PREPARATION of the ARCADIAN has been modified slightly by the obvious use of the COMPRINT printer for text as well as programs. I am using the MUSE "SUPER-TEXT" word processor on my Apple to prepare this issue. Aside from being able to type the material and then store it for future use or revision, the output is nicely justified so that the right side margin is neat.

WEST COAST COMPUTER FAIRE is coming up shortly, due in San Francisco on the April 4 weekend, Brooks Hall.
I shall have booth 09 there, up against the wall, and we (Dick Houser and I) shall have all the items we have been talking about in the ARCADIAN there, maybe some new ones as well. If in the area, please drop by to visit with us. Local subscribers are invited to drop me a card if you can help out for an hour or two at the show.

TELEPHONE NUMBERS here at headquarters are (408) 258-4586 for the private line, 272-2364 gets the rest of the family.

CORRECTIONS required to previous programs.

GOLF Bob Hensel writes that the following should be added to the program after the listing shown in the last issue:

```
:RETURN;NT=0;BC=25;FC=92;&(0)=170;&(1)=170;&(2)=7;&(3)=7;INPUT
N;&(9)=20;GOTO 100
```

The inputted N is the number of players, 1 to 4. Have to apologize here, this line, which was on Bob's tape, does not print out when you list the program, and I didn't notice it.

GRANDFATHER CLOCK In line 15, the values of @(14) and @(15) should be swapped - it goes bong-bing instead of bing-bong.

MUSICAL STAFF Line 120, last statement should read GOTO 850 The zero dropped out.

ALTERNATIVE ENGINEERING reports that due to a problem in locating more of the transformers used in their power supplies, they have temporarily discontinued this product.

THE DIGITAL COUCH PROGRAM WAS REWRITTEN FOR THE BALLY FROM A PROGRAM BY DAVID TUNBO. ORIGINALLY PRESENTED IN CREATIVE COMPUTING, AND WRITTEN FOR THE OHIO SCIENTIFIC CHALLENGER II.

THE DIGITAL COUCH PROGRAM TURNS YOUR COMPUTER INTO A PSYCHIATRIST. IT DRAWS A PICTURE NOT UNLIKE AN INKBLOT AND GIVES THREE CHOICES AS TO WHAT THE PICTURE LOOKS LIKE. THE PROGRAM KEEPS SCORE AND RATES THE PLAYER WHEN THE "TESTS" ARE OVER.

THIS PROGRAM IS NOT TO BE TAKEN SERIOUSLY, AND WOULD PROBABLY BE BEST PUT TO USE AT PARTIES, ETC.
THE CHOICES GIVEN, AND CONCLUSIONS REACHED, ARE RANDOM.

