

HORIZON CHANGES have been issued as needed to correct or IMPROVE the operation and reliability of your HORIZON RAMDISK. While the previous changes included ALL versions of the HORIZON cards, the LATEST, #3 does not involve the original 8k chip versions that use only 8k x 8 (6264LPxx) chips. The cards in this group that have been Upgraded to 256k using HALLETS or BISHOPS mods are also OK .

Here are some CORRECTIONS that may not have been published:::

The first 600 serial #s may have been built using RED leds only, (the TOP led should be GREEN or YELLOW to ensure U11 will be protected on power-up)

The first 1200 serial #s may have too high a resistance value in series with the batteries, (should be approx 66 ohms total or two 33 ohm, one at each end of the battery string) to provide a proper charge rate for the NiCad cells.

HORIZON CHANGE NOTICE #1 replaced the POWER-UP delay circuit by UTILIZING the Console RESET line to provide the delay and also to allow RAMDISK to be reset ANY time the Console is reset...

HORIZON CHANGE NOTICE #2 added a DISABLE switch that lets you HIDE the card or more importantly allows you to shut the card OFF if it LOCKS UP, so you can RELOAD your ROS with a 90% chance of RECOVERING your data...

All of the previous changes have been BUILT-IN on the HORIZON 3000 board.

The HORIZON CHANGE #3 corrects an OLD BUG that inhabited all the cards using 32k x 8 or 128k x 8 MEMORY chips... THIS BUG was harmless to most cards until we stepped up to the ROS 8 series of the operating system... WHY ??? Simple Previous ROS's used an area of VDP to run in, and That caused conflict with some other Software and/or Hardware... Sooo ROS 8 was written to move out of VDP and utilize some UNUSED space that exists on all Horizons. The problem is this space has been a target zone for an arbitrary WRITE the occurs on POWER DOWN. Shutting down most electronic devices results in a colapse of the control circuitry... and each control chip drops out of the desired state and may cause an undesirable result. For example, the MEM ENable line is routed thru a 74LS244 buffer in the Interface card, and when the P-Box is turned OFF, a PULSE is generated that ENABLES any device that turns ON falsly during Power down... This is WHY we are cautioned to REMOVE FLOPPIES from disk drives BEFORE turning OFF the P-Box or drive power... We cant remove the RAMDISK...BUT we CAN BLOCK the Pulse and protect the DATA... First we shift the control line (that turns on and off pin 19) back to pin 5 of the 74LS138 that selects which U2 chip is active... This maintains normal operation... OOPS Pin 19 needs somthing... This where we put the stopper... By adding a PN2222 transistor to monitor the +5 Regulator output voltage and the Battery voltage, we can shut off the U2 chips before the P-Box shut-down can generate any undesirable pulses...

Many thanks to Gary Bowser and C. Cecil for the design of this fix. We all spent too many hours and days trying to CATCH and KILL this BUG.

Fortunately the parts are easy to find and don't cost much. Just send a self addressed stamped (40 cents) envelope to:
HORIZON FIX
Please include the SERIAL # of your card. 166 Dartmouth DR.
and your Phone #. Toledo OH 43614

NOTE Parts and instructions are being sent directly to REGISTERED owners of ROS8.14 automatically. This includes RAMBO purchasers also. This modification will also be distributed with new purchase of ROS 8.14 or HORIZON RAMDISK kit and will be BUILT-IN on any new READY TO RUN cards we build. The HORIZON 3000B boards starting with Serial# 3400 have been changed to include all of the above modifications.

Parts needed are: one PN2222 transistor, one 1000 ohm resistor, one 2200 ohm resistor, one 470 ohm resistor, one inch of heat shrink insulation tubing and about ten inches fine wire. A 2N2222 may be used instead of the PN2222.

If U17 is a LP100 or LP85 in speed then Rx should be shunted with a 1000 ohm resistor or replaced with a 470 ohm.. Rx on 3000 board =R1 2000=R7A HRD+=n/a.