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THE TINY MICRO COMPUTER NEWS SERVICE

VOLUMN II

\$2.00 per issue

SEPTEMBER 1980

\$9.75 Semi-Annually

ASTROVISION ACQUIRES BALLY CONSUMER PRODUCTS DIVISION: NEW MARKETING DRIVE PLANNED FOR HOME BALLY PROFESSIONAL ARCADE'.

COLUMBUS, Ohio - 9/19/80 - AstroVision, Inc., Columbus-based electronics firm is mounting a three-prong marketing and manufacturing drive for the 'Bally Professional Arcade'. AstroVision purchased the Consumer Products Division of Bally Manufacturing Corp. in August,

'The Bally Professional Arcade', with 14 cassettes and 28 existing games and educational programs, is the most technically sophicated home electronic video game

You told me that the Bally Arcade was dead: How come it's

nut here anymore????

center available. It is the only such unit with programming capability which through the addition of a low cost add-on feature, called "BASIC" with an audio interface, expands capabilities for self-teaching and other uses.

"AstroVision's plans for the 'Bally Professional Arcade' includes an international marketing thrust into Europe and Latin Am-

erica, the introduction of seven to nine new 'Videocade' cassettes, and the introduction of an add-on keyboard to make existing 'Bally Professional Arcade' units into full scale home computer systems," Dan Dawson, AstroVision Vice President stated.

"AstroVision will position the 'Bally Professional Arcade' as a complete home computer system with state-of-the-art games plus all at-home needs," Dawson continued.

AstroVision will introduce a new 'Videocade' cassette named "Dogpatch" in time for Christmas, 1980 sales and will launch six to eight additional cassettes with new programming in 1981. These cassettes will

include the long sought-after "Second Generation Space Invaders Game".

The full scale add-on keyboard will also be available in 1981, according to Dawson.

"The Bally Professional Arcade is far more than a game machine. It offers basic programming capabilities with the "Brain", a powerful micro-processor that creates a memory bank and which holds more than 12, 000 instructions, even before a cassette is inserted. Each unit includes skill games such as Checkmate, Gunfight and Scribbling and features a full five function, ten-key calculator," Dawson said. "With the add-on keyboard scheduled for 1981, the 'Bally Professional Arcade' will be a complete

home video computer center offering versatile fam-Astrovision gave it ily entertainment plus vi"new Life", and now tal bookkeeping, business management and household management programs".

> Games and educational programs currently offered for the 'Bally Professional Arcade' include:280 Zzzap. Bally Pin, Sea Wolf, Red Baron, Football, Toranado Baseball, Star Battle

Astro Battle (a space invader game), Amazin 'Maze', Tic-Tac-Toe, Black Jack, Poker, Acey Ducey, Dodgem, Missile, Panzer Attack, Brickyard/Clowns, Tennis, Hockey, Handball, Bingo Math, Speed Math, Letter Match, Spell 'n' Score, Crosswords, and BASIC.

BASIC, a unique feature for the 'Bally Professional Arcade' permits the user to create his own programs, it provides an entire library of video games, art, music and more, plus a self-teaching course that lets users develop programs in minutes.

The 'Bally Professional Arcade' will be available through Montgomery Wards stores and other leading retailers. For further information contact AstroVision, Inc.,

MAIL ADDRESS: P.O. BOX 266, NORTH HOLLYWOOD, CA 91603

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6460 Busch Blvd., Suite 225, Columbus, Ohio 43229, 800-848-4377.

'Bally Professional Arcade' units will have suggested retail prices of about \$299.00 with cassette programs at \$19.95 & \$24.95.

BALLY WILL CONTINUE SUPPORT OF PREVIOUSLY SOLD PRODUCTS

Dick Konopa, Products Manager, Consumer Products Division, Bally Manufacturing Corp., released the following statement:

FRANKLIN PARK, Illinois - 9/24/80
"As of August 15, 1980, the Consumer Products Division of Bally Manufacturing Corp. has been purchased by AstroVision Inc., 6460 Busch Blvd., Suite 225, Columbus, Ohio.

Bally Manufacturing Corp. will continue to honor warranty and service obligations of those units purchased from Bally Consumer Products Division.

