# NEw HAMPSHIRE 99 ＇ERS FEERUARY 1985 NEMSLETTER 

## 

Dur menters hail fron as far north as Santornville，as far west as Bennington，as far south as Hestford，MA and as fat down east as Beryick，ME．Mony can＇t join us at each meeting，so please don＇t get too upset if sone of this info seens redundarit．

Graphic demonstrations vere the highlight of the January neeting，vith Richard Scott stealing the shou with his presentation of SUPER gikcich．He also shased us the screen dump of a sketch which he drew with DRAM \＆PLOT（Quality Softuare）．The artuork is reproduced elseythere in this issue．The GRAPYICS DISPLAY GEEERRGOR vas also deno＇d and ve would like to renind youl that the tape is available＂on loan＂if you are interested．

He have instituted a＂Lending Litrary＂，You can naw torrow＂packets＇of the out－of－state neysletters which ve receive via the MEHSLETTER EKCHAMGE PROGRAM．Each＂packet＂contains apfrox， 19 editions．These neusleters fron User Groups across the country（and Canda）are are an invaluable gource of info on the 4／A．Exch＇packet＇can be borroued for up to 2 veeks．
 by ail the cost is $\$ 1$ ，55．These are shipping costs only！

Also awilable＂on lonn＂is the graph manul．Anyone seriousty interested in graphics should consider this progran， He have at least two nenbers who yould like to purchase CRPPHX，and if they can get three nore menbers interested the price drops $\$ 10$ per unit．Please renenber that these copies are the club＇s originals，feel free to copy then，but，Please send then back！

Pentatively scheduled for the Febraury 27 th meeting is a demonstration of the CORCOWP Disk Drive Controller by new nenber nike lespatikas of Hey Ipsyich．Hike has recently moved to 怆 from South Carolina where he was a menber of a UG．He are anxious to compare rotes！

## 《《＜BULLETIN BOAROD＞＞＞


 subscription．This is a limited tine offer（expires $97 / 31 / 85$ ）．Eyery issue is chock－full of bargains ind computer neus fron all over．Send your orders to us along with $\mathbf{6 5}$ ， 29 ．Please allow six ueeks to receive your first issur．Don＇t delay！Page

 524.95 As IS，Disk Drive（with self－contained pouser supply）and Disk Controller（not a card）\＆$\$ 99,88$ conplete fó Is etc． There is a sinilar ad on page 113 by SABET ELECTROHCS．

Murgo hotive－3H Tagart Drive－Hasha，NH，The state Attoriey General has filed suit with this cnapany and charged its officers with violatimg consuaer protection laws．The suit alleges false advertising of stock and stipnent．The coapany＇s phones have been discomected and conpany officials could not be raached for connent．

TRADIO ShCCK．Dan Chase of RS Hooksett（663／669－7797）advised us that he stocked the grey T199／4A keyboards


JEERRS．As of 02／gh／85 the s，Hillow St．－Manchester store had the following peripherals in stock：

$$
\text { Periptieral Expansion Bnx..... } 59909 \text { (26) }
$$

Bare drive for PEI．．．．．．．．．．．599．98（56）
no controller card
Moden ．．．．．．．．．．．．．．．．．．．．．．．．529．88（7）
External disk drive．．．．．．．．．．4199．83（19）
These itens are not on the floor！For more infomation contact Marie Doyon ！SEAPs（ $633 / 669-8208$ Ext． 257 ）for nore info． Anyone else is liable to give nisinforation．

 exelusively thru mal order sales. To obtain a complete list of their bares send 94.5 to suidisk. In turn, they will




 received on 1/24. It was incumplete and ome disk was mislabelled and a duplicate of another, Horethelesa, what ae did

 next issue hou our "protlea" was solved,


 allow the user to screen, printer, or disk a complite map of what is or a digk... \$12, Req, same as $C+A$, They hive sabeal other programs listed. Cuntact thea for mure info.
 coloines the atility either to decode the built-in cryptic mesades or to copy published cryptograms from gour fayorite ganes

 32k ind Disk.
 the 9960 Hicro Exparsion Syatelin.
 disk controller, Joha Clulow of the New Horizone and OH-MI-TI UG's received an MES to test ontris BiE. He claims that it has run perfectly for ouer 358 continuque hours. Latest price....t? 5 ?,??,

 called Bhliners which creates large signs usifig a printer, a directocy progran that will keep a kaster directory of all disk
 serepüprint atility, and a true lower case routine.


