trying to slim
them down a little.

FLAGS/I^^^^^^^24^^^Pgm^^^^^^^N This program shows the
outline and colors of any flag you pick from the
menu. The flags are mostly of European countries
with some from South America and Africa. There is a
48 star version of our own Old Glory. Thailand is
in there too and just to show you how old this
program is South Vietnam! All around I would have
to say a good job of programming and a great
program.
FLAGS/II^^^^^^47^^^Pgm^^^^^^^N Bombs out with a bad
value in 70.70 CALL COLOR(I+11, I+4, @). Evidently
@ may be set to some value in the pre-scan but XB
will not accept it in parentheses in a call color
statement.

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FRACTIONS^^^^^18^^^Pgm^^^^^^^N In this program you
are supposed to color a certain fraction of the
blocks or you are you are supposed to cut a block
into a certain number of equal pieces such as four
or eight. I am always doubtful that programs such
as this teach fractions or whatever. I think based
on my own experience having to teach students
elementary concepts they should have learned in
grade school that students taught using the
traditional methods learned fractions. Those taught
using concepts such as these learned to color and
cut up!

JULIAN/GRE^^^^^4^^^Pgm^^^^^^^N Input the Julian day
and this program will the Gregorian day, month and
hours. Only one little problem. Anybody know what
Julian day this is? This one meets my
criteria(criterion?)for a good program. It does
one thing and does it very and I admit to being
partial to cute little programs such as this one.

LETTER^^^^^^^^^^9^^^Pgm^^^^^^^N A guess the letter
program for ages 4-8. When you guess the letter the
program scatters it randomly around the
screen. O.K. O.K. Pseudo randomly if you must be
excruciateingly correct. Sheesh. Some people.

LIFE^^^^^^^^^^10^^^Pgm^^^^^^^N This is not the
computer program called LIFE developed by a British
mathematician. This one tells you how many
years, months and days you have have lived.
According to this I have slept for 19 years, 220
days;eaten for 9 years, 191 days;relaxed for 14
years, 2 days;studied for 12 years, 324 days. Of
course there is no way of accurately checking such
ststistics unless you have kept a record of every
minute of your time since babyhood! So programs
such as this use the averages for that mythical
person;the average man or woman. This a fun program
to play with but it is a one shot program I think.
I certainly don't intend to run it every day for an
update! Just for the record the British
mathematician who invented the game called LIFE was
John Horton Conway. *10*

LOAD^^^^^^^^^^5^^^Pgm^^^^^^^N Xb loader runner.
QUADRATIC^^^^35^^^Pgm^^^^^^^N This program teaches
you how to solve a quadratic by completing the
square. A quadratic equation is an equation of the
form a+X^2 + b*X + c = Basically what you do is
move c to the other side of the equation, divide
both a and b by a, take half of the quotient,
square it and add that to both sides. From there on
it just a matter of plug and crank to get the two
roots of X. A great tutorial by the way. In fact I
would have to rank as one of the best I have seen
for the TI.

SOLAR^^^^^^^^^28^^^Pgm^^^^^^^N This program will give
the positions of all the planets in the solar
system for the years 1981 through 1984. Since the
movements of the planets are not linear it would
probably be easier to write a new program than try
to update this one.

- SPELLDOWN^^^^33^^^Pgm^^^^^^^N Sorry but this
requires a working speech synthesizer.

SPELLING^^^^^^^8^^^Pgm^^^^^^^N You must input the
words you wish to practice. Then you must spell
them exactly as entered and in the exact order
entered. The program trusts you to be honest and
input real words. Real words in this case being
those found in a dictionary. A general dictionary
not a Scrabble(tm) dictionary or a crossword
dictionary. Otherwise you can tell this program
that wxyz is a word and it will accept that. I
wonder though. I think this is a memory test rather
than a spelling test.
SYLLABLES^^^^^^7^^^Pgm^^^^^^^N The same program as
the spelling program except that this time you must
divide each word into syllables before you enter
it. I still think this more a memory test than a
dividing words into syllables test.

SYLW^^^^^^^^^^^^1^^^I/F^80^^^N The data file for
another program.

TEST-TUBE^^^^^37^^^Pgm^^^^^^^N A good tutorial on the
ideal gas law for chemistry students. The one thing
keeping it from being a great tutorial is that it
has several wrong answers. I think that could be
rather easily fixed. If it is fixed then that
would make it a great tutorial.

