

M.U.N.C.H. C/O J. W. COX 905 EGDEBROOK DRIVE BOYLSTON: MASS. 01505

NEXT MEETING: TUESDAY, SEPTEMBER 13th.

POSTMASTER: Forwarding and Address Correction Requested.

FIRST CLASS!!

NEXT MEETING TUESDAY, Sept. 13, 1994 7:00 PM. Happy Birthday, MUNCH.

MUNCH OFFICERS AND NUMBERS (all in 508 area unless noted)

PRESIDENT W. C. Wyman 865-1213 VICE-PRESIDENT Bruce Willard 852-3250 MUNCH DUES: TREAS./EDITOR/CLK. Jim Cox 869-2704 New Membership \$25.00 Jack Sughrue 476-7630 Reneval DEMO LEADER \$15.00 Asst. Demo Leader Lou Holmes 617-965-3584 Newsletter Sub. \$13.00 Walt Nowak 413-436-7675 LIBRARIAN Advanced Programmer Dan Rogers 248-5502

AUGUST MEETING. The August meeting had eight members in attendance. We tried to repair a file on Disk #133, I am not sure if we got it completely right, so we might continue this meeting. Jack showed the new enhancement to Funnelweb. It is 5.01 and has the 40 column editor with corrections and docs. This is an enhancement to Fwb. 4.40.

SEPTEMBER MEETING. If Jack can attend he will continue with the Funnelweb demo along with other interesting stuff. If he has school related obligations, that's right school is back in session, then we will have to wing it.

RAFFLE. Every month we have a raffle to help defer the rental cost of our meeting hall. A typical raffle will have programs, blank disks, books, bumper stickers and all sorts of odds and ends of interest to the T.I. user. This month we have some Tandy Model 4 computers.

REPRINTS. Reprints are permitted as long as credit is given to M.U.N.C.H.

ARTICLES. I am always looking for articles for this newsletter, anything which interest you will probably interest other members of the T.I. community, so please share your ideas and opinions with all of us.

DISK LIBRARY. The disk library is at all meetings. We have copies of all disks in the library and they are available to members for just \$1.00 for each disk unless otherwise specified. You can order them through the mail, please add \$1.00 for the first disk and \$.40 for each additional disk ordered to cover postage and handling.

DISK OF THE MONTH. This month's DOM #135 is the Funnelweb 5.01 40 column enhancement plus docs. It is a full DSSD disk. I will also have as disk #136 a disk of Funware games including The Ambulance game which was so popular at our July meeting.

ADVENTURE II. This is our fund-raiser for 1994/95. The cost to members is \$4.00 add \$2.00 for first class postage. The regular price is \$6.95 plus postage. This is a two DSSD disk set, archived. There is also a special on The Adventure Compendium and Adventure II for members it is \$8.00 plus \$3.00 for first class postage.

- 7. 3.5" drives can be hooked up bare without the 5.25" bracket with 34 pin socket IDC (insertion displacement connector) connected to the square pins on the 3.5" drive. If this is done then the odd ball but findable 4 pin 3.5" drive power connector must be used. These are odd ball because they are not the same as the 5.25" drive power connectors. These connectors do not have a polarity tabs and can make difficult getting the proper polarity or orientation of the connector to plug in. Go for the works; get the 5.25" bracket and the card edge adapter board that includes standard 5.25" power connector. These adapters may have a jumper for use on PC IT or AT clones; be sure to select IT.
- 8. Unless you have help from a Gurn or user who has successfully installed and used the same drives, then get info from the seller or manufacture on drive-selects, other jumper options or features, and resistor packs. On some new drives, the resistor pack is permenantly soldered to a high density logic board with a jumper to disable or enable the use of the resistor pack for installation as lesser drive or drives on the chain. If such a drive is the last drive in a chain whose other resistor packs can be removed, there is no problem.
- 9. Buy or at least shop for any drive or power connectors or power supplies or cases as you may or may not need depending on what you already have.
- by vendors selling chips and electronic parts, not by the dealers of floppy drives. The chip parts dealer will have alot of the necessary parts for homebuilt linear supplies at the lowest total cost of parts. A general list for a linear supply is a transformer, AC line cord and plug, switch, filter capacitor rated above 2200uF (micro farads), bridge rectifier or diodes, linear regulators both 5 and 12 volt.
- volts. Some 3.5" drives are very low power and some require only a 5 volt supply. 3.5" drives require the least power. New 5.25" half height drives never require more than 1 amp on 5 and 12 volt lines and can be as low 1/2 amp. on the 5 and 12 milline. Add the amperage required for each drive for each 5 and 12 volt line to check your power supply needs for your drives. Drives can be powered separately because the 34 pin cable will carry the common logic signal ground between all drives on the the train and the computer. If builing a linear supply be sure the transformer, bridge rectifieror diodes and linear regulator exceed your amperage needs. The transformer should be at least 12.6 VAC RMS and 6.3 VAC RMS (transformers are commonly rated with RMS virtage at their secondaries).