THANK YOU,
BOB WEBER

DIGITAL COUCH

```
  10 :RETURN ;CLEAR ;GOSUB 1005;S=0;FOR J=1TO K;CLEAR ;X=30;Y=20;B=0;BC=RND (25
);FC=BC+12;BOX X,Y,3,3,1
  20 A=RND (4);IF A=4X=X+3;IF (X>70)+(PX(X,Y))A=RND (3);X=X-3
  30 IF A=4GOTO 100
  40 IF A=3X=X-3;IF (X<0)+(PX(X,Y))A=RND (2);X=X+3
  50 IF A=3GOTO 100
  60 IF A=2Y=Y+3;IF (Y>40)+(PX(X,Y))A=1;Y=Y-3
  70 IF A=2GOTO 100
  80 Y=Y-3;IF (Y<0)+(PX(X,Y))A=0;Y=Y+3
  90 IF A=1GOTO 100
  95 B=B+1;IF B=9GOTO 200
 100 BOX X,Y,3,3,1;GOTO 20
 200 CY=0;F=0;PRINT "IS THIS A:";C=RND (12);IF RND (3)=2F=C;G=1
 210 D=RND (12);IF D=CGOTO 210
 215 IF RND (3)=2F=D;G=2
 220 E=RND (12);IF (E=C)+(E=D)GOTO 220
 225 IF RND (3)=2F=E;G=3
 226 IF F=0F=D;G=2
 230 PRINT "(1) ",;GOSUB Cb1000;PRINT "(2) ",;GOSUB Db1000;PRINT "(3) ",;GOSUB E
b1000
 240 L=KP-48;IF L=GGOTO 400
 250 PRINT "NO, IT'S A";GOSUB Fb1000;GOSUB (RND (4)+12)b1000
 300 FOR Z=1TO 999;NEXT Z;NEXT J
 310 H=(Sb100)cK;PRINT "LET'S SEE NOW.";PRINT "YOUR SCORE IS ",#1,H,"%";PRINT "I
 WOULD SAY....
 320 IF H<20PRINT "YOU REALLY ARE A MESS!
 330 IF H<40IF H>19PRINT "THAT YOUR BRAIN IS HALF A BUBBLE OFF CENTER!
 350 IF H<70IF H>39PRINT "THAT YOU SHOULD BE KEPT   AWAY FROM SHARP OBJECTS!
 360 IF H>69PRINT "TO GET THIS MANY RIGHT,   YOU MUST BE TWISTED!
 370 STOP
 400 PRINT "VERY GOOD! THAT'S RIGHT!";S=S+1;GOTO 300
1000 PRINT "RODNEY";RETURN
1005 PRINT "THE DOCTOR WILL SEE YOU   NOW,";PRINT "HELLO, I'M GOING TO SHOW  YOU
 A SERIES OF PICTURES.
1010 PRINT "WHEN I ASK YOU, INDICATE  WHICH OF THE THREE CHOICESIT LOOKS LIKE TO
 YOU.
1020 PRINT "BASED ON YOUR ANSWERS, I  WILL EVALUATE YOUR MIND.
1030 PRINT "HOW MANY DO YOU WANT?";K=KP-48;IF K<1GOTO 1030
1040 IF K>5PRINT "MAKE IT EASY ON YOURSELF--NOT SO MANY.";GOTO 1030
1050 RETURN
2000 PRINT "SICK STAIR CASE";RETURN
3000 PRINT "CAT FLYING UPSIDE DOWN";RETURN
4000 PRINT "BIRD IN A HALTER TOP";RETURN
5000 PRINT "PEANUT BUTTER ROCKET";RETURN
6000 PRINT "DRUNK WITH FLAT TIRE";RETURN
7000 PRINT "WILTED FIRE PLUG";RETURN
8000 PRINT "PLATE OF REFRIED BEANS";RETURN
9000 PRINT "FROG WITH NUDE";RETURN
10000 PRINT "CREEPY CANAL";RETURN
11000 PRINT "NAZI ANT HILL";RETURN
12000 PRINT "MARTIAN PAGODA";RETURN
13000 PRINT "HMMMMMMM";PRINT "YOU NEVER HAD A PUPPY AS ACHILD, DID YOU?
13010 PRINT "THINGS LIKE THAT SHOW!";RETURN
14000 PRINT "THAT IS A VERY REVEALING  CHOICE!!!";RETURN
15000 PRINT "YOUR ANSWER IS NOT CORRECTBUT IT IS MEANINGFULL.";RETURN
16000 PRINT "YOU'RE CLOSE, BUT NOT";PRINT "RIGHT. YOU SHOULD HAVE    COME TO ME
SOONER.";RETURN
```

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TOWER OF HANOI is an old game, originally played with a set of rings to be placed on three pegs mounted on a board. The number of moves required to shift the pile from one location to the final location is equal to 2 -1, where n is the number of blocks. For a four-block pile then, the minimun number of moves is 15. I dug into an old Johnson-Smith catalog to find the puzzle available there for 35 cents, but the catalog is 40 years old...

COMMENTS Bert Holmes writes: I too have had trouble loading at NT=0 but I found that it only happens when trying to overcopy a previous program. This may happen when trying to load a copy of the same program if the first line (usually a throw-away for just this purpose) is missed due to plug-in or voice leader noise. The Bally then sees the incoming line as a replacement and must insert and shift the text. However, if the Bally is RESET the program seems to load flawlessly. In summary, for entries which simply add on to the current program without insertion (and need to relocate program within memory) NT=0 should work.