Units being returned should be sent directly to our service center: Rex Television Service Company, 6011 South Pulaski Road, Chicago, Illinois 60629.

For units in warranty, a proof of purchase must be supplied."

A FEW WORDS

BY

FRED CORNETT MANAGING EDITOR

When I first got wind of this sale, I immediately contacted Dick Konopa at Bally, and asked him for the story. Dick said he was asking all publications to refrain from printing anything regarding the Bally sale until a definitive legal statement could be released to us en-masse.

I am however, apparently the only publisher to honor his word - hence this late issue.

The Cursor Group has had several conversations with Mr. Martin Albert, President of AstroVision, and my general impression is that of definate optimism!!

As most of our readers are only too well aware, the Bally "Arcade" has consistently been treated as the "ugly step-child" by the major powers-to-be at Bally (too bad they didn't have our confidence in their product). This was their first foray into CURSOR VOL.II PAGE 58

the <u>retail</u> market, and like many inexperienced fighters, they felt they would rather talk than take the chance of getting hurt!

The only missing ingredient this brilliant ly conceived, well engineered, modestly priced micro needed to become a hugh success was an aggressive and enthusiastic distribution network, backed by extensive advertising and sufficient product support.

Mr. Albert has conveyed a very aggressive dedication in promoting the 'Arcade' and also in new product development! Astro-Vision has already started gearing up production for a modified "Audio Cassette Interface" that will load programs with a great deal less difficulty. Mr. Albert expects retail availability in early November. We at Cursor are in the process of scheduling an October meeting with Astro-Vision, and will keep you informed.

We are looking forward to having as cordial a relationship with AstroVision as we have had with Bally in the past (hopefully even better).

I would, at this time, like to say that it has been a great pleasure working with Mr. Dick Konopa at Bally who has been extremely helpful and very supportive of Cursor's efforts as the International Bally User Group (in case you aren't aware - Bally has been informing everyone who contacts them of our services). Once again.

Thanks Dick, you're a gentleman!!

SPIDER WEB

BY

ALBERT PAUL

EDITORS NOTE:

The programs of Albert Paul constitute a classical example of "Good things come in small packages!". See Alberts' last program "RING" on page 31 of April/May issue of CURSOR.

- $1\emptyset$ CLEAR ; $X=4\emptyset$; $B=\emptyset$
- 20 A=RND (8)
- $3\emptyset$ IF (A=3)+(A=6)+(A=7)X=42
- 40 LINE -x, 0,1; LINE x, 0,1; LINE 0, x, 4; LINE 0, -x, 1; LINE x, 0, 1
- 50 B=B+A; LINE B, 0, 4; LINE 0, X, 1; LINE -B, 0, 1; LINE 0, -X, 1; LINE B, 0, 1
- 6Ø X=X-A;LINE Ø,X,1;IF X<ØGOTO 8Ø
- 7Ø GOTO 5Ø
- 80 FOR T=1TO 1000; NEXT T; RUN

IMPORTANT NOTE:

It is sometimes difficult to ascertain the correct number of spaces with a PRINT statement. To facilitate ease of input, we are using the special character "t" to designate a SPACE whereever confusion could exist.

Also, please note that with all of our programs the number "ZERO" will be shown with a slash through it "9", while the letter "0" will not!!

REVERSE

BY

KARL H. WILVERT

EDITORS NOTE:

The following is an excerpt from Karl's letter:

Fred.

I am enclosing my check for renewing my subscription to >CURSOR, also enclosed is a small program that I wrote, it is primarily for children. It is an educational type of game using numbers. It can be modified very easily to work with letters if desired.

I have a Challenger CIP that I use to communicate with the BALLY. My cassette recorder serves as an amplifier for the cassette ports of each computer. This is fine for one-way communication. Mostly I send data from the CIP to the BALLY. The full size keyboard of the CIP is handy. This setup allows for me to write programs that run on both computers at the same time, many games are more challenging if the player must monitor two CRT's for information. If I only wish to use the keyboard, I enter a small machine level program into the CIP and the BALLY sees it as cassette input. This operates in principle the same as the keyboard you featured in your January issue.

