CORNER STORE

WATCH OUT FOR THE SALES AT OUR NEXT MEETING! WE HOPE TO HAVE SOME REAL NICE SURPRISES FOR YOU. BE SURE TO CHECK OUT THE CORNER STORE AT OUR MAY MEETING.

UNCLASSIFIED ADS

FOR SALE: KEYBOARD WITH RELAY INTERFACE. CONNECTS IN PARALLEL WITH BALLY KEYPAD. PRESS ONE KEY FOR EACH LETTER, NUMBER AND SOME WORDS. $100.00...CALL MIKE PAWLOWSKI-ALLEN PARK, MI. (313) 388-2162

GOOD LUCK BRETT!!!

I'D LIKE TO JUST TAKE A SMALL SPACE HERE, TO WISH THE BEST OF LUCK TO BRETT BILBREY.

BRETT HAS ACCEPTED A SUPER JOB OFFER IN CHICAGO, AND HAS ALREADY LEFT TO START HIS NEW CAREER.

FOR THOSE OF YOU WHO DON'T KNOW, BRETT, ALONG WITH GEORGE MOSES, ARE THE ORIGINATORS OF THE ASTROBUGS. THEY'VE BROUGHT US A LONG WAY, AND WITHOUT THEM, WE WOULDN'T BE MUCH OF ANYTHING.

I'M NOT EVEN SURE IF ASTROCADE REALIZES THAT IF IT WEREN'T FOR BRETT, GEORGE AND DON GLADDEN, THEY WOULD NOT HAVE HALF THE SUPPORT BEHIND THEM. THEY'VE KEPT USER GROUPS ALIVE AS WELL AS HELPED PEOPLE ALL OVER THE UNITED STATES, BY ANSWERING THEIR QUESTIONS ABOUT THE MACHINE AND/OR BASIC PROGRAMMING.

BRETT HASN'T TOTALLY LEFT US, HE'S JUST MOVED TO A NEW LOCATION. HE SAYS HE'LL STILL SHOW UP AT SOME OF OUR MEETINGS, WHEN HE CAN, AND HE'LL ALSO TRY TO FIT IN TIME TO WRITE FOR OUR NEWSLETTER.

WE REALLY WANT TO WISH BRETT THE BEST OF LUCK AT HIS NEW JOB, AND TO LET HIM KNOW THAT WHEN HE BECOMES RICH AND FAMOUS, WE CAN REALLY SIT BACK AND SAY...

WE KNOW BRETT BILBREY!!!

THE INSIDE CORNER

BY BRETT BILBREY

BIG NEWS...TREASURE COVE - THE LATEST GAME RELEASE FOR THE ASTROCADE- IS NOW OUT! IT HAS ANIMATION, COLOR, MUSIC AND SOUND EFFECTS...THE WORKS! BY THE WAY, TREASURE COVE IS A PRODUCT OF SPECTRE SYSTEMS...WRITTEN BY ME.

HOPE YOU LIKE IT!!! WE HOPE THAT IT WILL BE AVAILABLE THROUGH THE ARCADIAN. IF YOU CAN'T FIND IT ANYWHERE ELSE, SEND A CHECK FOR $32.95 TO THE MICHIGAN ASTROBUGS, PAYABLE TO THEM. IT WILL BE SHIPPED TO YOU, FOR AN EXTRA DOLLAR CHARGE (FOR POSTAGE).

QUESTIONS...

1-IS IT PRACTICAL TO USE THE ASTROCADE FOR A BUSINESS COMPUTER?

TO BE SUCCESSFUL, I WOULD SUGGEST ANOTHER COMPUTER FOR BUSINESS APPLICATIONS. THE ASTROCADE IS GREAT FOR GAMES, BECAUSE THAT IS WHAT IT WAS DESIGNED FOR.

2-CAN YOU USE FLOATING POINT MATH IN ASTRO BASIC?

NO, IF YOU ARE REFERRING TO THE $ FUNCTION THAT WAS IN THE OLD BALLY BASIC. THIS FUNCTION WAS REMOVED TO MAKE ROOM FOR SOME OF THE NEW FUNCTIONS IN ASTRO BASIC. IT IS POSSIBLE TO WRITE YOUR OWN SUBROUTINE TO SIMULATE THIS.