COINCIDENTALLY to the material received from Bob Wiseman, the following comments from Bert Holmes are appropriate. "I have succeeded in making another computer with RS232 I/O talk to the Bally. One problem has been that the Bally expects high level input (as from the output of a tape recorder), while the output of the computer is low level, as expected by a tape recorder. High level is actually reduced to low level by voltage division via R3,R2 in the tape interface of the Bally. By unsbidering one end of R3 low level inputs can be accepted." Perhaps there.is a relatively simple rewiring of the cassette interface which will enable transmission of signals in both directions at the proper levels. Note that Bert's comments are talking to the situation where the Bally is receiving input only, not sending out data. Bert continues that a simple program to pump out ASCII characters was needed, plus a need to initialize each session with FF (hex) to synchronize the Bally to his other computer (by sending out a series of ones).

APPLE TO BALLY INTERFACE has been developed by Bob Wiseman.(See his ad on p.60) The programs he provides are in machine code (insert through the Apple's monitor) and they allow you to dump to and load from the Bally, and allow Apple keyboard input to go to the Bally. The four programs load at $4200,$4400,$4600, and $4800 in theApple, but instructions are provided so that you can change these. In addition, instructions are also provided in case you have Integer Basic instead of Applesoft. Data itself is stored starting at $5000. The keyboard input can be run without a disc system and so is worth the asking price by itself.

All four routines are combined by means of a "File Handler" program that makes it all work together in a business-like manner. And a printer connected to the Apple will give you hard copy as well.
Connection between the two machines is by way of the cassette ports of each. Bob recommends amplification of the signals and proposes that the cassette recorder be placed in the system to allow its internal amplifier to boost the signals enough to register.

```
 1 .
 2 .
 3 .
 4 . TOWER OF HANOI
 5 . BY BOB WISEMAN
 6 CLEAR ;INPUT "HOW MANY BOXES?" R
 7 @(0)=9
 8 BC=159;FC=11
 9 CLEAR ;A=0;C=1
10 CX=-65
11 PRINT "TOWER OF HANOI",
12 FOR X=1TO 21
14 @(X)=0;NEXT X
16 IF R>7 R=7
20 FOR T=RTO 1STEP -1
30 B=T;GOSUB 400;NEXT T
100 IF @(1)=0IF @(8)=0GOTO 900
105 IF @(1)=0IF @(15)=0GOTO 900
110 GOSUB 600;GOSUB 500
130 IF B=0GOTO 110
140 GOSUB 600;GOSUB 400
160 IF B#0GOTO 140
165 A=A+1
166 CX=60
170 PRINT #3,A,
180 GOTO 100
400 D=(C-1)b7+1
402 IF @(D)=0X=D;GOTO 430
405 FOR X=DTO 21
410 IF @(X)=0GOTO 420
415 NEXT X
420 IF B>@(X-1)GOTO 480
430 @(X)=B;GOSUB 700
440 B=0;GOTO 490
480 FOR X=1TO 5
485 MU="Z";NEXT X
490 RETURN
500 D=(C-1)b7+1;B=0
510 FOR X=DTO 21
515 IF @(X)=0GOTO 530
520 NEXT X
530 X=X-1
540 IF X<DGOTO 585
550 B=@(X);GOSUB 700
560 @(X)=0
565 GOTO 599
585 FOR X=1TO 5
590 MU="Y";NEXT X
599 RETURN
600 IF &(16)=0MU="T";GOTO 620
610 GOTO 600
620 C=0;D=&(16)
630 IF D=4C=1
640 IF D=1C=2
650 IF D=8C=3
660 IF C=0GOTO 620
690 RETURN
700 Z=-72+36bC
705 Y=(X-1)c7
710 Y=-35+10bRM
720 W=5bB
730 BOX Z,Y,W,9,3
740 MU=B
790 RETURN
900 CLEAR
905 BC=6;FC=0
906 PRINT "  ",
910 PRINT "YOU FINISHED "
920 PRINT "  THE TOWER IN",#3,A," MOVES"
921 B=1;FOR X=1TO R
922 B=Bb2;NEXT X
924 A=A-B+1
925 IF A=0PRINT "GREAT WORK";GOTO 928
926 IF A<Rb2PRINT "NOT TOO BAD"
927 IF A>2bRPRINT "KEEP TRYING"
928 PRINT "  YOU WASTED",#4,A," MOVES"
930 PRINT "PULL TRIGGER TO PLAY"
935 R=R+1
940 IF TR(1)=1GOTO 2
950 GOTO 940
```