I am pleased that I started with >CURSOR at the beginning. The information that has been presented to date has increased the use of my BALLY almost 300%. I can do things to it now that I didn't think were possible when I first bought mine in Feb of 1977. Keep up the good work!!

Karl H. Wilvert

Many thanks to Karl for the good words, and especially this program. If you the reader have a program that you like, please send it to us!!!!!!!

REVERSE INSTRUCTIONS

I wrote this program for my 7 year old daughter. This game teaches number relationships by having the player rearrange the list in the proper order. This is done by reversing leading portions of the list. Though this is relatively simple for adultitican be a challenge for a child.

The computer will make a list of the numbers 1 thru 9 in random order. It will then ask you how many you want to reverse. You then select the number and hit go. The computer will rearrange the list and ask again This is done until the list is in ascendin order. A siren will sound and the number o moves used will be displayed. To continue playing, follow the instructions given at that time. If you wish to stop play in the middle of the game INPUT Ø.

EXAMPLE

If your list is:	9	8	7	1	2	3	4	5	6
and you reverse 9.									
You will get:	5	6	4	3	2	1	7	8	9
If you reverse 2.									
You will get:	6	5	4	3	2	1	7	8	9
If you reverse 6.									
You will get:	1	2	3	4	5	6	7	8	9
•	THIS IS				Α	W.	₹:		

PROGRAM EXPLANATION

5 Screen Setup

10- 15 Messages for player

20- 50 Generates RND #'s from 1 TO 9 in RND order & stores them in memory.

55 Player message

60 Initialize Turns Counter, Show list

65- 66 Prompt player for # of #'s to move

70- 75 Evaluate response

80-82 Indicate invalid response & re-do 85 Increment Turns Counter

90-110 Rearrange # list per player input.

115 Display list

120-125 Check if current list is winner.

130-135 Siren & Winner message

140-145 See if player wants to play again.

150-160 Message indicating game over.

200-220 Subroutine to display # list

225 Subrtn to blank lines during play.

230 Time delay subroutine.

MAJOR VARIABLES

G Sound Generation

H Sound Generation

J Duplicate # prevention pointer

K Number list pointer

Time Delay

? Player response of # to reverse

T Number of turns used

- .
 .ζζζ REVERSE
 .ζζ ADAPTED ζ BY
- 4 .KARL H WILVERT 5 CLEAR ;BC=125;FC=1Ø;&(9)=255;NT=4
- 1Ø CX=-23;CY=4Ø;PRINT "REVERSE
- 15 CX=-77;CY=24;PRINT "WORKING UP LIST OF GNUMBERS
- $2\emptyset$ @(1)=RND (9)
- 25 FOR K=2TO 9
- 300 (K) = RND (9)
- 35 MU=@(K)
- 4Ø FOR J=1TO K-1
- 45 IF @(K)=@(J)GOTO 3Ø
- 50 NEXT J; NEXT K
- 55 CX=-77; CY=24; PRINT "HERE WE GO...THE L IST IS:
- 60 T=0; GOSUB 200
- 65 CX=-77;CY=-8;PRINT "HOW MANY SHOULD Iζ REVERSE?
- 66 NT=15; MU="R"; NT=Ø; CX=-29; CY=-32; PRINTζ
 "INPUT #",; NT=3; INPUT R; NT=Ø
- 70 IF R=0GOTO 140
- 72 IF R<ØGOTO 8Ø
- 75 IF R<1ØGOTO 85
- 8Ø CX=-59;CY=-32;PRINT "I CAN ONLY DO 1ζ + ζ 9";GOSUB 23Ø;CX=-77;CY=-32;GOSUB 225
- 82 GOTO 65
- 85 T=T+1
- 90 FOR K=1TO R÷2
- 95 Z=@(K)
- $100 \ @(K) = @(R-K+1)$
- 105 @ (R-K+1) = Z
- 11Ø NEXT K
- 115 GOSUB 200
- 12Ø FOR K=1TO 9
- 123 IF @(K) #KGOTO 65
- 125 NEXT K
- 13Ø CX=-77;CY=-8;GOSUB 225;CX=-77;CY=-32;G OSUB 225
- 131 &(21)=15; FOR G=1TO 10
- 132 FOR H=15TO 25; & (19) =H; NEXT H
- 133 FOR H=25TO 15STEP -1; &(19) =H; NEXT H
- 134 NEXT G; & (21) = \emptyset ; & (19) = \emptyset
- 135 CX=-77; CY=-8; PRINT "ζζζΥΟΌ WON ΙΝζ",; # 2,T, "ζΜΟΥΕς!!
- 14Ø CX=-65; CY=-32; INPUT "AGAIN?ζζ (YES=1 NO =Ø) "A
- 145 IF ARUN
- 150 CLEAR; NT=2; CX=-47; CY=24; PRINT "GOODBY E FOR NOW!
- 152 CX=-77; CY=Ø; PRINT "********************
- 155 CX=-59;CY=-24;PRINT "HOPE TO SEE YOU A GAIN.
- 160 GOSUB 230; CLEAR ; STOP
- $2\emptyset\emptyset$ NT= \emptyset ; CX=-53; CY=8
- 2Ø5 FOR K=1TO 9
- 210 PRINT #2,0(K),