//

TRINOMIAL^^^^^11^^^Pgm^^^^^^^N This program will
factor trinomials. Trinomials are algebraic
expressions of the form:a*X^2 + b*X + c. Input a,
b and c and the program will factor the trinomial
would make it a great tutorial.

TRINOMIAL^^^^^11^^^Pgm^^^^^^^N This program will
factor trinomials. Trinomials are algebraic
expressions of the form:a*X^2 + b*X + c. Input a,
b and c and the program will factor the trinomial
for you. Remember factoring is the opposite of
multiplication. This a good tutorial. The only
thing keeping it from being a great one is that you
must enter your own trinomials.

WSPEL^^^^^^^^^^3^^^I/F^80^^^N A data file for
another program *Thanks Walt —*

W W

Lost Software?

First of all, I am not an attorney. Therefore
I cannot comment on the legal aspects of copying
copyright protected software. As the current
copyright law has been explained to me you may
make one copy of a copyrighted disk for your own
use and protection. You cannot legally sell this
copy or even give it away. And if asked to do so
by an authorized representative of the publisher
or the author you must be prepared at all times
to prove ownership of the original.
    As I said I cannot comment on the legal
aspects of copying. This obviously leaves the
moral and ethical aspects of copying. Some great
software has been lost to the TI world due to
companies going out of business without placing
their products in the public domain. Others are
still in business but have gone out of the TI
business. An example of the latter is MB. MB had,
in my opinion, the three greatest commercial
software products ever produced for the TI. They
were: the Explorer, DISKASSEMBLER and Advanced
Diagnostics. The rights to DISKASSEMBLER were
acquired by Dr. Thomas S. Freeman, the Los
Angeles pediatrician turned TI programmer, who
released a new version for the Geneve. So far as
I know he has no plans for a TI upgrade. The

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rights to Explorer and Advanced Diagnostics were acquired by Richard Mitchell, former publisher of the "Smart Programmer". It has been said that there is a rumor going around to the effectt that Mr. Mitchell had a problem with alcohol and is now a recovering alcoholic living in California. Those of you who have been at this long enough to remember the "Smart Programmer" will recall that he lived in Sulpher, Lousiana. So far as I know he still owns the rights to the Explorer and Advanced Diagnostics.

Apparently lost forever are such programs as CHEM-TUTOR, chemistry; PHYS-TUTOR, physics; CALC-TUTOR, calculus; and BIOL-TUTOR, biology. From what I have read and heard these were some of the best tutorials ever written for the TI. Each of these was an eight to ten disk set of programs designed to take you through high school and the college introductory course for the subject. The teachers' aid programs from JSTI are another example. Among these were Teacher's Aide, Gradebook and others. Also in this category is Vortex's Astronomy; thirty programs on five disks dealing with (Aw,Shucks.You guessed) astronomy.

What can we do to see that this sort of thing does not occur again? I would propose a multi-user group project along the lines of the Clearing House BBS. I would suggest that this group contact Mr. Mitchell and acquire the rights to the Explorer and Advanced Diagnostics. I would then advise that these programs be turned over to assembly geniuses such as Mark Schafer and Bud Wright and let them add new ideas and procedures. In other words a general up-dating. DISKASSEMBLER for example could write: BL   @UHBH instead of BL @AX. I would sugest that this group acquire one copy of all available software currently on the market for archival purposes. This should include fairware. Hopefully most of this could be acquired through donations so that expenditures could be minimal. How could we pay the programmers for their work? I suggest that the group be empowered to sell the new Explorer and Advanced Diagnostics for say $15.00 per copy. Whatever monies are left after paying for disks, mailers, stamps, etc be divided evenly among the programmers.

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A final thought. What good is our right to make a copy if we cannot copy certain disks? We need better track copiers to copy some of the better protected disks. Not for piracy! The real pirates probably have better copiers than we have seen or shall ever see for the TI. No, not for piracy, but to exercise our right to make a backup copy is why we need better copiers for the TI. Another item. Why does a track copier author disappear after his first release? Has anyone in this group or any other group been able to contact Bryan D. Hall, Christopher Winter or Phillipe Pair; authors of Track Hack, Copy-C and Trap Track; respectively? A personal note. Should any of you happen to own any of the tutorials I would be interested in buying them preferably with the original docs. You may write me at: 934 Left Two Mile; Williamsport, KY 41271-8505. with the original docs. *Thanks Walter!*

15

N

@&TAPEMASTER

Ver 1.1

@<Fairware^Program>
@written^by^Col^Christensen
@17^Centaur^Street
@Redcliffe^Aust^4020

INTRODUCTION

Remember, in the past, when recording a cassette tape full of programs as a master tape or for some other reason, how you would sit at your computer repeatedly OLDing a program from disk, SAVEing to CS1, pressing cassette RECORD then STOP at the appropriate beep, ad infinitum. Well, not any more with Tapemaster.

