

PERKINS ENGINEERING

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16K BLUE RAM EXPANSION SYSTEM 32K

CONGRATULATIONS! YOU ARE A MEMBER OF THE EVER EXPANDING FAMILY OF **BLUE RAM** OWNERS. THE **BLUE RAM SYSTEM** DOES MORE TO EXPAND THE CAPABILITIES OF YOUR ARCADE THAN ANY OTHER EXPANSION SYSTEM AT ANY PRICE. WITH THE **BLUE RAM SUPER EXTENDED BASIC 1.1 CARTRIDGE**, YOU CAN NOW WRITE LARGER PROGRAMS WHICH INCLUDE 4 COLOR GRAPHIC ANIMATIONS WITH SIMULTANEOUS SOUND EFFECTS (LIKE GAME CARTRIDGES). THE 62 KEY KEYBOARD AND THE OTHER **BLUE RAM** PRODUCTS WILL MAKE YOUR ARCADE INTO A POWERFUL COLOR COMPUTER THAT IS A JOY TO USE!

THESE PRELIMINARY INSTRUCTIONS WILL BE REPLACED BY A MORE COMPREHENSIVE SET WHICH YOU WILL RECEIVE BY MAIL WHEN THEY ARE COMPLETE.

USE THE **BLUE RAM EXTENDED BASIC 1.1 CARTRIDGE** TO WRITE PROGRAMS UP TO 3100 BYTES PLUS 6200 WORDS OF STORAGE FOR STRINGS AND **SNAPSHOTS**, OR YOU MAY ENTER THESE LINES TO WRITE LONG PROGRAMS OF UP TO 12400 BYTES (28782 WITH THE 32K MODEL) PLUS 1536 WORDS FOR STRINGS AND **SNAPSHOTS**:

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1 :INPUT %(!6FFC);:INPUT %(!6C20);:RUN GO THEN WITHOUT A LINE NUMBER, ENTER:  
%(!6FFC)=!7000;%(!6FFE)=!A072;%(!6C82)=!7002;%(!7000)=-256 GO  
OR FOR 32K %(!6FFC)=!7000;%(!6FFE)=!E070;%(!6C82)=!7002;%(!7000)=-256
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YOU ARE NOW AT !7000. (7000 HEX) PRINT SZ!!

NOW USE A HIGH LINE NUMBER LIKE 25000 TO ENTER A DUMP ROUTINE:
:PRINT %(!6000),14;:PRINT %(!6FFC), (12408-SZ)c2;:PRINT %(!6C20),115
(28782-SZ)c2 FOR 32K.

PREPARE A TAPE AND YOUR RECORDER AND ENTER: **GOTO 25000** START TAPE AND PRESS **GO**
NOW YOU CAN USE THIS TAPE TO START A **NEW PROGRAM**. USE LINE 25000 TO DUMP ALL PROGRAMS.
TO RELOAD, USE :INPUT :RUN

STRING ENTRIES AND **SNAPSHOTS** MAY BE POKED INTO THE LOWER 3K BETWEEN !600F AND !6C1D.
THESE LIMITS ALLOW PLENTY OF ROOM AND STILL PROTECT LINE 1 AND THE STACK AND VARIABLES.
USE THIS FORMULA TO CALCULATE SPACE USED FOR SNAPS:

$$\langle Wc4 + \langle RM\#0 \rangle \rangle \times H + 4$$

WHERE W AND H ARE WIDTH AND HEIGHT OF SNAP AND (RM#0) MEANS ADD ONE IF Wc4 RESULTS IN A
REMAINDER. FOR EXAMPLE: SNAP 0,0,22,12,%(!600F)

$22c4 = 5(+1 \text{ FOR RM}) = 6 \times 12 = 72 + 4 = 76$. !600F=24591. ADD THE 76 PLUS A CUSHION AND
YOU HAVE 24568 OR !605A TO START YOUR NEXT SNAP.

NOW YOU'LL HAVE TO MODIFY LINE 25000. :PRINT %(!6000),14 SAVES ONLY THE 14 WORDS (28 BYTES)
OF LINE 1. SIMPLY USE RPL 25000/14/NNNN TO SAVE ENOUGH BYTES.

WATCH FOR TUTORIALS IN THE **ARCADIAN** IN THE COMING MONTHS.

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NOTE: c MEANS DIVIDE.