CURSOR VOL.II PAGE 60

- 215 NEXT K
- 220 PRINT ; RETURN
- 225 PRINT "ζζζζζζζζζζζζζζζζζζζζζζζζζζζζζζζζζ; RET URN
- 23Ø FOR Q=1TO 1ØØØ; NEXT Q; RETURN

BLANK HIGH QUALITY TAPE

If you have wanted High Quality "Glitch Free" Computer Digital Tape Cassettes such as those RADIO SHACK sell for upwards of \$1.50 each but didn't want to pay the price, try CURSOR Brand C20 Digital Tapes. 10 TAPE CASE (includes individual poly boxes) \$11.75 including postage. CURSOR, 59 E.,Orange Grove Ave., Burbank, CA 91502

CHEAP TIME SAVING DEVICE

Do you only input the short programs in CURSOR because you didn't want to spend two hours inputting the long ones - only to find you made input errors and will have to spend one more hour debugging? If so, why not spare yourself all the trouble and buy your issues on tape? \$3.95 per Issue OR \$7.40 for any two Issues (includes postage, etc.). CURSOR, 59 E. Orange Grove Ave. Burbank, CA 91502

DESIGN

BY

MARK REAM

EDITORS NOTE:

This delightful little program puts up some very nice designs. When "PRESS DESIR-ED CHARACTER" is printed on-screen, select the character you would like to see as the central theme of the design and merely press that key.

We have added a couple modifications to the program that make some interesting changes. Press "GO" for new character. F.C.

- 10 .DESIGN
- 20 .BY MARK REAM
- 30 CLEAR ; NT=0
- 4Ø CX=-77; CY=4Ø; PRINT "PRESS DESIRED CHAR ACTER!
- 5Ø A=KP;CLEAR
- 69 FOR B=1TO 285; TV=A; NEXT B
- 7Ø FOR C=-8ØTO 75STEP 2;BOX C,Ø,1,88,3;NE XT C
- 9Ø IF KP=13GOTO 4Ø
- 100 GOTO 90

The above program as-stands does a horizontal sweep which changes the characters, add line 80, which will add a vertical sweep.

8Ø FOR C=43TO -43STEP -2;BOX -2,C,156,1,3;NEXT C

Make the following line changes to automatically run through all the special characters that are available on the Bally, one character at a time, pausing for a few seconds in between displays.

- 4Ø FOR A=33TO 99; CLEAR
- 50 Eliminate this line!
- 9Ø FOR X=1TO 15ØØ; NEXT X
- 100 NEXT A