## 

Thanks to Richard Scott of N, Berwick, ME for the captivating graphic demonstrations, Good Luck in the DRad \& PLOT conitest!

Thanks also to Chris Ferris and family of Coffotown for allowing us to use their syatem for emergeney disk duplications. By the wa, Chuis ours a Navarone HICGET... what a tian saver! It sure does save wear aad tear on the cartdridge port.

This month's issue includes a game programed in FORTH by Jin Jajielaki, Designed for the novice, this gatir should hirlp you better understand the power of FORTH.

CASSETTE SETTING was written by Pau! Lancie of Berwich, ME, Paul has cunied his Il for 3 years arid expanded his susten as a result of a tip whith he received at the January meeting, His two children ach have their own cuirsoles. Paul is hoping to find time to dabble vith Assentily Language and surely Forth. For those of you who purchased the fssy ganes disk wior to $2 / 1 / 25$, Paul has supplied us a "fix" for loading CROSSFIRE. Change tha end of line lab of the LOAD program to read: If $x=4$ TㄷN 188.
 didn't have enough brice this wonth to include some of his submiseions, but hang in there, thes will appear in euture editions. Hearty thanks to Richacd, Jimand Paul and all those who hare written artiches for us. Without gün there wouldn't



I have over 600 non-copyrighted proprams in my library. I will
process your choices onto cassette, disk, or hardcopy for $\$ 1.00$ each
and copy unit. Comparable proorams may be exchanged. For more info. see me at the next meeting or contact me at:

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```
T. I. bare drive for PEB Excellent cond. \$90. \(\varnothing \varnothing\) DRAW "N PLOT by Quality 99 Software \$25.øめ. Call Richard J. Bailey a/c 663 332-7855
```


# --- CASSETTE SETTINGS -- - 

-- Volume $=$ WAY UP TONE $=$ WAY DOWN ———
What??? Tone WAY DOWN !!! That's right. WAY DOWN as in all the way towards 0 , or all the way towards "Lo" as it is called on my GE recorder. But wait you say. The books all say to set TONE all the way up, or all the way towards HI. That's right; that's what the books all say.

So how did I come up with this idea? As seems to be the case with cassette recorders, I was having my share of problems in getting consistant performance in reading programs from my cassetto recorders. The first recorder that I used was borrowed from my boy. It is a Panasonic mod.RQ-2107. Using the $T I$ instructions resulted in a very narrow acceptable band of "Volume" settings( between 7 and 9). Any other "volume" setting just would not work. I lived with this problem for a while, then $I$ purchased a GE Mod. 3-5152B. At the time GE did not yet have the "Dataset" which they now sell. The $3-5152 \mathrm{~B}$ has a counter, and that's what I needed. With the GE recorder the acceptable volume settings improved, however i still had problens reading some tapes, including tapes purchased with programs already on them as well as some tapes that I reffered to as my "garbage" tapes. These could only be read 1 out of 10 times, on a good day. Does any of this sound familiar?

What makes one tape readable, and another not readable? That seemed to be the 6 million dollar question. So I brought my cassette recorder to work, where I was able to look at the output signal with an oscilloscope. In reviewing both "good" as well as "garbage" tapes, I could see that the garbage tapes were producing more signals that did not resemble anything regular in shape or level. Reducing the "tone" setting, while increasing the "volume", produced a signal that most resembles the two frequencies that represent the computer data. (With a caseette recorder, 0 's and $1^{\prime}$ o are represented by two different frequencies, as in telephone modem..) It's been a while sincel did this, but as I remember the lead tone is represented by a frequency of beahz. (cycles per second), with data tones of $1200 H Z$., and 240aHz. Please don't hold me to these numbers. As 1 say it's been a while, and of course I didn't wite anything down.

Forget all the technical mumble jumble. The important thing is that these settings worked, and they continue to work. I have not had one misread. Not one, not with "good" tapes, not with "garbage" tapes. I consider this something of a miracle. It's been over a year sincel started using this method, and my mon now has his Panasonic recorder hooked to his TI. He got one of the $\$ 60$ machines for Christmas 1983. We had to shake the sand out of this recorder before we could use it, but, you guessed it, "Volume" is all the way UP, "Tone" is all the way DOWN. And it works great.

So if you are using a cassette recorder, try it, who knows, it might work for you too. My next article will deal with my experimences with my new green video monitar (not all good). See you then.

Paul G. Lanaie - P.O. Box 658 - Berwick, Me. 63901

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＊NUMEEF FHLE GHILE E＇r：JIM JHIGIELEKI＊

## 

Enter the program in an＇s three ecinsecutiwe screens of the FORTH Prosram disk．Fitter this is done，LOHB the screens．When the program is compiled enter the TIFER Eetting for the game．

For example＇ 165 G TINER ！
＊Remember to enter the ward！after the ward TIMER whichi will tell FURTH to store the Giitered TIMER value．

Ffter TIMER is set，erter the word RUH（thi三 will begin the gane＞
The game is programmed for two people using joystick：number 1 and 2．The object of the game is to race around the ecreen collecting the rumbers．H Epecific number alsa representiz its paint vialue． Remambar that sour ofporient will be racing around the screen collecting numbers at the same time you are．The game will end when the timer reaches zero．At this time ocu may aive the TIMER a different value and／or reestart the game bis entering RUN．
＊NUTE：FELEHEE ALFHA LOLK EEFORE STANTINL GFME．

This was copied from TIBBS, Portland, ME. 1-267-797-569ø
This is an 80 column file that was uploaded by Jonathan Moral.
These LOADS apply to XB WITH EXPMEM only, except where noted, and MAY, repeat MAY work for the E/A module, and/or MINI/MEM.