****
BUG PUZZLE #4
****

RANDOM RAMBLINGS BY MARION NALEPA

PROGRAMMING IN ASTRO BASIC, MOST PEOPLE BECOME FAMILIAR WITH THE RND OR RANDOM NUMBER FUNCTION VERY EARLY IN THEIR PROGRAMMING. THE LUXURY WE HAVE IN THE RND FUNCTION WAS NOT, HOWEVER, ALWAYS AVAILABLE. BEFORE THE ADVENT OF COMPUTER-BASED RANDOM NUMBER GENERATORS, PEOPLE USED MANUAL AND MECHANICAL METHODS RANGING FROM PICKING NUMBERS OUT OF A HAT, TO COMPLICATED MACHINERY DESIGNED SPECIFICALLY AROUND A CERTAIN RANDOM MECHANICAL PRINCIPLE. AROUND THE

(CONT. ON PAGE #6). →

Blue Ram ACCESSORIES

Complete hardware and software peripherals, ready to plug in to your Blue Ram's ZIF socket and use.

A TRUE 8K EXTENDED BASIC! IN CARTRIDGE FORM

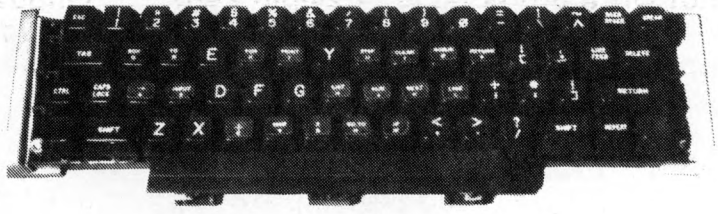
Blue Ram Super Extended BASIC was written by Jay Fenton and John Perkins to take advantage of the Blue Ram's exclusive input output ports, hardware and software switching mechanisms, and the Bally-Astrovision Arcade's outstanding game and graphics design capabilities. Gives up to 15,500 bytes of programming space (31,884 with 32K Blue Ram) with special POINT, CIRCLE and SNAP commands, 4 colors, built-in math routines, keyboard and printer driving logic, 300 baud or 2000 baud data output and much more! Will not operate without a Blue Ram or other extended memory.

$49.95

SEE SPECIAL COMBINATION OFFER!

(OVER)

THE BLUE RAM KEYBOARD!



A 62 key typewriter style assembly mounted on wooden end blocks and fitted with a 3 foot cable to plug into the Blue Ram ZIF socket. Bally's command words are added to the keys.

Wired and tested **$89.95**

(Also available in kit form)

THE BLUE RAM PRINTER INTERFACE

Prints letters, mailing lists and labels, recipes, budgets, and programs in either machine code or BASIC. Works with any model BLUE RAM and BLUE RAM EXTENDED BASIC to drive most any parallel printer. Intelligent printers may be formatted by your software.

Printer interface only **$49.95**

MODEM/PRINTER INTERFACE

Similar to the Printer Interface but also connects the BLUE RAM to a STAR MODEM (not included). Now your computer can "talk" to other computers or explore the world of The Source and other computer network services.

$99.95

BSR CONTROLLER

The BSR Controller is a system that communicates with the BRS X-10 ULTRASONIC Remote Control System. At $19.95, this controller comes ready to plug into the Blue Ram and be aimed at the BSR control console. The included taped program allows you to program up to 16 lights or appliances for up to 24 hours, in 10 minute intervals. This is a form of break-in protection when you are away from home.