MANUALS MANUALS MANUALS

NOTE: ALL MANUALS SENT 3RD CLASS UNLESS OTHERWISE DESIGNATED

- 1. Bally On-Board ROM Sub-Routines. Explains the use of the onboard routines which allow you to perform such things as you find in the "Machine Language Programs" in Cursor. Includes ASCII Standard & Nonstandard Character Sets, Cassette Memory Structure: Output Ports; Input Ports; Bally Data Base Locations; Bally Memory Locations; and On-Board ROM 8K Hex Dump. \$3.99
- 2. Hackers Manual. Describes features provided in the Tiny Basic but not documented in the Bally Instruction Booklet. (Additional Commands). \$3.49
- Disassembled Tiny Basic (CDOS Z80 Assembler Version 02.15)
 A complete assembly language listing including OP Code and comments of the Tiny Basic Cartridge. \$7.49
- Disassembled Brickyard & Clowns. A complete assembly language listing including OP Code and comments. \$7.99
- Disassembled DEMO Cassette. A complete assembly language listing including OF Code and comments, \$7.49
- 6. Bally System Description Book. Extensive and includes "Electrical Specifications for Midway Custom Circuits", Timing Interrupt handling explanations, etc. \$7.99
- 7. Disassembled System Software. A complete assembly language listing including OP Code and comments to include: Home Video Game Equates: Port Equates: System Call Indexes: Macros: Music Garcia: Music Equates: System RAM Hemory Cells: User Supplied Routines: Masks: UPI Routines Address Tables: Sentry: BCD Divide: BCD Subtract & Add: Decrement Counters & Timers: Music CPU: Vectoring Routines: Paint Rectangle Routines; Write Routines: Character Display Routines; Display BCD: Menu Routines and much, much more. \$11.99
- 8. Disassembled On-Board Games, A complete assembly language listing including OF Code and comments to include: Scribbling, Calculator, Checkmate, Gun Fight. \$13.75
- Bally Service Manual. Schematics, Parts Lists, instructions for removing RF Shields, and much more. No one should be without it:: \$3.19

TONIC FOR BITTER MUSIC

Enhancements to Cursor music program, page 18 GEORGE MOSES

If you have had the experience of carefully cramming your Bally's memory with an entire song, and upon playing it discovered sickening flaws in the timing, join the club! Here's the problem. Each duration poke tells the computer to count to a certain number while it plays each note. The bigger the number the longer the note sounds. The bad news is that the Bally can count to 50 in the time it takes it to put the data into the tone register, even for a duration of 1. So a quarter note (duration 50) plays only slightly longer than a 1/32 note (duration 6). This sounds awful when the machine is rolling along playing 16th and 32nd notes at a fast clip and the final note or a change-of-rhythm quarter note comes along and zips through disguised as a 16th note! The following correction will let the Bally peek into each duration byte as it comes up, choose the ones longer than a quarter note and double them while dividing the quarter and shorter notes by a factor of 12. Using this technique even Dave Brubeck's "Take Five" sounds respectable (somewhat) on the Bally

ADD LINE 225

225 W=%(C+3)÷256+127;IF W>25W=Wx24

CHANGE LINE 232

23@FOR D=1TOW+12xT;NEXT D

FURTHER ENHANCEMENT!

To get rid of hesitation in music caused when computer adds 101 to the A register in line 245 make

these changes:

200 NT=0; &(16)=49;&(21)=10;&(22)=136;FOR A= -24574 TO -23160 STEP 101 245 NEXT C; NEXT A; GOTO 210

MATH QUIZ

BY

HANK CHIUPPI

This program was designed for children in the primary grades, dealing with addition and subtraction at those levels.

"Math Quiz" allows you to select: addition, subtraction or both. It also let's you select the size of the numbers you wish to work with, i.e., less than 10, 18, 100 or 1000. You may also select the total number of problems you wish to solve.

To hold the players attention, the display consists of four different colors at the same time-all changing with each new problem. The computer prints out the problem number, a score, and the number of incorrect answers. You received 10 points for a correct answer, and -10 for an incorrect one. If answer is incorrect, you have 3 more tries; on the fourth try, you are given the correct answer, and an additional -10 points.

Also, there are RANDOM "Bonus" problems, which can give you 50 bonus points if answered correctly. However, you only have I chance, and -25 will be awarded for an incorrect answer. Sound effects and colors (flashing) alert you to the bonus condition.

MATH QUIZ VARIABLES

A Problem Type selected

B Maximum Problem Size

C Numbers used in Problems

н

D

E Inputted Answer

F Selects RND Statements for Normal & Bonus Problems

G Select RND Statement for Bonus

H Selects "+ or -" for "Both" function

J Total Number incorrect.

M Correct Answer

R Used if Answer is Correct.

S Score

T If T=3, Problem is Bonus

U Used for Bonus Sound Effects & Timing

V п п н н п н

. Дини пи

X Line # Reference for "+ - or BOTH".