This information was kept as general as possible so as to guide the 41 buyer. How to buy used floppy drives could never be this informative. Anyone whisizing to document their experiences with a specific drive or drives is invited to do so by attaching this general article. An archived document.

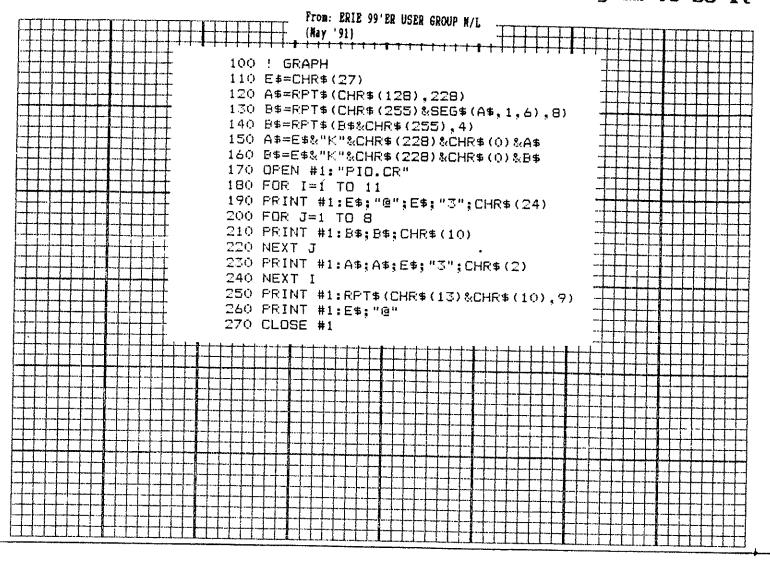
My preferences are Mitsumi drives 3.5" and 5.25" any density. These irives are the most quiet drives you WILL ever hear. They have a jumper block to enable disable the resistor pack though have not verified the identity of the jumper as of yet. Another preference are the MBC 1036 3.5" 720k drives. They are small, quiet and durablely solid, and like any other 3.5" drive lightwieght and low power. Also, recommend Chinnon 3.5" 720k drives. These are much the same as the MEC drives except for screw shaft stepper motor and extremely low power and 5 volt only operation make it better. These drives may be the lowest power in the industry.