```
**CALL LOAD(-31896,16)..DISABLES FCTN QUIT KEY
**CALL LOAD (-31806,64)..KILLS SPRITES
**CALL LOAD(-318ø6,32)..DISABLES AUTO SOUND PROCESSING
**CALL LOAD(-318ø6,128).DISABLES FCTN QUIT, SOUND AND SPRITES
**CALL LOAD(-318ø6,ø)...RESTORE ANY OR ALL DF THE ABDVE
**CALL PEEK(-31974,A,B).in the command mode. Then..PRINT A6+B-1776.
```

This is roughly the equivalent to the SIZE command in XB. The 1776 figure is the approx. overhead in TI BASIC. XB has slightly more. If you have ever had a very, very long program and are unable to run it with your disk drives, this is for you. It is much easier with MINI-MEM, and that explanation follows.
**CALL LOAD $\{-31888,63,255):: N E W$. .frees memory/disables disks. **CALL LOAD (-31888,55,215)..then, RUN, NEW or EDIT to restore.

This is equivalent to CALL FILES( $\varnothing$ ) in XB (which of course you can't do.) and has the effect of completely disabling the disk drives, and freeing up the memory allocated to the disks. Any calls to the drives, once the LOAD has been involked, will FREEZE THE COMPUTER, and you will have to turn it off to restore. Involking this command prior to loading your long program via cassette, will negate your having to turn you PEs on and off again.

MINI-MEM. . . .
With the mini-mem installed, its even neater, and you can save your very long programs on disk and use them again, WITHOUT having to turn your PES on and off. Here's how.

1. use the call load command above.
2. load your long program via cassette. Then save EXPMEM2.
3. Restore your disk by typing CALL FILES (1)......NEW.....then OLD EXPMEM2.
4. Save to DSK1. under whatever name you desire.
5. When you wish to use the long program, merely CALL FILES(1), OLD DSK1.PROGRAM, SAVE EXPMEM2, CALL LOAD (-31888, 63, 255), NEW, OLD EXPMEMZ. 6. Run your program.
6. If you still get a MEMORY FULL message at that point....sorry, I can"t offer any more than that.

To restore the DRIVES without turning the PES off and on, use the same location with number 55. CALL LOAD $(-31888,55,215):$ :NEW or RUN or EDIT
**CALL PEEK $\{-28672, A)$.. Checks for speech synthesizer. If attached, returns a value of 255 if speech synthesizer is attached, and 127 if speech synthesizer is not attached.
I have received info from other sources that, depending on the system, the return will be 96 if attached and $\varnothing$ if not attached. Fool around with this location to determine what value is returned on Your system.
**CALL LOAD (-32630, 128). .returns you to the title screen (not recognizable due to graphics not restored, but its there.
**CALL LDAD (-31961, 149): : END or STOP.-will reset you XBASIC, search DSK1 for a program called LDAD and RUN that program if it is found. **CALL LDAD (-31961,51): : END.-resets to the title screen, with full graphiceimplimented.
**CALL LDAD (-32572, 1)..produces a "MUSHIE" keyboard.
**CALL LOAD ( $-32572,128$ ). . disables the keyboard.
**CALL LOAD $(-31878, x)$. . where $X$ is the highest number of sprites you are using. Useful for halting SPRITES $>X$, or, if $X=\varnothing$ then brings all sprites to a grinding halt.
**CALL LOAD $(-318 \varnothing 6, x)$. $-5 a m e$ as above, but reputed to work a little faster to accomplish the same task.