Y Maximum Problem Size

Z Used for Timing

MATH QUIZ

HANK CHIUPPI

- 5 CLEAR ; BC=Ø; FC=7; BOX Ø,Ø,16Ø,44,1
- 1Ø CX=-32;CY=0;PRINT "MATH QUIZ";GOSUB 2Ø 13Ø
- 15 FOR RM=20078TO 20128STEP 2;%(RM)=0;NEX T RM
- 20 CLEAR ;INPUT "? PLUS=1; MINUS=2; BOTH= 3"A
- 3Ø IF $(A>\emptyset) + (A<4) = 2X = Ax2\emptyset\emptyset$; GOTO 4Ø
- 35 GOSUB 150; GOTO 20
- 40 CLEAR ; PRINT "PICK NUMBERS:
- 41 PRINT " NO.'S 10 & LESS=1
- 42 PRINT " NO. 'S 18 & LESS=2
- 43 PRINT " NO.'S 100 & LESS=3
- 44 PRINT " NO.'S > 100 = 4
- 45 INPUT "?"B; P=1
- $5\emptyset$ IF B=1Y=1 \emptyset
- 51 IF B=2Y=18
- 52 IF B=3Y=100
- 53 IF B=4Y=1000
- 55 IF (B>4)+(B<1)GOSUB 150;GOTO 45
- 56 INPUT "INPUT NUMBER OF PROBLEMSζζΥΟΌ W ISH TO SOLVE"A
- 6Ø CLEAR ;PRINT "READY";FOR Z=1TO 5ØØ;NEX T Z
- 70 CLEAR ;PRINT "SET";FOR Z=1TO 250;NEXT Z
- 8Ø CLEAR ;PRINT "GO!!!!";FOR Z=1TO 5Ø;NE XT Z
- 90 GOTO X
- 92 INPUT "?"E; IF E=M R=Ø; GOTO 11ØØ
- 94 IF E#M R=R+1;GOTO 1200
- 96 C=RND (Y); D=RND (Y); RETURN
- 199 CY=49; PRINT "MATH QUIZ"; PRINT "ζζζΟVER "; A=KP; CLEAR ; & (9)=50; GOTO 15
- 150 CLEAR ; PRINT "DOES NOT COMPUTE!!!"; GOS
 UB RM; RETURN
- 200 GOSUB 1000
- 21Ø T=RND (6); IF T=3GOSUB 2ØØØ
- 22Ø GOSUB 3ØØ
- 23Ø CX=-8Ø; CY=4Ø; PRINT #5, C; PRINT "+", #4, D; PRINT "="; P=P+1
- 240 GOSUB 92
- 3ØØ GOSUB 96
- 31Ø IF C+D>YGOTO 3ØØ
- 32Ø M=C+D; RETURN
- 400 GOSUB 1000
- 410 T=RND (6); IF T=3GOSUB 2000
- 420 GOSUB 500
- 43Ø CX=-8Ø;CY=4Ø;PRINT #5,C;PRINT "-",#4,D;PRINT "=";P=P+1
- 44Ø GOSUB 92
- 5ØØ GOSUB 96
- 510 IF C-D<0GOTO 500
- 52Ø M=C-D; RETURN

