DIAGNOSTIC TOOLS

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CONTENTS OF THIS MANUAL

This manual contains instructions for using two software tools for
testing hardware. Both are contained on the diskette labeled
"Utilities." One program, MEMBURN, tests the internal memory boards
in the computer. The other program, PRINTEST, tests the printer and
the D40 printer interface board. Neither of the tests is
comprehensive; however, both can be useful in helping to locate
problems.

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MEMBURN

The Synclavier (R) system conains two types of memory: internal and external. External memory boards are 128K boards; internal memory boards are either

- M8K boards; or

- M32K boards.

The MEMBURN (also named MEMBURN6 to distinguish it from earlier releases) program tests for failures in the internal memory boards* in 8K sections. The M8K board is tested as one section, the M32K board as four sections.

The MEMBURN program will detect any faulty section and indicate on the terminal which section is faulty. When a fault is noted, you should remove the connector panel from the computer, take out the board that contains the defective memory section and contact N.E.D. to arrange for replacement.

Running MEMBURN

The MEMBURN program is located on the floppy diskette labeled Utilities Disk. It is also installed in the top-level catalog of the Winchester disk. To run the program,

1. insert the Utilities diskette into the MAIN drive (F0);

2. press LOAD

You will be asked to enter the amount of memory in your system. If you have, for example, 60K of memory, type in 60 and press RETURN. When you press RETURN, the memory test will begin. (NOTE: If you have 60K of memory, you can also type in 64.)

The terminal screen will show

- the running time of the test;

- the current status of each section of memory being tested;

- the number of tests that have been run to date.

If a board tests good, then "GOOD" will appear for its status; if it fails the test, then "FAULTY" will appear for its status.

If you are testing because of an intermittent problem, you may want to run the MEMBURN program overnight, since a section can test good on 99 tests and then fail the 100th.

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* A field test for testing the 128K external memory boards will be available in future releases.

Removing the Faulty Memory Board

Once you have identified which memory section is faulty, you will
have to remove the faulty board from the computer. To do this,
follow these instructions:

1. Disconnect the power from the computer.

2. Remove the connector panel from the computer. Be sure not to
   disturb the cables behind the panel.

3. Locate the faulty memory board. All memory boards are in slots
   1-7 in the lower bin.

   If your system has all M8K memory boards, then the faulty memory
   board is easily identified by the number of the section that
   tested faulty.

   If your system has two M32K memory boards, then the one in the
   lower numbered bin slot contains the first four sections and the
   one in the higher numbered bin slot contains the last four
   sections.

   If your system has one M32K board and several M8K boards you can
   identify the faulty board by counting the appropriate number of
   sections from left to right.

4. Pull the memory board out of the slot.

5. Check the address on the board to make sure it is the correct
   board (sometimes boards may have been installed out of order).

Operating the System With Less Memory

All software released after February 15, 1985 requires at least 60K of internal memory to operate. If you have a memory failure, you will not be able to operate any of the software installed on your Winchester disk. However, some system software released prior to February 22, 1985 can be operated with less than 60K memory.

If you want to keep your Synclavier (R) up and running while waiting for your replacement memory board, you may be able to rearrange your working memory boards to do so.

For example, if the failed board is an M8K board, you can replace it with the highest addressed M8K board in the system after readdressing the substituted M8K board according to the instructions in the manual "Updating to 60K Internal Memory and 128K External Memory."

Or, if the failed section is 3, 4 or 7 on a system containing two M32K boards, you may be able to operate some programs with 48K of memory by readdressing the bad section for a higher address.

Once you have exchanged and readdressed the memory boards, you will have to reconfigure the system software you are planning to use. Use an old CONFIGUR program, one released prior to February 15, 1985.

The old Timbre Disk #2 (the one with .BNKDATA timbre files) contains a CONFIGUR program that can be accessed directly from the LOAD button. If you have this diskette, place it in the MAIN drive and press LOAD to run CONFIGUR.

If you need help in accomplishing any of these tasks, contact N.E.D.

PRINTEST

The PRINTEST program, located on the Utilities diskette, is used to print out a test pattern on a printer.

To use it, first make sure the printer is connected to the PRINTER port, turned on and "on line." Then run the PRINTEST program, using the following instructions:

If you are operating from a dual floppy system,

1. place the Utilities diskette into the AUXILIARY drive (F1);

2. type OLD PRINTEST;RUN

If you are operating from the Winchester,

1. make sure you are in the top-level catalog by typing ENTER :

2. type OLD PRINTEST;RUN

Once the program is running, the word "TEST" will be printed continuously from the printer in 23 lines of 13 columns followed by a space.

As the program runs, you will see

    XON
    XOFF

on the terminal screen.

To stop the program, press the LOAD button. The printer may continue to print for 20-30 seconds.

If the printer fails to print the test word, the problem is either in the printer or in the D40 printer interface board. You can test the D40 board in the following way:

1. Make sure the baud rate of the D40 printer interface board is the same as the baud rate of your terminal. If it is not, change the baud rate of the D40 board following the instructions in the "Options Set-up Manual" in Binder 1.

2. Remove the printer cable from the PRINTER/MODEM port on front of the computer connector panel.

3. Run PRINTEST.

4. While PRINTEST is running, disconnect the terminal cable from the TERMINAL port on the computer connector panel and connect it to the PRINTER/MODEM port.

If the D40 board is good, you will see the word TEST printed repeatedly on the terminal screen.