This mext one takes some experimentation, and it’s use, is again, dubious. **CALL LOAD (-31745, 0 ). . produces a frozen screen, which, after a few seconds, blanks entirely. Restore by pressing (FCTN -). ** $-32443,-32187,-31931,-32699$ are located in SCRATCH-PAD ram, and are selfduplicating. Whatever is found to be at $>81 \varnothing 0-81 F F$ will also be found at $>82 \emptyset \emptyset-82 F F$ etc. Therefore loading EITHER of these locations with a specific value, will accomplish the following:
i.e. CALL LOAD (-32699; $X$ ). . (within body of program) where $X=$
2. .activates ON WARNING NEXT command.
4.-activates ON WARNING STOP command.
16. activates TRACE function.
64.activates ON BREAK NEXT command.
**CALL LOAD (-31866, 33,0$)$. . then SIZE. makes it seen as if you have just gotten something for nothing, but don't believe it. Try other values, and prove it to yourself.
**CALL LOAD (-3186B, 0 ). . (withing the body of a program). . If the program is halted with a FCTN 4 (break), listing the program will be impossible, as will RUNning the program again. You may, however CON to resume the program.
**CALL LOAD (-31748, 1). . normal cursor speed, and normal duration for WARNING tones and INPUT beeps. Loading with a larger number makes the cursor blink faster, and increases the length of the tones. Try values 2 or 18 for fairly good results. Using $\varnothing$ (zero) halts cursor and disables tones.

I'm sure there are a lot more interesting and useful locations to be played with, than what $I$ have been able to collect over the past few months. I have (4) four locations which are used to "unprotect" protected extended basic programs. I will give all four locations to anyone who can supply me with one (1) good location, different from those detailed above, as well as other uses for those locations. I will also accept ANY useful or worthwhile information about the TI machine. DROP YOUR COMMENTS/LOADS/POKES/PEEKS Off to me via MAIL TIG45ळ, or to:

TERRY ATKINSON
28 SAVONA CT.
DARTMOUTH, NS
B2W 4R1, CANADA
I will then SMAIL you with the four locations for unprotecting protected programs in $X B$.

MANY THANKS TO THOSE WHO HAVE RESPONDED WITH KIND REMARKS AND OTHER LOCATIONS WHICH I HAVE INCLUDED HERE. UNFORTUNATELY, I AM UNABLE TD GIVE PROPER CREDIT; AS I HAVE MISPLACED THE ORIGINAL LIST OF DONORS.

## TIPS FROM THE TIGERCUB

## \#18

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TIGERCUB SUF IWAKt
15b Collingmood Ave.,
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Distributed oy Tiqercub Software to II-99/4A Users Groups for pronotional purposes and in exchange for thear newsletters. May be reprinted by non-orofat Users' broups, with creait to ingercub Softmare.

By new catalog is is naw avallable for 51.00 , which is deductable from your first order. It contains over 130 prograss in Basic and Extended basic at only 63.00 each Colus $\$ 1.50$ per order for casette, packing and postage, or 53.00 for orskette, ifth).

The entire contents of Tips troan the Tagercub nos. 1 through 14, with sore adoed, are now avallable as a full disk of so prograss, routines and files for only $\$ 15.00$ postpala.