- 600 H=RND (2)
- 61Ø IF H=1GOTO X-4ØØ
- 620 IF H=2GOTO X-200
- 700 PRINT "THE ANSWER IS",M,;R=0;GOSUB RM;GOTO X
- 1000 CLEAR ; BOX 0,0,160,88,1; BC=RND (32) $\times 8$; FC=BC-2; & (0) =FC+48; & (1) =FC+48; & (2) =B C; & (3) =BC; & (9) = 21
- 1Ø1Ø IF P=A+1P=P-1;GOSUB 1Ø2Ø;GOTO 1ØØ
- 1Ø2Ø CX=8;CY=8;PRINT "SCORE:",#5,S;CX=8;CY =-8;PRINT "PROB #:",#4,P;CX=8;CY=-16; PRINT "# WRONG",#4,J;RETURN
- 1100 S=S+10; F=RND (5); GOSUB 1100+F \times 10; IF T =3GOTO 1300
- 11Ø5 GOSUB RM; GOTO X
- 1110 PRINT "WAY TO GO!"; RETURN
- 1120 PRINT "THAT'S RIGHT!"; RETURN
- 113Ø PRINT "YOU'RE OK!"; RETURN
- 1140 PRINT "YOU'RE SMART!"; RETURN
- 1150 PRINT "YOU GOT IT!"; RETURN
- 12ØØ IF R=1GOTO 1295
- 121Ø IF R=4GOTO 7ØØ
- 122Ø F=RND (5);GOSUB 122Ø+Fx1Ø;IF T=3GOTO 14ØØ
- 1223 IF H=1GOTO 24Ø
- 1225 IF H=2GOTO 44Ø
- 1228 GOTO X+4Ø
- 1230 PRINT "SORRY"; RETURN
- 1240 PRINT "THAT'S WRONG!"; RETURN
- 1250 PRINT "NO WAY!"; RETURN
- 1260 PRINT "TRY AGAIN!"; RETURN
- 127Ø PRINT "THINK!"; RETURN
- 1295 S=S-2Ø;J=J+1;GOTO 122Ø
- 1300 S=S+40;G=RND (3);GOSUB 1300+Gx10;GOSU B RM;GOTO X
- 1310 PRINT " YEA!!!"; RETURN
- 1320 PRINT "YAHOO!!!"; RETURN
- 133Ø PRINT "WOW!!!"; RETURN
- 1400 S=S-5;G=RND (3);GOSUB 1400+Gx10;GOSU B RM;GOTO X
- 1410 PRINT "BOO!!!"; RETURN
- 142Ø PRINT "WRONG!!!"; RETURN
- 143Ø PRINT "TSK! TSK!"; RETURN
- 2999 FOR V=1TO 5; & (19) =49; & (17) =39; & (21) = 42; & (22) =19; FC=83
- 2Ø1Ø FOR U=3ØTO 2ØSTEP -1;&(16)=U;NEXT U; FC=BC-2
- $2\emptyset2\emptyset$ FOR U=2\(\mathbb{O}TO \) 3\(\mathbb{O}; \& (16) = \mathbb{U}; \text{NEXT U} \)
- 2Ø25 NT=Ø;CX=-68;CY=-8;PRINT "BONUS!!!
- 2030 NEXT V
- $2\emptyset 4\emptyset$ FOR W=22TO 16STEP -1; & (W) = Ø; NEXT W
- 2Ø5Ø NT=3;RETURN
- 20130 FOR XY=1TO 1000; NEXT XY; RETURN

HAVE FUN:::

NOTE MATCH BY MIKE PEACE

Here's a game for the "tin-eared" (you know, can't carry a tune, etc.); who have secretely desired becomming a concert affettuoso (and for those who think they have a good ear).

The computer will play a note and your object is to recreate that same note using hand control #1. Push Joystick forward for higher note, or pull Joystick toward yourself for lower note.

If you wish to hear "computer's note" again merely move Joystick toward either side.

- 1 .NOTE MATCH
- 2 .BY MIKE PEACE
- 3 .WAVEMAKERS
- 5 NT=∅; CLEAR ; & (21) ±255
- $1\emptyset$ CY=1 \emptyset ; A=RND $(18\emptyset)+5$; BC=8; FC=7
- 2Ø CLEAR ;PRINT "COMPUTERS NOTE";&(19)=A;F
 OR X=1TO 8ØØ;NEXT X
- 30 CLEAR ; PRINT "FOR YOUR NOTE
- 40 PRINT ;PRINT "HIGHER-PUSH JOYSTICK!!";P RINT "GLOWER-PULL JOYSTICK
- 45 FRINT ;PRINT "TO HEAR COMPUTER NOTE";PR INT "AGAIN-MOVE JOYSTICK +OR>.";PRINT
- 5Ø B=B-JY(1); IF B>185B=185
- 6Ø IF B<5B=5
- 7Ø IF TR(1)GOTO 1ØØ
- 8Ø IF JX(1)GOTO 2Ø
- 9Ø &(19)=B;GOTO 5Ø
- 100 IF B=APRINT "CONGRATULATIONS! IN TUNE"; GOTO 150
- 110 IF (B=A+1)+(B=A-1)PRINT "ALMOST PERFECT !";GOTO 150
- 120 IF (B=A+2)+(B=A-2)PRINT "NOT TOO BAD!"; GOTO 150
- 130 IF (B=A+4)+(B=A-4)PRINT "COULD BE BETTE R";GOTO 150
- 140 IF (B>A+5)+(B<A-5)PRINT "NOT CLOSE AT A LL!!
- 150 $\epsilon(21) = \emptyset$; PRINT "TO TRY AGAIN, PULL TRIGG ER
- 16Ø IF TR(1)GOTO 5

