

B L U E R A M D I A G N O S T I C

LOADING: Connect the BLUE RAM and place the RANGE switch in the 6K-RAM position and the MODE switch in the AUTO position. Load the tape in the usual way using :INPUT. The program will auto-start showing BLUE RAM DIAGNOSTIC RUNNING... at the top. Stop the tape, the diagnostic is now running. Disregard the pause after ...TV=82;TV=13. This pause is normal when loading a machine code program segment.

OPERATION: The BLUE RAM DIAGNOSTIC tests all memory and I/O ports in the BLUE RAM. A complete test should take about 15 seconds to perform. If all memory and I/O ports test out OK, the program will print ALL TESTS PASSED at the bottom of the screen. Pressing the "1" key or the SPACE key will start the testing process over. Most any other key will acknowledge the current printed message and continue to the next test step. The only step following ALL TESTS PASSED is the last message END OF TESTS.

ERROR MESSAGES: If an error is detected during testing, an appropriate message will be printed in conjunction with supporting graphics. If the error relates to a memory failure, a picture of the internal board will be shown along with a question mark on the suspect chip or the word BAD on a certain chip. You may see this display by placing the MODE switch in the ROM position to cause an error. If the error relates to an I/O failure, a picture of the ZIF socket will be shown along with an arrow pointing to each bit position in error. You may see this display by connecting a 4.7K ohm resistor between pins 10 and 6 of the ZIF socket. The error should be INPUT HUNG HIGH with the arrow pointing to pin 6. Remember that an entry is required to continue testing as explained under OPERATION: (above). A complete list of error messages follows:

MAY NOT BE CONNECTED indicates that the program cannot get any response from the BLUE RAM. Check to ensure that it is properly connected and power applied. If so, either of the "?" chips may be defective.

CAN'T ACCESS MEMORY indicates that memory cannot properly be written into. Either of the "?" chips may be defective.

DEFECTIVE RAM indicates that the BAD memory chip can be accessed, but fails to accurately respond with test data written into it. The chip(s) are assumed to be defective.

CHECK MODE SWITCH is presented when all write protectable memory appears to be defective. Since this number of failures is highly unlikely, a defect is assumed in the MODE switch circuitry as indicated by the message and "?".

INPUT HUNG HIGH indicates that one or more bits will not fall to zero (as they normally should) when they are configured as input bits. Make sure nothing is connected to the socket which would give this symptom. If not, chip A is defective.

OUTPUT HUNG HIGH indicates that one or more bits will not go low when when they are configured as output bits and driven low. If the socket is clear, chip A is defective.

OUTPUT HUNG LOW is similar to OUTPUT HUNG HIGH except that the bit(s) stay low when being driven high. The defect is the same.

NOTE: If depression of the reset button does not give the normal "BALLY BASIC" response, it will not be possible to run this diagnostic. Wiring defects and chips B, L, M, or N are the most likely problems although certain failures in any of the chips can cause this symptom.