Nuts \& bolts 15 a diskfull of 100 (that's right, $100!$ ) xbasic utality subordarans in mefige toreat, ready for you to aerge into your own prograss. Contents incluae is type fonts, 14 text olsolay routines, 12 sorts and shuffles, 9 oata saving and reading routines, 9 mides, 8 pauses. $b$ ausic, 2 protection, etc., etc., all for just \$14.4 postpalo!

New proarans this month -
TCX-1058 SCRUH, nom avalable in Extended basic. l'e told that this challenging puzzle-qane has been proaraned tor other computers under the nane Merlin. I naven't seen it, but $I$ don't think you can teat ay version - 1t's 511 puzzles in one!

TCX-1137 SOUMDAAKER, a very versatile utality progran to develop sound effects, then save the in the fors of actual progras lines. requares Extended Easic: dask only.

I aust first thank all those nemsletter editors and other users' qroup otticers who are trying so hario
to helo ae keep ay kitchen
table enterprise alive. une users aroud reprinted ay entire catalog in thear newsletter, another 15 putting it on their bis, another ade ae an honorary lite neaber, adny others have eentioned and reconeended ay sottware in their newsietters.

Unfortunately, all that support hasn't heloed very auch. frou reading the editorials in any newsletters, 1 can easily see that cost users qroups consist of a fem dedicated hard-working individuals and a lot of......well, frankly, freeloaders. And treeloaders don't ouy software!

To borrom a fem quotable quotes troe the newsletters, "too sany getters and not enougn givers", ano "users are users!". That 15 why users groups are tading away. software producers are qoing out of business, and the $11-99 / 4 \mathrm{~A}$ wall ole betore sts tiae.

In the last lips, 1 entioned the one readining oug in ay 28 -Coluan Lonverter. I have found a tix for 1t. Ine version putisned in liosils was a norrible example of sloppy proaramang, so I have rewritten at entirely -
100 DIJrLay at (1.4)EkASE aLL :"28-ciluma COnverier: : : D! jflay atic,lil:"by Jin feter son ${ }^{*}$
110 Disthay al(5,1):" to con vert a prograe, saved":"witn
LIS "DSKL.rillename".":"1 nto 28 -colum tornat mich": 'can be aerged into the text -
120 DISFLAY AI (9,1): 'butter of II-writer."
130 DISHLAY Ai(11,1): 0ptio nally with transliter-":"ate OE, k, t, ~ and. for": "prı nting tron fornatter":"node. $\cdot$
140 Display Al(1b, 1): ' Progr
aa should be KES in':'steps
of 10 startand at $100^{\circ}:$ "beto re LISTING to dask."
150 DISPLAY at (20.1):" Do yo $u$ want to print the*:*1le $f$
 ratter?"

160 ACCEPI AI 24,1 VALIDAIEI "EF") bEEF: 4 :
170 LM=100 : 1 CALL LLLAK ::
IMPUT "What 15 the FILENAME? OSK1.":FN: : : FN: = "US
Kl.'eqFNs: : PRINT: :
180 IMPUT "what 15 the new $F$
ILEMANE? DSK1.":FN\$:: PN\$
="OSKl."EPNS :: OFEN $\operatorname{ll}$ IFNS, oISFlay , Variable 80, INfut : : OPEM \#2:FNs, DISPLAY, VARIA BLE B0,OUTPUT
190 IF 0 : $=$ "E" THEN 200 :: PR IMT 2:". TL 126:94;": : PRIN 1 2: ${ }^{\circ}$.IL 123:64;": : PRINT
2: ${ }^{\circ}$. IL 125:38;" : : PRINT $\$ 2$ : ${ }^{1}$.IL 124:42;": : FRINT \$2:* .IL 92:46;": PRINT 12:".NF -
200 IF EOF(1)=1 THEN $300::$ LIMPUT 1:A A
210 If LEN(AS)<80 THEN LM $=L N$
$+10: 6070260$
220 LINFUT $11: 65$ :: IF POS(B s, STk $\$(L N), 1)=1$ lHEN FLAG=1 : $L N=L N+10:$ 6ul0 260
