

BLUE RAM BASIC CORNER...  
A FEW WELL  
AIMED POKES  
BY CLYDE PERKINS

THERE HAS BEEN SOME CONFUSION AMONG OWNERS OF 16K- AND 32K-BLUE RAMS CONCERNING THE USE OF PROGRAMMING AREAS IN THE EXPANDED MEMORY. THE ORIGINAL UNITS (1980-81) CONTAINED 4K OF NEW MEMORY AND, OF COURSE, THE IO PORTS. THE EXTENDED BASIC CARTRIDGE PROVIDED 2000 BAUD TAPING, AND ALSO RESERVED 996 BYTES OF RAM FOR STACK, VARIABLES AND A FEW REGISTERS. WHEN THE BLUE RAM WAS REDESIGNED WITH 16K OR 32K OF MEMORY, THE DEDICATED AREA (!6C1D TO !6FFF) WAS MAINTAINED FOR THE SAKE OF COMPATIBILITY WITH B.R. PROGRAMS, AND IT REQUIRES A FEW TRICKS TO "DUCK" AROUND THE AREA WHEN WRITING PROGRAMS LARGER THAN 3100 BYTES (!6000 TO !6C1C). THE EASIEST WAY TO DO THAT IS TO START YOUR PROGRAM AT !7000 OR !8000. NOTE: THE "!" MEANS HEXADECIMAL NOTATION (BASE 16).

INSTRUCTIONS SUPPLIED WITH THE NEW RAMS INCLUDED THE POKES NECESSARY FOR STARTING AT !7000, BUT MOST OF US CAREFULLY POKED THEM IN AND WERE HAPPY IF THEY WORKED. HOWEVER, IF YOUR PROGRAM CONTAINS A LARGE FOR-NEXT LOOP YOU MAY RUN INTO TROUBLE AS IT APPROACHES !8000. AS WITH ALL COMPUTERS, YOUR ARCADE HAS A VERY STUBBORN STREAK. IT REQUIRES PRECISE PROTOCOL AND ALSO TRIES TO IMPOSE LIMITATIONS SUCH AS MAXIMUM ADDRESS OF !7FFF OR 32767 DECIMAL. !8000 IS CONSIDERED A NEGATIVE NUMBER BY THE ARCADE(-32768), !8001=-32767, !8002=-32766, ETC. THE BALLY AND ASTRO-BASIC CARTRIDGES AVOIDED THIS TROUBLE BY IMPOSING THE SAME LIMIT. (+32767). BLUE RAM EXTENDED BASIC APPLIES NO LIMIT ON ADDRESSES, BUT THE ARCADE, IF COUNTING THRU A LOOP, REFUSES TO CROSS THE "SNAKE-PIT" AT !8000, AND REVERSE DIRECTION IN MID-STREAM. THE OBVIOUS SOLUTION IS TO START YOUR PROGRAM AT !8000, LEAVING THE FIRST 7196 BYTES FOR SNAPS OR POKED STRINGS.

HERE, WE MIGHT POKE IN THE MODIFIED DATA AS WE DID WITH !7000, BUT IF WE UNDERSTAND WHAT WE ARE DOING WE CAN START AT ANY ADDRESS AND EVEN INCLUDE A ROUTINE WITHIN THE PROGRAM FOR JUMPING TO ANY UNUSED AREA UTILIZING EVERY LAST BYTE! THE PROCEDURE USES THREE LINES, AS FOLLOWS:

```
>1 :INPUT %(!6FFC);:INPUT %(!8000);
   :INPUT %(!6C20);:INPUT %(!6CAA);:RUN
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```
THEN: %(!6FFC)=!8000;%(!6FFE)=!A07E;
      %(!6C82)=!8002;%(!8000)=-256
```

LINE 25000 IS FOR DUMPING TO TAPE:

```
>25000 :PRINT %(!6000),20;:PRINT %(!6FFC),2;
        :PRINT %(!8000),(8322-SZ)c2;:PRINT
        %(!6C20),65;:PRINT %(!6CAA),47
```

LINE #1 LOADS THE PROGRAM AND DATA FROM TAPE THE DATA AS WHATEVER WAS RECORDED BY LINE #25000. THE SECOND LINE, SINCE IT HAS NO LINE NUMBER, IS NOT PART OF THE PROGRAM, BUT STUFFS VALUES INTO THE PROPER BYTES. "%(!6FFC)=!8000" PUTS OUR STARTING ADDRESS

IN A REGISTER THAT IS ALWAYS REFERENCED BY THE SYSTEM.

!6FFE POINTS TO OUR "END OF PROGRAM" AREA, USUALLY THE HIGHEST ADDRESS AVAILABLE (!A07E OR !E07E).

!6C82 POINTS TO AN ADDRESS 2 BYTES BEYOND THE LAST BYTE IN THE CURRENT PROGRAM. AT THIS POINT IT IS !8002 BECAUSE WE HAVEN'T YET WRITTEN ANY PROGRAM. THIS VALUE INCREASES AS WE WRITE.

FINALLY, AT !8000, WE PUT AN ILLEGAL LINE NUMBER (-256). THIS "FLAG" WILL MOVE UP FROM !8000 AS WE WRITE AND WILL ALWAYS BE THE LAST BYTE IN OUR REGULAR PROGRAM, SIGNALING THE SYSTEM TO STOP.

LINE #25000, (OR ANY LINE NUMBER HIGH ENOUGH TO NOT INTERFERE WITH THE MAIN PROGRAM) DUMPS EVERYTHING TO TAPE IN SEGMENTS:

```
":PRINT %(!6000),20" DUMPS 20 WORDS (40 BYTES), STARTING AT !6000, WHICH SAVES LINE #1.
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```
":PRINT %(!6FFC),2" SAVES ONLY THE POINTERS. !8000 IS, OF COURSE, THE START OF YOUR PROGRAM, AND "(8322-SZ)c2" IS IT'S SIZE IN WORDS.
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```
"%(!6C20),65" AND "%(!6CAA),47" SAVE 228 BYTES OF STACK AND VARIABLES.
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DON'T BE AFRAID TO PLAY WITH THESE VALUES, ESPECIALLY AFTER THE POKES ARE ON TAPE. IF YOU DUMP ONLY THE POKES ON TAPE, PUT A STOP AT 24990 TO PREVENT A LOAD FROM TRYING TO EXECUTE LINE #25000.

of sound and color. You don't have to do well to enjoy it. One caution: If you have friends that handle joysticks roughly, don't show them WACK-A-MOLE. Also when you or your children play, stress and enforce care with the controllers. It only takes a touch in any direction to be effective. Controller abuse could make this game a joystick "killer"! We have played for hours and hours with no ill effect but heed the caution.

This tape containing two great games is a fantastic software buy at \$19.95 and I recommend it highly. Both games are extremely well programmed and utilize the features of E.B. Many hours of enjoyment are waiting for you if you order THE GATE ESCAPE in E.B.

**ATTENTION** If you have any products for sale which require extended memory, and would like to see a review done in this column, send, along with complete documentation the exact product the customer would receive. I will not write about items that I cannot recommend. Our goal is to promote and advance the BALLY-ASTROCADE system, not to destroy it or anyone connected. If I feel there is a problem, I will contact the supplier personally to try to correct the situation and make a review possible.

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