\*Copied from the Central Westchester 99er's\*

## ——HOW TO BUY NEW FLOPPY DISKS DRIVES—— by Richard Roseen

- 1. Check for quality the main mechanical parts of the drive. They should be located on a solid die cast peice of metal. In other words solid metal structure throughout as the base of the drive that holds the motors, soleniods and other movable parts. Avoid any drive put together with metal plates.
- 2. New drives should be sold to you in autistatic plastic wrap ( usually tinted looking) and may have a fitted styrofoam container, will always be half hieght, never full bieght, at least two sided, at least capable of 360k double sided double density. 720k 80 track drives are now getting rare due to the never 1.2meg. drives. 1.2 meg. drives can be useable at 720k. (more on that later) New 3.5° drives are 720k or 1.44 They should follow the rule of die cast body as above also. Hewer 3.5" drives will have a thickness much less than a half hieght 160k drive. Only the new Myarc MFDC has promise of possible drivers to support 1.44meg 3.5" or 1.2meg. 5.25" use. Certain CorComp controllers have floppy disk controller chips that can handle the 1.44 meg data rate, but the device drivers who knows. No older Myarc disk controller will be fully capable of the 1.44 meg. data rate because of the FDC chips they use. The above also pretty much applies to the use of 1.2 meg 5.25" drives. The 5.25" 1.2meg and 3.5" 1.44 meg. drives can be used for 720k storage with the eprom driver support of the two Myarc controllers; however, if disk rotation speed cannot be jumpered through lack of information on the drive options, you would be forced to live with odd ball 720k format disks only readable by someone else with 720k capability and 3.5° 1.44 meg. or 5.25° 1.2meq. drives.
- 3. Newest drives always have a directly driven disk rotation motor. This means you will not see any beit driven disk rotation.
- 4. Varranties: ask what the manufacture varranty is. The varranty should be at least one year from date of purchase. Also, check to see what the seller's quarantee is on the drive. Typically the seller's quarantee is full replacement for 30 to 90 days, in addition to the one year manufactures varranty. The varranty will give you plenty of time to verify that you do not have a lemon drive.
- 5. Get the seller's business card with address and phone. Get a receipt in which you and the seller have a copy which must contain the serial number of drives bought and date as well as the cost. If the seller's address is on the reciept clearly that will substitute the business card. These requirements are necessary for the manufacture's warranty and so you can later find the seller or manufacture for information. It is not always possible that the seller has info on the drive, but it will not burt to ask for data manuals, or schematics.
- 6. For quality look for heads mounted on assemblies that are mounted to move solidly not jerkily such as on two rails instead of one. For low mechanical noise or low clattering (increased reliability and longer life) look for solid movement of the head assembly by a stepper motor through two following examples: stepper motor that drives a screw shaft or two straps that wind on or off the stepper motor shaft and on or off of the head assembly as the heads move in either direction. Heads take the biggest beating in floppies and more often involved in alignment of a drive. An example of the stepper motor that drives screw shaft is the 3.5° 720k Chinnon and Fujitsn. In example of the strap that winds on or off the stepper motor shaft and on or off the head assembly is the Mitsumi 360k 5.25° drive.

### Need Groph Poper In A Hurry? Here's A Program To Do It



#### PROGRAM LISTINGS:

Have you ever tried listing a Basic or XB program with the printer? It prints out in 80 columns. This saves paper but it doesn't look like the screen display. And if you want to publish a program, the 28 column format is the only way to go. But, I keep forgetting the printer commands for getting a 28-column listing so when I saw an article with the printer commands spelled out, I decided to put them in a short program and let the disk do the remembering for me. The printer has to be turned on first, then run this short program to set the printer, then load the program that you want to list (OLD DSKn.File name). Then enter the standard command LIST "PIO".

Here is the program:

100 REM PROG-LSTER

110 OPEN #6:"PIO"

120 PRINT #6:CHR\$(27);CHR\$(

81);CHR\$(28)

130 END

Line 120 may be different for some printers. Also, the last number, 28, could be changed to another value such as 40 if that is your prefered column width.

P.S.: I experimented first with trying to save a program to disk in a D/V28 file but the computer wouldn't "list" anything but a D/V80 file, even if I opened the file ahead of time as a D/V28 file. The command is: LIST "DSK1.File\_name", and adding any file specifications resulted in a syntax error message.

-Phil Van Nordstrand, JSC Users Group

#### MAKE YOUR OWN FLASH CARDS

#### by Tony Falco

Last summer a friend came to me with a programming problem. He wanted a program to display arithmetic flash cards, with any numbers, and problems in text book format. It was not as easy a task as I thought it might be, but the string commands in BASIC coupled with T.I. Extended BASIC's DISPLAY AT and ACCEPT AT commands did the job.

The user picks one of three operations. Then he picks his own numbers. Entering  $\langle Q \rangle$  for the first number will end the program. The program works best if the child and parent work at the computer together.

In a future article, I will show how to adapt the program so the computer generates the problems.

