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QUICK SETUP

If you hate to read manuals and cannot wait to use your SIMCHECK II, or SIMCHECK II se, here is a quick short cut for you:

- Connect the power supply to SIMCHECK II and to the AC line.
- Turn SIMCHECK II on and press F3 to see the DEMO PROGRAM. This program should help you discover SIMCHECK II's basic functions.
- Insert and remove any module only when the MODULE POWER RED LED is off.
- To test a module, GENTLY insert it (notice the indication for Pin 1) in the 72-pin or 30-pin SIMM socket and press F1.
- Never insert both a 30-p SIMM module and a 72-p SIMM module at the same time. (No damage will occur, but the test results will be incorrect.)
- After a few seconds, initial test results and other information will appear for your Device Under Test (DUT).
- You can always use F4 from STANDBY to view the detailed Test Log of your last test.
- The unit comes with a diskette, which includes the PC interface program to download updated versions of the SIMCHECK II firmware from our Internet Web site, and it also includes the Realtime Interface for printing and data logging (see Section 7).

SAFETY PRECAUTIONS

- **WARNING:** This instrument and the devices under test warm up significantly during operation due to the high data rate of memory accesses. Keep away from combustible materials, in a well-ventilated area within an ambient temperature of 0°C to 27°C. Do not set it on top of other high temperature equipment. Make sure that tested modules are free from combustible materials and residues.
- Never remove or insert a module when the Module Power is ON as indicated by the **red** LED.
- If using an optional adapter, please remember to turn SIMCHECK II OFF before inserting or removing the adapter.
- The AC adapter is UL listed for indoor use only. Do not subject the product or adapter to rain or to excessive humidity. Never permit moisture to enter the interior of this instrument.
- The ZIF sockets are expensive components. Never permit moisture to enter the interior of these sockets. Never use excessive force to insert a SIMM module into the SIMM ZIF socket.

- Never submit this instrument to a severe shock.
- Make sure that no conductive debris falls into any of the exposed sockets. It can cause a short circuit that will disable the unit.

This manual is applicable to SIMCHECK II, or II se, with FIRMWARE versions 1.50 and up. SIMCHECK II's program version is displayed when SIMCHECK II is turned on. Printed 8-28-00

Please visit our web site for up-to-date manual information, including addendums for newly released products.

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SIMCHECK and SIMCHECK II were invented by David Y. Feinstein and its patent is licensed to INNOVENTIONS, Inc. Program Copyright ©1987,2000 by INNOVENTIONS, Inc. All rights reserved. Special credits: Hardware and Software development: David Y. Feinstein. Graphics Design: Angel Garcia. Senior R&D Assistant: Angel Garcia. R&D Assistant: Calvin Mikeska Jr. Production Design Assistant: Sylvia Greer. Product Packaging Design Assistant: Janie DeMontoya. Manual Authors: David Y. Feinstein and Angel Garcia. Manual Drawings and Graphics: Angel Garcia. Manual and Box Cover: Michelle Davis and Angela Strickler.

ONE YEAR LIMITED WARRANTY

SIMCHECK II is warranted in entirety against any defects of material or workmanship which may develop for any reason whatsoever, **except abuse and normal tear and wear of external test sockets**, within a period of ONE YEAR following the date of purchase by the original purchaser. If your SIMCHECK II should become defective within the warranty period, INNOVENTIONS, Inc. will repair it or elect to replace it free of charge. For warranty service, the purchaser or user must first call to obtain a Return Authorization Number as well as instructions on where to send the defective product, postage prepaid and insured, along with a return shipping charge of \$10 and a proof of purchase.

Except as stated above, INNOVENTIONS makes no warranty or representation, either expressed or implied, with respect to this product, its quality, performance, merchantability, or fitness for any particular purpose.

INNOVENTIONS hereby specifically acknowledges the physical fact that memory testers cannot achieve exhaustive tests (that is, 100% accuracy) due to the virtually unlimited possibilities of data combinations which may be stored inside a memory device. Therefore, while INNOVENTIONS continuously strives to improve its test algorithms, it cannot guarantee 100% accuracy of the test results.

In no event will INNOVENTIONS be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect in this product. Some states do not allow limitations on how long an implied warranty lasts, or exclusion or limitation of incidental or consequential damages, so exclusions or limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other legal rights, which vary, from state to state.

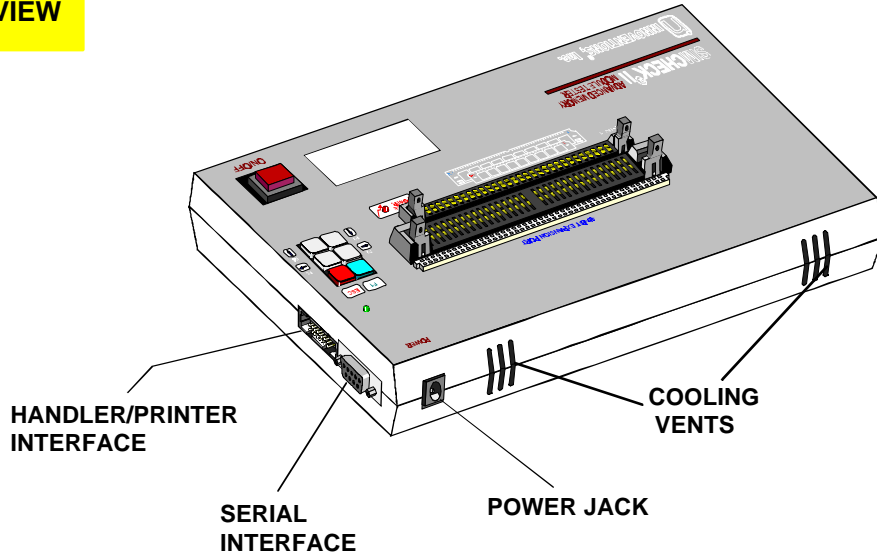
INNOVENTIONS continuously develops new test adapters to support new memory types, however, in view of the rapid emergence of new technologies, INNOVENTIONS cannot guarantee that the current product will be able to support all future memory technology.