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= T O W E R O F H A N O I

THE OBJECT OF THIS PUZZLE IS TO REBUILD THE TOWER OF HANOI IN A NEW LOCATION. YOU WILL BE ASKED HOW MANY BLOCKS YOU WISH, AND THESE WILL BE STACKED IN DESCENDING ORDER ON THE LEFT. NOW YOU MUST MOVE THEM AROUND TO REBUILD THE TOWER IN THE CENTER OR ON THE RIGHT. A LARGER BLOCK MAY NOT REST ON A SMALLER BLOCK. MOVING A BLOCK IS DONE IS TWO STAGES. FIRST, YOU ERASE IT, THEN YOU REDRAW IT. ONLY THE TOP BLOCK OF A STACK MAY BE MOVED. TO INDICATE WHICH STACK YOU WANT, USE THE HAND CONTROL.

This is part 2 of Bob Wiseman's tutorial on techinques.

PART III. TRICKS OF THE TRADE.

HERE I WILL ENTERTAIN YOU TO A FEW PROGRAMMING TRICKS I HAVE CONJURED UP WITH THE BALLY.

TRICK 1 - HOW TO KEEP TRACK OF PIECES ON A BOARD GAME.
RATHER THAN CREATE A TABLE OF WHO IS WHERE, IF YOU ARE SHORT OF MEMORY YOU CAN OFTEN USE THE PX(X,Y) COMMAND. SUPPOSE WE HAVE THREE POSSIBILITIES: NOBODY, AN "X", A "O". CHECK TWO SQUARES WITH THE PX COMMAND: THE BOTTOM CENTER AND THE BOTTOM LEFTMOST. COMPUTE P=PX(L,B)+PX(C,B). THIS WILL GIVE US THE CORRESPONDING ZERO, ONE, AND TWO FOR SPACE, "X" AND "O". THIS WILL NOT BE FAST AND SHOULD ONLY BE USED WHEN MEMORY IS IN VERY SHORT SUPPLY.

TRICK 2 - CODING THE FANCY "IF" STATEMENT.
WHEN EVALUATING LOGIC STATEMENTS, BALLY BASIC ASSIGNS A TRUE VALUE TO ANYTHING BUT ZERO. STATEMENTS THAT EVALUATE TO ZERO ARE FALSE. SIMILARLY, IF SOMETHING IS TRUE, THE ARCADE GIVES IT THE VALUE ONE. IF SOMETHING IS FALSE, THE VALUE ZERO.

EXAMPLE:

```
10 A=0
20 IF APRINT"HI THERE
```

THE VALUE OF A IS ZERO, WHICH IS FALSE, SO THIS WILL NOT PRINT ANYTHING. CONVERSLY,

```
10 FOR N=-1 TO 2
20 IF NPRINT"HI THERE
30 NEXT N
```

THIS WILL PRINT "HI THERE" FOR THE NON-ZERO VALUES OF N (-1,1,2). THREE LINES WILL BE PRINTED. NOW WE CAN GET FANCY. SUPPOSE THAT WE WANT TO PRINT SOMETHING IF A IS 4 OR IF B IS 5. FIRST OF ALL, THE STATEMENT:

```
10 C=(A=4)
```

WILL SET C EQUAL TO 0 (FALSE) IF A IS NOT EQUAL TO 4. C WILL BE SET EQUAL TO 1 (TRUE) IF A IS EQUAL TO 4. SO WE CAN SAY:

```
10 C=(A=4)
20 D=(B=5)
30 IF C+DPRINT"HI THERE"
```