10 CALL CHAR (104, "FF80808080 B080FFFF010101010101FF") 20 DISPLAY AT(12,6) ERASE ALL \*"PICK ONE-->+-x +" 30 ACCEPT AT(12,22)SIZE(-1)V ALIDATE ("+-X") BEEP: OP\$ 40 CALL CLEAR :: CALL FLASH :: CALL CHAR (95, "0000FFFF") 50 DISPLAY AT (3,4)SIZE (-6)BE EP: "RIGHT: " :: DISPLAY AT (3, 15) SIZE (-6) : "WRONG: " 60 DISPLAY AT(5,10)SIZE(-6): "SCORE: " 70 FOR J=12 TO 15 :: DISPLAY AT(J.1)SIZE(-25):" " :: NEX ΤJ BO DISPLAY AT(13,7)SIZE(-1)B EEP: OP\$ 90 ACCEPT AT(12,9) VALIDATE(D IGIT, "Q") SIZE (-4): A\$ 100 IF A\$="Q" THEN 280 ELSE ACCEPT AT (13,9) VALIDATE (DIGI T)SIZE(-10) : B 110 A=VAL(As) 120 C=-(A+B)\*(OP\$="+")-(A\*B) \*(DP\$="X")-(A-B)\*(DP\$="-") 130 B\$=STR\$(B):: C\$=STR\$(C): # M=MAX(LEN(As),LEN(Bs)): N =MAX (M, LEN(C\*)) 140 DISPLAY AT(13,1)SIZE(-5) " " " DISPLAY AT(13,7-M+LE N(A\$))SIZE(-10):OP\$ 150 DISPLAY AT(13,9+LEN(A\$)-LEN(B\$))SIZE(-10):B\$ 160 DISPLAY AT(14,8+LEN(A\$)-N) SIZE (-10) | RPT# (CHR# (95) , N+ 2) 170 ACCEPT AT(15,9+LEN(As)-L EN(C\$))SIZE(-LEN(C\$))VALIDAT E(DIGIT, "-")BEEP:D 180 IF D=C THEN R=R+1 :: CAL L SAY("#THAT IS RIGHT"):: CA LL DELAY(200):: GOTO 250

190 DISPLAY AT(12,19) BIZE (-L EN(A\$)):A\$ 200 DISPLAY AT(13,17-M+LEN(A \$))SIZE(-1):OP\$ 210 DISPLAY AT(13,19+LEN(A\$) -LEN(B\$))SIZE(-LEN(B\$)):B\$ 220 DISPLAY AT(14, 18+LEN(A\$) -N) SIZE (-9) : RPT\$ (CHR\$ (95), N+ 2) 230 DISPLAY AT(15,19+LEN(A\$) -LEN(C\$))SIZE(-LEN(C\$)):C\$ : : W=W+1 240 CALL SAY ("#THAT IS INCOR RECT"):: CALL DELAY(700) 250 S=INT(100\*R/(W+R)+.5) 260 DISPLAY AT(3,10)SIZE(3): R :: DISPLAY AT(3,21)SIZE(-3 ) : W 270 DISPLAY AT(5,17)SIZE(-4) :STR\$(S)&"%" :: GOTO 70 280 CALL SAY(STR\$(R)):: CALL SAY("CORRECT AND"):: CALL S AY (STR\$(W)) 290 CALL SAY("NOT CORRECT"): : CALL CLEAR :: END 300 SUB DELAY(X):: FOR D=1 T O X :: NEXT D :: SUBEND 310 SUB FLASH :: CALL SCREEN (12) IT FOR Z=1 TO B IT CALL COLOR(Z,2,15):: NEXT Z 320 CALL COLOR(9,2,2,10,12,1 2):: CALL HCHAR(1,1,104,768) 330 FOR Z=2 TO 6 :: CALL HCH AR(Z,5,32,22):: NEXT Z 340 FOR Z=10 TO 18 :: CALL H CHAR(Z.3,32,27) : NEXT Z 350 CALL HCHAR(7,6,96,22):: CALL VCHAR (3, 27, 96, 4) 360 CALL HCHAR(19,4,96,27):: CALL VCHAR(11,30,96,8):: SU BEND

#### PLAYING WITH NUMBERS 07 (cont)

Known data tells us that no member of this series can be a prime number unless the number of ones is a prime. All rep numbers with an even number of ones are divisible by 11 and also by all the other factors of the -/+ pair at half the power (Y/2). All members of the series with an odd composite number of ones are divisible by factors already rep numbers smaller determined by  $(10^{Y}-1)$  where Y is a factor of the larger number. Where Y is a prime number, the rep number with Y ones "may" be prime but most probably isn't. There is no way to predetermine such factors. If any, they must be discovered by base-ten factoring. The only known prime rep numbers are those with 2, 19 and 23 ones. No one seems to know whether there are any more, or whether there are an "infinite" number of them.