$19.95

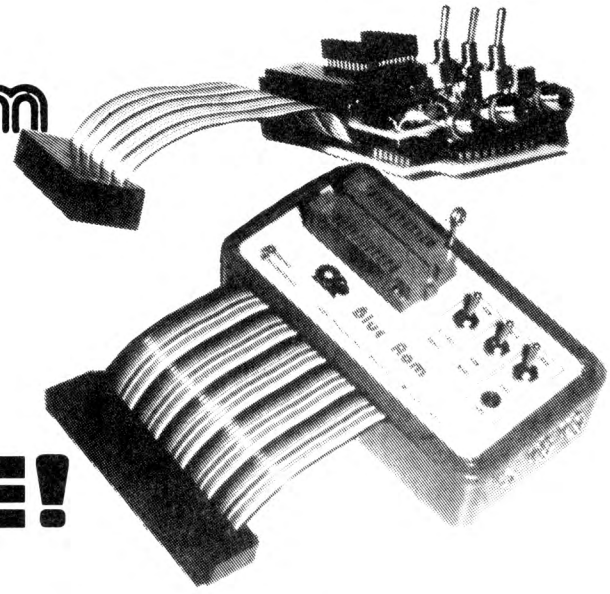
When ordering specify whether you have 300 baud Bally BASIC or 2000 baud Astrovision BASIC

PERKINS ENGINEERING

1004 PLEASANT AVE., BOYNE CITY, MICHIGAN 49712

(616) 582-9832

The Blue Ram



16K or 32K OF RAM FOR YOUR ARCADE!

The Blue Ram is a small blue box with an edge connector that plugs onto the 50 pin expansion outlet on the back of the Bally. It contains 16384 bytes of static read-write memory (RAM) that can be protected from accidental writing (ROM mode) either by a switch or with software. An additional 128 bytes are not write protectable. A 24-pin Zero Insertion Force (ZIF) socket affords two 8-bit parallel input/output ports for controlling external devices. Under control of your program, any of these 16 bit lines may be read (input) or written to (output). The remaining 8 pins provide power and certain other connections for access to the Z80 microprocessor timing signals and the sound system.

The Blue Ram comes with two programs on tape, a regulated power supply and an instruction manual. Included in the programs are an exciting 4-color "Artillery Duel" game, a Diagnostic for the Blue Ram and an Utility program to assist in machine language programming. The Utility also includes support program routines for generating multicolors with BASIC and hexidecimal write to tape. An arcade game can be transferred to the Blue Ram, modified and dumped to tape for later loading and running in the Blue Ram.

THE 16-K BLUE RAM
WITH BLUE RAM BASIC CARTRIDGE **$275.00**
Bally and Astro Basic will not address the above 8000 hex memory

THE 32-K BLUE RAM **$395.00**
Includes Blue Ram Basic cartridge

PERKINS ENGINEERING

1004 PLEASANT AVE., BOYNE CITY, MICHIGAN 49712

(616) 582-9832

TURN OF THE CENTURY, SOME PUBLISHERS WERE COMING OUT WITH TABLES OF RANDOM NUMBERS REQUIRED, ONE MERELY PICKED A STARTING PLACE AND READ OFF AS MANY RANDOM NUMBERS AS NEEDED

WITH THE ADVENT OF THE ELECTRONIC COMPUTER, PEOPLE REALIZED THAT AN ALGORITHMIC BASED RANDOM NUMBER GENERATOR WAS POSSIBLE. THAT IS, A COMPUTER PROGRAM WHICH WOULD RETURN A RANDOM NUMBER COULD BE WRITTEN. THESE PROGRAMS STARTED APPEARING IN THE LATE 1940'S AND EARLY 1950'S. IN THE MID 1950'S, A PARTICULARLY INTERESTING ALGORITHM WAS DEVELOPED FOR THE GENERATION OF RANDOM NUMBERS THIS ALGORITHM WAS CALLED THE 'MIDDLE SQUARE' METHOD, AND IS APPLIED AS FOLLOWS:

1-START WITH A NUMBER THAT HAS AN EVEN NUMBER OF DIGITS (I.E. 47, OR 91, OR 1544). THIS NUMBER WILL BE CALLED THE 'SEED' FOR OUR RANDOM NUMBER GENERATOR.

2-SQUARE THE NUMBER TO OBTAIN A NUMBER WITH TWICE AS MANY DIGITS AS THE 'SEED'. IF YOU HAVE FEWER THAN TWICE AS MANY DIGITS, ADD ZEROES TO THE FRONT OF THE NUMBER, UNTIL YOU HAVE TWICE AS MANY.