 60 THEN LN L LN+10: : 6010 200 240 LIMPUT $11: 65$ :: IF FOSCE s, STFis(LN), 1)=1 THEN FLAG=1
: : LN=LN+10: : bUlÜ 260
250 $\mathrm{A} 5=\mathrm{Astb} 5:$ : $L N=L N+10$

## $200 \mathrm{~S}=1$

270 Ls=SEGs(As, S, 28): : If Es ="E" IHEN $280::$ 60SU日 320
280 IF LSC)** THEN 290 :: IF FLAG=1 THEN FLAG=0 : : A $\$=6$ : $: 6070210$ : ELSE 60T0 20 0
290 FFINT 2:L5: : $5=5+28::$ 6070270
300 IF 0s="E* THEN 310 : : Ph
IMT \# 2: ${ }^{\prime}$.FI:AL;"
310 CLOSE 11 : CLOSE 12 : END
320 DAIA (see instructions belan')
330 hesture $300:$ for $m=11$
$05:$ : htall CHs.hs
$340 x=F O S(L)$ CHs, 1): : IF $X=0$ THEN 360
 s(LS, $X+1$,LEN(LS)):: 6070340 360 NEAI C :: KEIURIN

The DAIA eleaents to be troed in Ine 320. separated by comas, are the "at" slon aoove the at lre teft brace on the tront of the fker, lie
anpersand above the 7 ，the right brace on the front of the 6 ，the carat sag above the $b$ ，the tulde on the front of the $w$ ，the asterisk above the $G$ ，the whatsit？on the tront of the $A$ ，the period，and the backslash on the front of the 2 ．If you don＇t mant to revert to FILL and ADJUST，delete the second statement in line 300.

## Beware the Ao bug！The asterisk

 in the above progran 15 transliterated because of an odd quirk of II－writer which causes it to change Al256 into Ab！It nappened to ae，and l＇ve sean it in two puolished progras．If ay Autoloader gives you d couple of asterisks instead of the nunder of sectors，it＇s decause you nave files over 49 sectors long．you can cnange the laage in line 170 to sif if you mant to．

Here 15 prodady the last word on the challenge towrite a l－line xbasic prograe mach would scramole the numbers 1 to 255 into a rando sequence mithout duplication．This one runs in 17 seconds！

100：FFiOM TISOFT（bELGIUM）
NEWGLETEE V． 6 \＄JULY－SEFT
84 －anonymous
110 D1K H（255）：：FOR $1=0$ TO
255：：K（I）＝1：：NEXT I：： OR $\mathrm{I}=0$ T0 $255 \mathrm{~s}:$ ：Randualle ： ：CaLL FEEK（－3i808，お）：$k=K 1$ J）： $\mathrm{f}(\mathrm{J})=\mathrm{R}(\mathrm{D}): \mathrm{f}(\mathrm{I})=\mathrm{K}:: \mathrm{N}$ EXII
120 FUH：J＝0 TO $255:$ FFIINT
R（J）：：：Next J
I believe that Craig Miller 15 due the credit for publishing the Ftek used in that routine．he aiso found a reek to get two randon numbers，mich i fooled around with untal I discovered I had a sosquito trapped behind ay IV screen．

100：nusbullo oy dia reter
son troe a Fetk by Craig Mil ler
110 Labll Eleâh ：：lall brh 11


120 KANOUMIZE ： 1 CALL HEEK1－ $31808, A, B):$ ：CALL $\operatorname{HOHION}(11$ ， A－12日， $\mathrm{E}-12 \mathrm{~B}):$ ：60T0 120

If you＇re married about the eosquito getting out，you can put a screen on the window by adding a statement to line 110 －CALL CHAR（S2，＂FF8日688日FF48B88日＂）

## Here＇s one for the kiddies－

luo keh－dancing stilikan o
rooramed by Jin feterson
110 Call Llear
120 Din S（ 20 ）， $1(60)$ ，NN（60）
130 FOR LH $\mathrm{L}=4 \mathrm{~B}$ TO Q 0 SIEP $\theta$
140 CALL CHARILH，＂000U28107L
1028＂）
150 NEXI CH
160 bubub 540
170 FOR SEI＝3 107
180 LaLl CULUKiset，1，11
190 NEXT SEI

000 F＂，H 0 F＂，＂ 00
0000000 ＂，＂ 8000 区＂，＂$\quad$－
000 e＂
210 DATA＊ 88000 E4．＂．H
hHOOOPFF＂，＂H 8 e $\mathrm{F}^{\prime \prime}$ ，＂H
BE $\mathrm{F}^{\circ}$ ，＂HHH \＆E $\mathrm{FFF}^{*}$＂＂

eqe＂
ZTiO FFilnt－dancing stac
kan＇：：：：
230 heslont 200
