32K RAM for the Color Computer

by Bob Lentz

1. To provide an additional 16K of RAM to a 16K Color Computer, obtain eight more 4116 dynamic RAM chips. These may be "piggy-backed" by placing them over the existing chips and soldering all pins (except Pin-4) onto the corresponding pins of the chip below. Pin-4 should be bent up out of the way to connect in the next step. See figure 1 for a sample piggy-backed chip.

2. Connect together the eight Pin-4s which were left unconnected in the step above. Connect these through a 33 Ohm resistor to Pin-35 of the 6883 SAM chip (U10). See figure 2 for a diagram of the completed modification.

At this point, your computer has 32K of RAM; you may put it back together and try it. (Note: the 4/16K jumpers on the PC board should be left in the 16K position, and no software changes are necessary). Try typing PRINT MEM. The exact value of MEM depends on how much RAM your BASIC takes up, but in any case it should be over 24000.

If you wish to be able to put the video display into the upper bank of RAM, you will need to continue with steps three and four below. This would be necessary if, for example, you wanted to declare more than 16K worth of Hi-Res screens under Extended Basic. For most applications the following steps are not necessary.

3. Remove the PC board from the box, and remove the ground shields to expose the bottom of the board. Cut the traces shown in figure 3. Also cut the trace on the top of the board which connects to Pin-11 of the 74LS273 (U6). See figure 4 for a diagram of this.

4. Refer to the before-and-after figures (5 and 6). Wire the circuit shown in figure 6 using the unused sections of the 74LS273 to latch the display data from either of the two RAS lines.

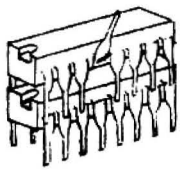
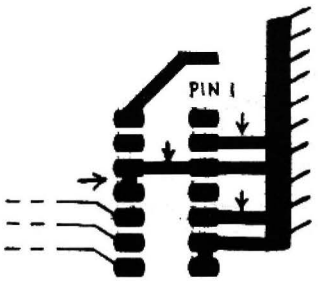


FIGURE 1.




FIGURE 2.




U29 - CIRCUIT SIDE
ARROWS INDICATE TRACE CUTS

FIGURE 3.

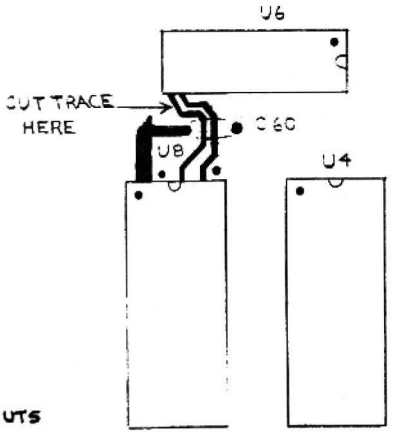



FIGURE 4.

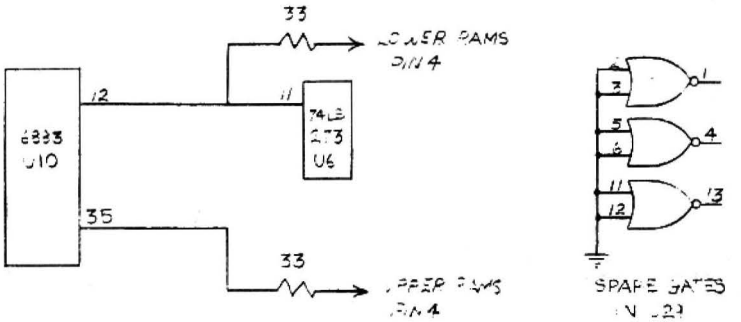



FIGURE 5.

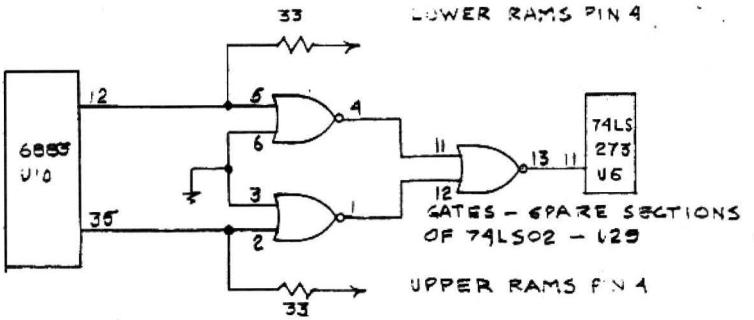



FIGURE 6.