NOTE THAT C+D WILL BE ZERO ONLY IF C AND D ARE BOTH ZERO. SO C+D IS THE SAME AS (C OR D). TO SIMPLIFY THIS, WE CAN WRITE

```
10 IF (A=4)+(B=4)PRINT"HI THERE
```

SO A "+" WORKS LIKE THE WORD "OR". AS YOU WOULD EXPECT, THE "*" WORKS LIKE "AND". JUST AS ZERO TIMES ANYTING IS ZERO, FALSE AND ANYTHING IS STILL FALSE. IF WE WANT TO PRINT IF A EQUALS FOUR AND B EQUALS 5, WE CAN WRITE:

```
10 IF (A=4)*(B=4)PRINT"HI THERE
```

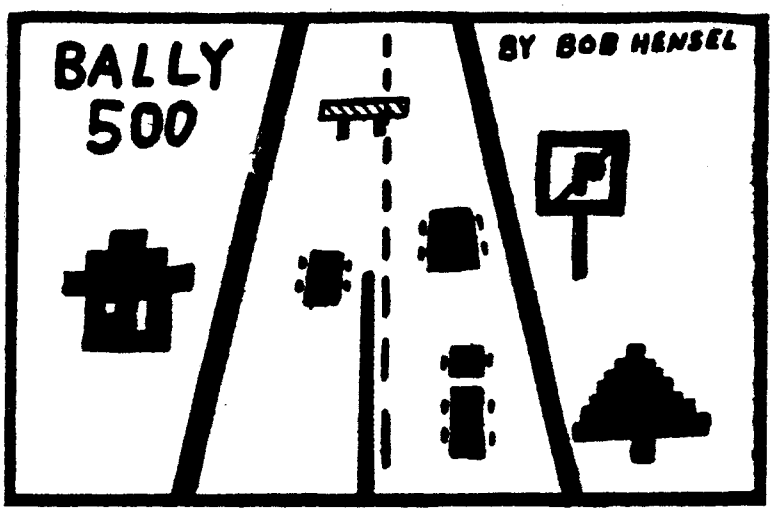
THESE CAN BE COMBINED INTO BIZZARE, UNREADABLE COMBINATIONS. THERE IS A FINE TRADEOFF BETWEEN KEEPING IT SIMPLE AND MAKING IT FIT.

```
10 IF ((A<4)*(A>0))+(A>10)PRINT"HI THERE
```

THIS WILL PRINT IF THE VALUE OF A IS 1, 2, 3 OR IS GREATER THAN 10. I AM OFTEN STRUCK BY BRILLIANT FLASHES THAT MAKE PERFECT SENSE. LATER, WHEN TRYING TO DEBUG, I SUFFER THE "WHO WROTE THIS GARBAGE?" PHENOMENOM. AGAIN, WRITING ON PAPER AND MAKING NOTES IS THE BEST ADVICE THAT I HAVE TO OFFER.

Bally 500 is a game of driving skill for 2 or 3 players. One player controls the turns in the road with KN(4). The other players control the cars with KN(1) and KN(2). Road blocks, accidents, and other cars are randomly placed in your path. If you hit one your car is destroyed. The object is to see how long you can stay on the road, and beat your opponent. An elapsed time is indicated at the top left of the screen.

Skill level:3(hard)-10(easy)



Next issue will have a comprehensive report of the latest Dearborn User Group meeting, at which location the Add-Under was shown and thoroughly gone over.