240 FUR $J=11014$
250 KEAD AS
200 MKINT THE10）：HS
270 NEXI J
280 LALL CULUK $(3,10,5)$
290 CALL LULUK 4 4，16． 11
300 CALL CULUR $(5,5,16)$
310 GUlU 640

，400， 460
juO REIUNA
340 CALL LULUA $14,1,1$ ）
$3 \pm 0$ LaLl CULUFi $(0,10,5)$
360 buSut 500
370 CaLL LULUK $10,1,1$ ）
380 CaLL COLOF $14,16,7$ ）
340 KETUKN
400 CALL LULOK $(5,1,1)$
410 call culur $(7,10,7)$
420 busut z （1）


440 CALL CULOR $(5.7,16)$
450 KETURN
460 CALL COLOK $(4,1,1)$
470 Call Culuf $5,1,1$ ）
480 CALL CULOK $16,10,51$
490 Lall Luluf $17,10,7$ ）
500 GOSUG 560
510 Call Lulufion，1，1）
520 CALL CULOR $17,1,11$
330 CaLl CULUH $(4,16,1)$
540 CALL $\operatorname{CULUR}(5,5,16)$
550 KEIUKM
560 FUK $U=1$ TO 30
570 MEXT D
580 hetukn
$540 F=202$
600 YOK $N=1$ Tu

1
b20 HEXT N
$630 \mathrm{~S}(26)=40000$
640 RESTORE 740
650 FOF $J=1 T 060$
660 KEAD I（J），NM（J）
670 NEXI d
680 RETUKN
690 FUR $J=1$ 10 60
700 CALL SOUNTI（IN！ 2100. SINN
（J）），0， $\sinh (j))+5,5)$
710 b05ub 320
720 NEXI J
$7306010-90$
740 UAIA $4,6,4,10,4,13,4,12$ ，
$4,17,4,13,4,17,4,15,4,12,4,1$
$3,4,13,4,15,4,17,6,13,4,14$
750 UAIA $4,0,4,1 j, 4,1 j, 4,15$ ，
$4,17,4,14,4,11,4,14,4,13,4,1$
$2,4,8,4,10,4,12,8,13,4,13,4$ ，
26
700 UAIN $4,10,4,12,4,10,4,4$,
4，10，4，12，$, 13,4,6,4,10,4,8$ ，
4，6，4，5，4，0，8，6
170 URIA $4,10,4,12,4,10.4,4$ ，
$4,10,4,12,4,13,4,10,4,6,4,13$
$, 4,12,4,15,8,13,4,13,4,26$
1 usec to sion oft with riepo．
nackin＇＂，out the randals and thaeres have made nacking a olsreputade
mard，so

## Meromm

The hoercub
Jin reterson
< NUMEEE RFLEE GFME E'T: JIM JHLIELSKI ;
EASE-VE SFLITZ HEX SEEU, SHTR GEBE SGOT : LAFME ;

G WHRIHELE GCOREZ a WHRIHELE TIMEK ES VHRIHELE TC
EE WHRIHBLE $X 1$ EE WFRIHELE XL ES WHFIHELE Y1
; INIT-EFRS EE ES S 1G 1 SPRITE EE ES E IE 2 SPRITE 1 MFGHIF'

PEEZ 日ZIE $1 E G Z$ EZTE 11 SPCHFR
CGCO DEDS FFFF 1818 12 EFLHFK:
TECG FCFE BELE EETC 13 GPCHAR
SC7C EUDE FEEE EGFE 14 EFCHFK
F7 ENB $3+9$ R RHD $22+511$ EFRITE
F7 RND $3+97$ RND $22+E 124$ GPRITE
F7 FWHD $3+97$ KHUB $22+A 155$ SFRITE
F? RHU $3+97$ RHD $22+7146$ EFRITE;
SPUT1 X1 世 Y1 区 1 SPRFUT ; : SFUT2 X2 区 Y2 世 2 GFRFUT ; -ーソ
ECR \#34
( GFME CONTINUED-1...)
$\times 1+12 \times 1+1$ EPUT $1 ;: \times 1-1-2 \times 1+1$ EPUT $1 ;$
'r'1+1'Y1 世 E'
Y1-1 Y1 世 $10 \geqslant$ IF-2 'r1 +! EFUT1 ENDIF;

$Y 2+1$ YZ EGY IF $2 Y 2+!$ EFUTZ EHUIF;
YZ-1 Y2 E 10 $>$ IF - 2 YZ + ! EFUT2 ENDIF; $\because$
UFI YSTHT E $4=I F Y 1-1$ ENDIF;
- DULNI YETAT E FC $=$ IF Y $1+1$ EHBIF;
: KILHTI XSTAT $4=$ IF $X 1+1$ ENDIF ;
- LEFT1 天STAT EFC $=1$ FHID IF X1-1 ENDIF;
11 - UFZ Y'STAT 世 $4=I F$ YZ-1 ENOIF;
12 : DUWNE YOTHT EFE = IF YQ+1 EHDLF;
13 : RIGHT2 XSTAT $4=I F \times 2+1$ EHOIF ;
14 : LEFT2 X'STHT E FC = IF XZ-1 EHDIF;
15 - - >
SLR \#ت5
(GFIME CUHTIHUED-2...)
JECHN1 1 JÖST YETHT $\mid$ XSTHT 1 UF 1 DULNH FIGHT1 LEFT1 ;

- SE1 C 1 gatox'r SLURE1 E . .
- GCE C 2 gotukir SCOREZ e . ;
- EOINE1 ? 3 LIG 114 COINC IF EEEF $F$ R RUD 3 +
97 RHD 22 + I SFRFUT I SLOREL + 1 SLI EHOIF LUÜ;
- COINCE 7300 I 24 COING IF EEEF F? FWU $3+$
97 RHU 22 + I SFRFUT I ELORE2 + 1 ELこ ENUIF LUUF ;

INIT-SFRS SF! PAGE." TIMER: " CR ." FLFYER \#I: "CR
." PLAYER \#Z" " TIMER E $1+1$ DU 5 G GUTOX" TIMER E I - .
SPI JELEN1 EOINC1 JELANE COINCE LOUF 73 GUTOXT

R-うEHEE


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