170 GOTO 160

ORGANIZING TAPES

ΒY

FRED CORNETT

I have always felt that one of the major problems we have had is not being able to selectively load a particular program from a tape containing numerous programs. The only way we could do it was to use the ":LIST" command and search through the

tape until we found our program, then back up the tape and ":INPUT".

Well, no more!!! A new function has been found that will allow you to label each program as you store it on tape. When you wish to INPUT the program you will use that "label" to selectively load the program and automatically ignore any program preceding or following it.

The beauty of this system is it will ignore any glitches preceding the actual listing thereby facilitating a clean load.

Let us suppose we wish to load our first program on a tape, we could do it thusly:

:PRINT ;TV=1;TV=1;LIST ;PRINT ":RETURN; RUN

Do not press "GO" until your tape recorder is recording!

The KEY here is in "TV=1;TV=1"; this will show up as "??" before the program listing appears.

To retrieve this program from tape, we would key in the following:

:INPUT 257

Why 257? You must multiply the <u>first</u> TV=number by 256 and <u>add</u> the <u>second</u> TV=number.

To place the second program on tape, do the following:

:PRINT ;TV=1;TV=2;LIST ;PRINT ":RETURN ; RUN

To retrieve this program from tape, keyin: :INPUT 258

...and so on...

I suggest you record your programs & INPUT codes on the tape label, i.e., 257-OTHELLO 258-WUMPUS 259-CLUE

BACK ISSUES AVAILABLE

We have had numerous requests for info regarding BACK ISSUES: The following are available:

 Jan. 80 Contains: Electric Bill Analysis: Plastic Puzzle, Instructions for adding a Full-sized ASCII Keyboard: Life Systhesis Model.

2. Feb. 60 Contains: PLEK n' POKE: Hex to Lecimal Converter: String Array ê(A) Memory Locator: Instructions on how to add a Printer: Bubble Sort: Camel; Memory Map: WUNDUS.
3. Mar. 60 Contains: Three Voice Music Assembler: Star Wars Music: Chopsticks; Chicago Loop: Lace Curtain: Character

Set Size Multiplier: Rotation; National Distributor Info.
4. Apr/May 80 Contains: DMA Graphics (climinates BCX & LINE commands, allows very complex graphics!): Reference Books, Product Review (Computer Ear-Speech Recognition Unit for Bally): Music Contest: RING: Alarm Clock: Byte Saving Hints.
5. June 80 Contains: Direct Color Video/Audio Circuit (for

5. June 80 Contains: Direct Color Video/Audio Circuit (for Color Monitor or VCR etc.); Galactibattle (Game); PRINT & STRING Tutorial: OTHELLO: ASCII Conversion Chart; Cursor Control Chart.

 July 80 Contains: CURSOR Keyboard & 48K Memory Add-On info: ARCADE GOLF: Shell-Metzner Sort; Wavemakers "Mazemaker:: Floating Point Math; User Group Meetings.

VOL. 2, Issue 1 (August) Contains: Cursor Inventory Control (Business Software): "Connect Four" (a professional quality game): software for the Computer Ear (Anderson Research) - 'Pun With Music'.

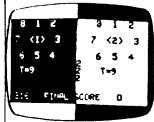
SENU \$1.60 per back issue desired OR \$9.75 for Volumn 1 to: CURSOR, 59 E. Orange Grove Ave., Burbank, CA 91502.

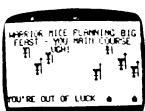


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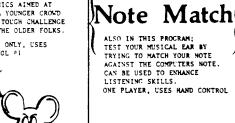
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