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Now you can mark a directory of disk filenames to indicate which ones you wish to copy, start the cassette in record mode and go off for a cuppa. When you hear a series of pips, all you have then to do is to stop the cassette recorder and remove the finished tape. It's a simple matter, with Tapemaster, to run off a tape full of custom programs for a friend with console only, or prepare a master tape for a club tape library.

THE PROGRAM

Tapemaster is written in Assembly and comes on disk under two different filenames. It is embedded in an Extended Basic carrier program called TAPEMASTER which, naturally enough, can be loaded the same as any Extended Basic Program. If your disk will contain only the Tapemaster program and documents, then the filename, for convenience, can be changed to LOAD. The file, TM, is in memory image format suitable for loading with any of the Editor/Assembler option 5 type loaders.

THE DISK DIRECTORY

When using the program, from the title screen (the only place where the QUIT key is active) press any key to begin. Type the floppy drive number from which you want to get a disk directory. Only program type files, i.e. Basic, Extended Basic and assembly memory image, will have their filenames listed on the screen, together with the size of each and tape recording time.

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The topmost screen line shows the number of program type files that are on the disk. Eighteen filenames can be displayed on the screen at a time, so if there are more than that on the disk, you can page in other screens of filenames with the CTRL/X and CTRL/E key combinations. The cursor can be moved up or down beside the filenames with FCTN/E and FCTN/X keys. Select filenames for copying by typing a "C" at the cursor or cancel a previous marking by using the space bar. As in DM1000, type "A" (for all) to copy all programs or type "N" (for none) to clear all those marked already.

As each file is marked for copying, or unmarked, the status info on the very bottom screen line is updated. The status line shows the number of files marked for copying and the total cassette recording time.

The period of silence between each program recorded is set by Tapemaster at 4 seconds with an additional 8 seconds at the beginning of the tape to allow for the length of the tape leader. The additional 8 seconds is allowed for on the recording time on the status line. For a 60 minute tape, round about 28 minutes should be the maximum recording time aimed for on each side of the tape.

When you have finished selecting filenames to be copied, press PROCEED (FCTN/6). The next screen shows a few cassette recorder instructions some of which may need further comment.

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Because the 99/4A directs its audio output for cassette through both CS1 and CS2 red leads simultaneously, it is possible to record onto two recorders at once. At one stage, by using a 4 way distribution box and four tape recorders, I was able to record 4 tapes at once out of the computer.

Tapemaster automatically controls the CS1 and CS2 cassette motors, starting and stopping them at the appropriate times. For this the black leads with the 2.5mm plugs are connected to the recorders. If the black leads are not plugged in, it won't really matter except that the actual recording time to tape will turn out to be greater than that shown on the screen status line. This will be attributed to the time taken to load the selected programs from disk to memory while the cassette motors are still running.

A screen input option allows you to print out a record of the filenames that you have selected for copying. If you elect to print a list, you also get the option of changing the output devicename from the default of PIO. All output is performed in the append mode. This is done so that if a number of different filename lists is output to a disk file, like DSK1.TAPELIST, then each list will be added, or appended, to the end of the previous lists on the disk file. These can then be loaded with TI-Writer and edited or printed out in part or whole. /7

Most programs saved to tape will be in Basic or Extended Basic. Note that an Assembly memory image file on tape can only be of use if memory expansion is installed and a special loader such as Will McGovern's CASSLOAD is used to load and run it.

Versions 1.2 and later will be capable of also copying those large INT/VAR 254 Extended Basic programs but earlier versions cannot so this type will have to be saved by the OLD DSK1, SAVE CS1 method. Note also that some Basic programs on disk access data files on the same disk. These are not suitable for copying.

Though some may think that the days of the cassette based system is numbered, just remember that there are many users out there just starting off with such a system and they are the ones that need most assistance. In the Brisbane Users Group we have had lots of inquiries lately from people, many of whom had shelved their TI99/4As some years ago. They now seem to want either faulty consoles repaired and/or to inquire about availability of software. Some of this response can be attributed to the fact that this group now has a telephone directory listing so worded that it is placed next to Texas Instruments Australia. This company has been kind enough also to direct inquiries they receive regarding the TI99/4A to our User Group. /8

#Keep on Hacking!

Jany