The rep companion series  $(10^{Y}+1)$  propagates factors in a different way. The factors of  $(10^{Y}+1)$ . for any value of Y, (plus any new factors not predicted but discovered), are factors also of  $(10^{3Y}+1)$ , and on to reps with 9Y, 27Y 81Y... ones. Moreover, the factors of every member of this series are propagated into the (-1) rep series with twice the number of ones.

Following are the analytical relations between the two wings of the decimal PNS probe:

 $(10^{Y}-1)/9=R(Y)$ , a rep number containing Y consecutive ones.

 $R(Y)x(10^{Y}+1)=R(2Y)$ R(Y) can be prime only if Y is prime. If Y is prime,  $(10^{Y}+1)$  cannot be prime. (Proof: if Y is odd the number of digits in  $(10^{Y}+1)$  is even. Every member of this series (Y=odd) is divisible by  $(10^{1}+1)=11=R(2)$ .  $R(2)=(10^{2}-1)/9=11$ .

Only if  $Y=2^N$  "can" ( $10^Y+1$ ) be prime, (but thus far I have found only one:( $10^2+1$ )=101=prime).

All this foreshadows the beginnings of a kind of "order" left in the wake of a number probe shot into Chaos. But this is a view through only one window that was opened by the ten fingers of two human hands. Ancient astronomers opened the Base 60 window by the needs of their minds to probe the universe of space and The Binary window was opened by time. pioneer mathematicians who laid foundations for modern arithmetic, and in this century utilized by clever young men endowed with insight to recognize a instrumentation capable key to conquering a chaos of complexities that were causing responsible brains to climb walls before the creation of electronic computers.

We have yet to find the PNS window that best reveals the structure of the subnuclear universe of creation and the biological designs for life forms through cycles of formation, growth, maturation, disintegration and recycling.

"Numbers" with insight provide a language capable of igniting a human brain to understanding beyond the range of his physical senses. Verballizing thought blocks the way to insight that is instantaneous and devoid of "words".



111234567890098765432111

1 PLAYING WITH NUMBERS 1

0 No 7 0

9 By Meredith Beyers 9

9 999876543210012345678999

THE SPINE OF A NUMBER PROBE AN OVERVIEW OF PNS RESEARCH

It is very easy to experiment with the essence of PBA number research, using the TI99/4A computer. Only by doing so can you get the gut feel of what it is all about. The purpose of this summary and the program that implements it is to make it as easy as possible.

In the October issue of the "Computer Voice" you will find clips from the PBA Glossary which contain some of the seed ideas. But to save you from looking them up, a brief summary follows:

Repunit Numbers (Reps, for short) are the spines of our number probes, the way we measure magnitude in a numerical universe of positional notation systems. No matter what the base, B, or the power  $(B^{Y}-1)/(B-1)=R(Y),$ exponent, Y, a repunit number consisting of a string of Y ones. In every PNS, whatever the Base, PBA research expresses orders of replacing magnitude by zero "1". place-keepers with the counter,

This preserves the value of each positional power of the base so the value of the number will be the sum of the powers in each position. This is the sampling and measuring tool of a

"number probe". The information is retrieved through two numbers that are obtained by subtracting "1" from, and adding "1" to, the last digit of the power attained. Analysis of these two numbers reveals the information we need to predict factors of composite numbers of ever increasing magnitude. list and name some of the prime factors of numbers too large to comprehend or print. The importance of this will be apparent in extrapolating THE SIEVE OF ERATOSTHENES.

 $10^{Y}+1=1000000000...0001(Y-1 zeros between 2 ones).$ 

Value:  $1\times10^{Y}+1$  where 10=B(base) and Y=Power(2 to Y).

Base ten gives us the only PNS in which 10=ten. Base 2 gives us the only PNS that gives us the repunit strings of ones without division because "B-1" is the divisor and 2-1=1.