We will also have the first major advertising for the VIPER memory addition.

```
  2 .BY BOB HENSEL
  5 :RETURN ;CLEAR ;A=0;B=0;P=0
  6 X=0;Y=10;Z=-10
  7 NT=1;S=0;T=0
  8 BC=126;FC=249
  9 GOSUB 4000;BOX 0,0,50,80,1
 10 X=X+KN(4)c20
 20 Y=Y+KN(2)c20
 25 Z=Z+KN(1)c20
 30 T=T+1;S=S+1
100 BOX X,-39,50,8,1
105 BOX X,-36,2,2,3
110 IF P>0BOX X,-39,6,8,3;P=P-1
190 IF A=0BOX Y,-8,2,4,3
200 IF B=0BOX Z,-16,3,4,3
242 IF T<LGOTO 299
245 C=1;IF X>0C=-1
247 GOSUB 1800+100bRND (10)
249 GOTO 299
299 IF T-L=0T=0
300 CY=-40;CX=-77;PRINT
301 CX=-70;CY=40;PRINT #1,S
302 IF A>0IF B>0GOTO 3000
305 IF A>0GOTO 380
310 IF PX(Y,0)=1GOSUB 1000
350 BOX Y,0,2,4,3
380 IF B>0GOTO 10
390 IF PX(Z,-8)=1GOSUB 1050
400 BOX Z,-8,3,4,3
700 GOTO 10
1000 CX=Y;CY=0;PRINT "*",
1005 A=S
1010 GOTO 1060
1050 CX=Z;CY=-8;PRINT "*",
1055 B=S
1060 NT=10;MU=67;MU=67;MU=67;MU=67;NT=1;RETURN
1900 .TRUCK
1905 C=Cb12
1907 BOX X+C,-32,5,5,3
1910 BOX X+C+4,-32,1,2,3
1920 BOX X+C-4,-32,1,2,3
2000 .CAR
2002 IF ABS(C)>1GOTO 2010
2005 C=Cb12
2010 BOX X+C,-39,5,8,3
2020 BOX X+C+4,-37,1,2,3
2030 BOX X+C-4,-37,1,2,3
2040 BOX X+C+4,-41,1,2,3
2050 BOX X+C-4,-41,1,2,3
2060 RETURN
2100 .HOUSE
2105 C=Cb45
2110 BOX X+C,-38,12,10,3
2120 BOX X+C,-32,8,2,3
2130 BOX X+C,-36,16,2,1
2140 BOX X+C-2,-39,2,2,3
2150 BOX X+C+2,-40,2,4,3
2160 RETURN
2200 .TREE
2205 C=Cb40
2210 BOX X+C,-28,2,2,3
2220 BOX X+C,-30,4,2,3
2230 BOX X+C,-32,6,2,3
2240 BOX X+C,-34,8,2,3
2250 BOX X+C,-36,10,2,3
2260 BOX X+C,-40,2,6,3
2270 RETURN
2300 .SIGN
2303 IF P>0RETURN
2305 C=Cb50
2320 BOX X+C,-29,12,12,3
2325 BOX X+C,-29,8,8,3
2330 CX=X+C;CY=-29;PRINT "P",
2335 LINE CX-9,CY-4,4;LINE CX-3,CY+2,1
2336 P=15
2340 BOX X+C,-39,2,8,3
2350 RETURN
2400 .LOG
2410 BOX X-3,-38,24,5,2
2415 BOX X-10,-41,2,4,2;BOX X+3,-41,2,4,2
2420 RETURN
2500 .CRASH
2510 BOX X+8,-28,10,4,2
2520 GOSUB 1900
2530 RETURN
2600 C=-1bC;GOTO 1900
2700 C=-1bC;GOTO 2000
2800 RETURN
3000 .END
3005 CY=-40;CX=-23;PRINT "GAME OVER";FOR K=1TO 1000;NEXT K
3010 CLEAR ;CY=24;PRINT "          SCORE";PRINT
3020 PRINT "    PLAYER 1  PLAYER 2
3030 PRINT
3040 PRINT B,"    ",A
3050 STOP
4000 .TITLE
4010 CY=0;PRINT "    B A L L Y   5 0 0";CY=-8;CX=-6;PRINT "BY
4020 PRINT "        BOB HENSEL
4025 PRINT
4030 INPUT "       SKILL LEVEL="L;CLEAR ;RETURN
```

