

HORIZON RAMDISK 256K EXPANSION PROJECT

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SOUTHWEST NINETY-NINERS

The HORIZON RAMDISK is available in 90K SSSD (360 SECTOR) and 180K DSSD (720 SECTOR) sizes. This project expands the size to 256K (976 SECTORS) for an increase in storage capacity of 64K (256 SECTORS) or 35.5%.

This increase is accomplished by adding one 74LS154 (4 to 16 DECODER), one 74LS02 (NOR GATE), and eight 8K 6264LP-15 STATIC RAM chips, removing one 74LS138 (3 to 8 DECODER) chip, and modifying the DSR CODE to recognize the existance of the added memory. The original HORIZON RAMDISK CIRCUIT does not fully decode one of the five memory address lines from U9 limiting it to 180K. By fully decoding this line we pick up eight more CHIP SELECT SIGNALS bringing us up to 256K (976 SECTORS). This utilizes the original design to its fullest potential with only a few SIMPLE MODIFICATIONS.

The HORIZON SOURCE CODE VER_03 was used in this project but modifications to other versions should be very similar. (Note: VER_04 arrived as this was going to press. All modifications were identical, except MEMTEST. Use the modified MEMTEST from VER_03 to check the memory added by this EXPANSION PROJECT.

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CAUTION: THIS MODIFICATION IS UNDERTAKEN AT YOUR OWN RISK
AND MAY VOID YOUR HORIZON WARRANTY.

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CAUTION: REMOVE THE NICAD BATTERIES FROM THE RAMDISK BEFORE STARTING.
USE CARE WHEN HANDLING THE RAM CHIPS TO AVOID DAMAGE FROM STATIC.

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1. Remove U1, the original 3 TO 8 DECODER CHIP, from its socket and DISCARD.
2. Remove the EIGHT PIGGYBACKED PAIRS of 8K RAM CHIPS from their sockets U3-U6 and U12-U16.
3. Remove U2, the original 4 TO 16 DECODER, from its socket.
4. Remove U10, the original NOR GATE, from its socket.
5. Install a THIRD ADDITIONAL 8K RAM CHIP PIGGYBACKED on top of EACH of the removed PIGGYBACKED PAIRS of 8K RAM CHIPS connecting EACH PIN to its CORRESPONDING PIN below with the EXCEPTION of PIN 20 (CHIP SELECT). BEND PIN 20 outward like PIN 20 on the CHIP below it. Reinstall these EIGHT PIGGYBACKED TRIOS into their sockets (U3-U6 and U12-Y13) and RECONNECT the ORIGINAL lines from PIN 20 of the CENTER CHIPS to their ORIGINAL POINTS on the EXPANSION JACK next to U3.