 $(10^{Y}-1)/(B-1)\times(10^{Y}+1)=(10^{2Y}-1)/(B-1).$ 

This means that all the factors of both  $(10^{\gamma}-1)$  and  $(10^{\gamma}+1)$  are factors also of repunit strings of twice the length, containing twice the number of ones. This snowballs into the "future" of ever larger numbers as the "probe" goes on beyond our ken or means to track it.

















## The T.I. Educational World of Tony Falco

DISK MENU: DISK=TO-MUNCH-1

USED: 355 FREE: 3

[A] ALGEBRA 10 [B] BALLISTICS Ç (C) BOGGLE 9 [D] CALLS [E] CMPCTMUSIC 5 14 [F] CRAPS [G] CRAYONS 8 27 [H] DOODLER 11 []] FRACTIONS 17 [J] HANGMAN 9 [K] ITALIAN [L] JUMBLE 8 28 [M] KISMET 6 IND LEARNCOUNT [O] LEARNLETTR 12 1Ø [P] LIMERICKS [Q] LOAD 9 9 [R] MAGNIFYCHR [S] MATHMOSAIC 8 [T] MUNCHORGAN 6 [U] MUSICSCALE 5 [V] PIANO 1Ø 10 [W] PLAY-TUNES 9 [X] SPANISH 22 [Y] TICTACTOE [Z] WUMPUS

\* = NON-PROGRAM FILE

DISK MENU: DISK=TO-MUNCH-2 USED: 353

FREE: 5

[A] ACEY-DUCE'S 14 17 [B] BINGO (C) BIORYTHMS 33 25 [D] G1/A [E] HEALTHEXAM 41 [F] INTRO/COMP 37 9 [G] LOAD 47 [H] NUMNIBBLER 29 [I] PLAN-TRACK [J] STATISTICS 22 4.0 [K] SUPER-CITY 39 [L] WORDWIZARD

\* = NON-PROGRAM FILE

DISK MENU: DISK=TO-MUNCH-3

USED: 205

[A] BUS\* 4 5 [B] CASTLE\* [C] CLOWN\* 4 39 [D] CRAYON-BOX [E] \*\*\*\*\*\*\*\* 25 28 [F] DUMPXB\* [G] \*\*\*\*\*\*\* 4 [H] HALLOWEEN\* []] <del>\*\*\*\*\*\*\*</del> 4 4 [J] HOUSE\* 9 [K] LOAD 5 [L] MODEL-T\* [M] SHIP\* 4 [N] SPACE-MAN\* 4 4 [O] TEST\* 4 [P] TRAIN\* 3 [Q] TRUCK\* [R] WORD-WORLD 42

\* = NON-PROGRAM FILE

DISK MENU: DISK=TO-MUNCH-4

USED: 355 FREE: 3

[A] ARMY-WORLD 39
[B] BOUNCEBALL 8
[C] BULB-DROP 18
[D] CALLPRINTR 9
[E] DOCUMENTS\* 17
[F] FACE-GAME 4Ø
[G] HALLOWEEN 1Ø

[H] LEARN-GAME 41
[I] LOAD 4
[J] LOADER 9
[K] PIN-BALL 21
[L] POLICE 41

[P] STAR-FIGHT
[Q] USA-MAP

\* = NON-PROGRAM FILE

8

33

4

9

44

5 disks - #8.95 M.U.N.C.H.

M.U.N.C. H. 90 James Cox 905 Edgebrook Drived Boylston, MA 01505

DISK MENU: DISK=TONY-DRILL USED: 266 Munch #5

FREE: 92

[A] 1-DIGIT>1Ø 8
[B] 2-DIGIT(-) 8
[C] 2DIG+1DIG 8

[D] ADD/2DIGIT 8
[E] BEAMER+- 16
[F] BEAMER\_/X 16

[G] BEAMER\_X 16
[H] BORROW 8

[]] BORROW-2 1Ø []] BORROW-3 1Ø

[K] BORROW-41Ø[L] COMMANDS33

[M] DIVISION 34
[N] EASY-TIMES 4

[O] EZ-DIVIDE 5
[P] LOAD 9
[0] MULTIPLY 14

[Q] MULTIPLY 14 [R] PICK-OWN 8

[S] RED\_SOX 22 [T] X-FLASH 9

[U] X-FLASH 7

\* = NON-PROGRAM FILE

NOTE: Some of these programs require speech.

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