Bob Hensel
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Cottage Grove, MN 55016

```
 1 .
 2 .  DEFUSE
 3 . BY DIETER HEINERMAN
 4 CLEAR
 5 NT=2
10 BC=8;FC=100
20 PRINT ;PRINT
30 PRINT "          DEFUSE          "
35 PRINT
40 PRINT " NEED INSTRUCTIONS?"
41 PRINT
45 PRINT " PRESS 1 FOR YES"
46 PRINT
50 PRINT " PRESS 2 FOR NO"
51 PRINT
55 FOR H=1TO 2400
60 IF &(23)=8GOTO 90
65 IF &(22)=8GOTO 260
70 NEXT H
80 FC=9;GOTO 40
90 CLEAR
100 PRINT
110 PRINT " YOU  ARE IN A GOVERNNMENT"
120 PRINT "EXPERIMENTAL BUILDING WITH"
130 PRINT " 1,000,000 ROOMS IN IT."
140 PRINT " 100 LONG(0a99)"
150 PRINT " 100 WIDE(0a99)"
160 PRINT " 100 HIGH(0a99)
170 PRINT "  IN IT A BOMB IS HIDDEN "
180 PRINT " THE BOMB SENDS OUT "
190 PRINT " SIGNALS THAT GET STRONGER"
200 PRINT " AS YOU GET CLOSER"
210 PRINT "   YOU HAVE 200 SECONDS   "
220 PRINT "     TO DEACTIVATE IT     "
260 CLEAR
270 A=RND (100);B=RND (100)
280 C=RND (100);IF A>0GOTO 310
290 IF B>0GOTO 310
300 IF C=0GOTO 280
310 D=0;E=0;F=0;G=0
315 PRINT
320 PRINT " SIGNAL",10000-((A+B+Cb100)-(D+E+Fb100))
330 PRINT " LONG",D
340 PRINT " WIDE",E
350 PRINT " HIGH",F
360 PRINT " SECONDS",G
365 PRINT
370 INPUT D,E,F;CLEAR ;G=G+10;IF A#DGOTO 400
380 IF B#EGOTO 400
390 IF C=FGOTO 525
400 IF G=200GOTO 420
410 GOTO 540
420 PRINT " BOOOOOMMM !!! YOU BLEW IT"
425 &(16)=255;&(17)=255;&(18)=135;&(19)=66;&(21)=255;&(22)=255;&(23)=255
426 FOR X=7TO 127;BC=X;NEXT X;FOR X=16TO 23;&(X)=0;NEXT X
430 PRINT "   THE BUILDING BLEW UP   "
440 PRINT " THE BOMB WAS AT  "
450 PRINT " LONG",A
460 PRINT " WIDE",B
470 PRINT " HIGH",C
490 PRINT
495 PRINT "WANT TO PLAY AGAIN?"
500 PRINT " PRESS 1"
505 PRINT
510 IF &(23)=8GOTO 260
515 GOTO 510
520 GOTO 800
525 PRINT ;PRINT
530 PRINT " BOMB DEFUSED AT      ",G,"SECONDS";GOTO 490
540 IF D>99GOTO 610
550 IF D<0GOTO 610
560 IF E>99GOTO 610
570 IF E<0GOTO 610
580 IF F>99GOTO 660
590 IF F<0GOTO 680
600 GOTO 315
610 PRINT " YOU WALKED OUT A WINDOW"
620 PRINT "ON THE";IF F<4GOTO 740
625 PRINT F,"TH FLOOR!!!!"
630 PRINT " YOU WERE KILLED AND"
640 PRINT 200-G,"SECONDS LATER"
650 PRINT " THE BUILDING BLEW UP!!!";GOTO 490
660 PRINT " YOU ARE NOW",Fb9
670 PRINT " FEET IN THE AIR!!!!";GOTO 630
680 PRINT " YOU ARE NOW ",-1b(Fb9)
690 PRINT " FEET UNDERGROUND!!!!";GOTO 630
740 IF F=1GOTO 770
750 IF F=2GOTO 780
760 IF F=3GOTO 790
770 PRINT " 1ST FLOOR";GOTO 630
780 PRINT " 2ND FLOOR";GOTO 630
790 PRINT " 3RD FLOOR";GOTO 630
800 CLEAR
810 GOTO 490
```

DEFUSE is a three-dimensional guessing game where you have to locate a point in the center using 'hot-cold' type clues.