3-NOW TAKE THE 'NIDDLE' DIGITS OF THE RESULT TO GET A NUMBER WITH AS MANY DIGITS AS THE INITIAL 'SEED' (I.E. IF THE RESULT WAS 2209, THEN 20 WOULD BE THE MIDDLE DIGITS).

4-THIS NUMBER IS OUR 'RANDOM' NUMBER, AND ALSO BECOMES THE SEED FOR THE NEXT RANDOM NUMBER IN A RANDOM SEQUENCE.

WITH THE METHOD DESCRIBED ABOVE, WE CAN NOW GENERATE A RANDOM SEQUENCE OF NUMBERS STARTING WITH A SEED OF, SAY, 21.

```
-  21 ; 21x21=0441 ; GIVES 44
-  44 ; 44x44=1936 ; GIVES 93
-  93 ; 93x93=8648 ; GIVES 64
-  64 ; 64x64=4096 ; GIVES 09
-  09 ; 09x09=0081 ; GIVES 08
-  08 ; 08x08=0064 ; GIVES 06
-  06 ; 06x06=0036 ; GIVES 03
-  03 ; 03x03=0009 ; GIVES 00
-  00 ; 00x00=0000 ; GIVES 00
```

WE CAN SEE FROM THIS EXAMPLE THAT THIS METHOD QUICKLY DEGENERATES INTO AN INDEFINITELY REPEATING SEQUENCE. THIS IS PARTIALLY DUE TO THE FACT THAT WE STARTED WITH ONLY A 2 DIGIT NUMBER, AND PARTIALLY FROM LIMITATIONS IN THE METHOD ITSELF. THE PROBLEM OF EVENTUALLY REPEATING THE SEQUENCE, OR PART OF THE SEQUENCE, IS NOT ATTRIBUTABLE TO THE ABOVE TECHNIQUE ONLY; IT IS A CHARACTERISTIC OF ALL COMPUTER BASED RANDOM NUMBER GENERATORS. SOONER OR LATER ALL METHODS REPEAT THE SEQUENCE (EVEN RND). THIS ILLUSTRATES ONE OF THE MAJOR MEASURES OF THE 'QUALITY' OF A GIVEN ALGORITHM FOR GENERATING RANDOM NUMBERS. THAT OF THE LENGTH OF THE SEQUENCE GENERATED BY THE PARTICULAR METHOD.

THIS IS ENOUGH RAMBLING, HOWEVER, AND I WILL NOW GIVE YOU THE PUZZLE.

USING THE METHOD OF GENERATING RANDOM NUMBERS DESCRIBED ABOVE, WITH 2 DIGIT NUMBERS, WRITE A BASIC PROGRAM WHICH WILL FIND THE VALUE OF THE INITIAL SEED (00 TO 99) WHICH WILL GENERATE THE LONGEST SEQUENCE OF RANDOM NUMBERS BEFORE REPEATING, AND FIND WHAT THE LENGTH OF THIS SEQUENCE IS.

(HINT: BECAUSE THE METHOD IS CONSTANT, WHENEVER A NUMBER IS GENERATED FOR THE SECOND TIME, THE ALGORITHM WILL BEGIN TO REPEAT).

ALL ENTRIES WITH THE CORRECT RESULTS WILL BE JUDGED BASED ON THE EFFICIENCY OF THE PROGRAM. FIRST IN EXECUTION TIME, AND SECOND IN THE NUMBER OF BYTES USED. ONLY ENTRIES RECEIVED BEFORE THE NEXT ASTROBUGS MEETING (DEADLINE JULY 23, 1983) WILL BE ACCEPTED FOR CONSIDERATION.

THE WINNER OF BUG PUZZLE #4 WILL RECEIVE A COPY OF THE NEWLY RELEASED "TREASURE COVE" GAME CARTRIDGE FROM SPECTRE SYSTEMS, BEING DISTRIBUTED BY ESOTERICA INC. TREASURE COVE IS THE FIRST THIRD-PARTY GAME CARTRIDGE OFFERED FOR THE ASTROCADE, AND FEATURES FANTASTIC GRAPHIC ANIMATION AND CONTINUOUS MUSIC.

SEND ALL ENTRIES TO:
MARION NALEPA
21145 FAIRVIEW DR.
DEARBORN HTS., MI 48127