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12P 0J8

MEMORY

The memory system of the Bally, and the Bally basic language that goes along with it, only works in 1800 bytes of space. Physically adding memory chips to the system ,wiring them into the circuit, will have no effect because the Bally basic 'can't count higher that 1800' when it comes to looking for memory space. This has been a major stumbling block in the way of making this machine into a useful computer. Last year, the Blue Ram was developed to get around this block by making it possible to program machine language codes into the Bally, up to 4K. Bally Basic still could not address this space, but we thought that expansion of user knowledge into the area of machine code programming would be beneficial. A more universal expansion of the system would be to remove the 1800 byte constraint in the language. We then pressed ahead with what I have been calling the Extended Basic, which is a complete rewrite of the original. By doubling the memory space of the chip to 8k, we could also eliminate some of the space-saving tricks of the original, and get the four colors on the screen and other features. Work on the production of this language is progressing and we hope to have it available by mid-year.

Meanwhile, once the Blue Ram was placed in the hands of users, we discovered that Bally Basic statements could also be placed in the Blue Ram by means of some simple statements, and that means that you can write programs just as before, but make them three times as long, or more complicated, or with more sound or color, etc.,as before. This technique is included in the Operating System tape now available.

Coming into production in the immediate future is the VIPER. This scheme allows greater memory expansion than the Blue Ram, at a higher price. The construction of this machine allows the expansion of the unit by adding individual cards, each containing the feature or accessory control that you are interested in. This is the method used in the Apple computer. The design of the base system must then contain enough hardware on it to support all the cards that could be added, and cost accordingly. However, the individual accessory cards would then be relatively inexpensive and be completely compatible, ready to slip into their little slots.

CONTEST FOR PROGRAMS is being planned by AstroVision. If you are looking for an opportunity to gain some recognition, as well as perhaps making a little money, write to AstroVision for their up-coming "Authorship Guide" which will outline the rules, etc., for their contest. They plan to have a number of categories (art, utility, game,etc.) with winners in each. A top prize of $10,000 will be in the offing. Write to 6460 Busch Blvd., Suite 215, Columbus, OH 43229, attn: D.Dawson.

CARTRIDGE NEWS The only real news is that the GALAXIAN game goes into production 1 March, and a new game titled PIRATE'S CHASE is in the works. The GALAXIAN will have a score storage scheme where four players 's score will be kept by the machine as each plays the computer individually (much as a pinball machine does).

Ads

ARCADIAN PROGRAM TAPES are available from Dick Houser 635 Los Alamos Ave, Livermore, CA 94550 as follows: Volume 1 (20 programs); Volume 2a (22 programs, to p.42); Volume 2b (20 programs, from p.48) at $25 each. Individual programs also available at $1 plus tape and postage cost, minimun order, $10. Send for list/order blank.

APPLE-BALLY INTERFACING PROGRAMS allow communication between Bally and Apple (and use of Apple disc and printer) for storage and loading of programs. Listing at $5., with all instructions; or on disc (DOS 3.2.1) at $15 including all documentation and library of programs. Bob Wiseman 118 St.Andrews Dr. Cincinnati, OH 45245

ABC HOBBYCRAFT want everyone to remember that they are still selling the Bally and its accessories, as well as software by L&M and George Moses. They also have a user group going for neighborhood owners. 2155 E. Morgan Ave., Evansville, IL 47711

Protection devices to shield your Bally from inadvertent erasures or entries. These plastic covers prevent operation of the keypad or the reset button. Send $2. for the pair, postpaid, to Dave Stocker 333 Coronado Dr., Mt. Vernon,IN 47620

Long-time outlet SCHWENK ENTERPRISES report that they are still selling Arcades and Videocades at discount prices by mail. Write for data to 6988 Lincoln Creek Circle,Carmichael, CA 95608. (916) 944-2001

USER GROUP NEWS Northern NJ area, call Rob Rosenhouse at (201) 755-2289.
Error in last month's address for the DC group, Jerry Heere's location is Sinking Spring, PA.

SPECTRE is a software -developing company that is looking for ideas and want to hear from subscribers who have thoughts on what the Arcade and Add-Under units should provide. As a result of the recent Dearborn meeting, a questionnaire has been developed, and copies are available from Spectre at 14430 Barclay, Dearborn, MI 48126.

ARCADIAN

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