Product operation and specifications are subject to change without prior notice.

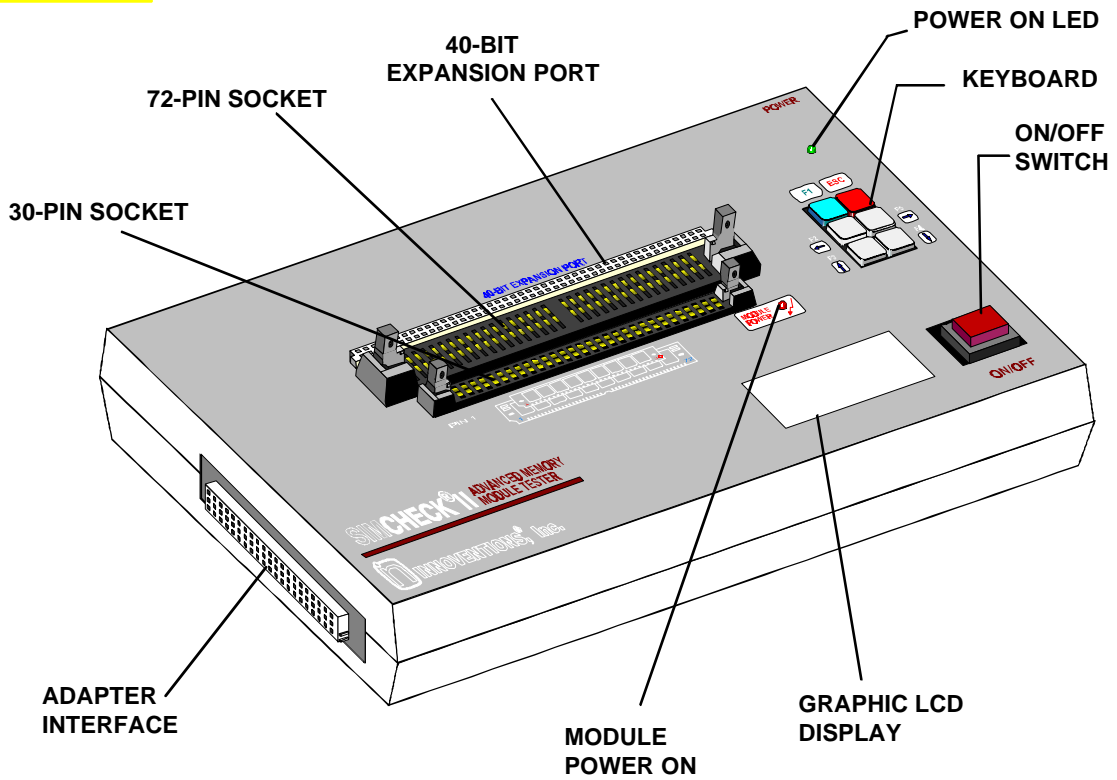
The License Agreement for the PC software which interfaces SIMCHECK II, and the Internet upgrades for SIMCHECK II's firmware appears in Appendix A.

SIMCHECK[®] II

REAR VIEW



FRONT VIEW



1. INTRODUCTION

SIMCHECK II is the third generation of memory testers from the company that pioneered the RAMCHECK and SIMCHECK product lines. Based on a powerful, high-speed 32-bit 486 processor and utilizing state-of-the-art time delay circuitry, it significantly enhances the time proven testing capabilities that previous SIMCHECK users have come to depend on. Access time resolution of 1nS, cycle time measurement, graphic setup of timing parameters, true 3.3V testing and its unprecedented high speed testing are among these enhanced capabilities that up until now were not available in a portable memory tester.

A recent addition to our product line is the SIMCHECK II se, a lower cost version of the SIMCHECK II that uses many of the power features employed by SIMCHECK II. Please refer to Section 3.3 to view a comparison between SIMCHECK II and SIMCHECK II se.

With the move to SDRAM technology in the market place, we have released the SIMCHECK II PLUS and the SIMCHECK II se PLUS packages. These packages include the Sync DIMMCHECK 168 for testing SDRAM/EDO/FPM DIMMs. Please refer to Section 8.1 for further information on the Sync DIMMCHECK 168 Adapter.



Refer to section 3.3 to review the differences between SIMCHECK II and SIMCHECK II se.

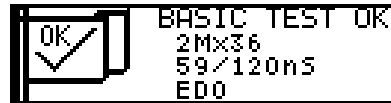
This manual covers the various SIMCHECK systems, including the SIMCHECK II, SIMCHECK II se, SIMCHECK II PLUS, and the SIMCHECK II se PLUS.

SIMCHECK II tests all the standard 30/72-pin SIMM memory modules with sizes up to 4Gx40 and its modular design allows for virtually unlimited growth with optional adapters. Currently available adapters support SDRAM/EDO/FPM DIMMs, SO DIMMs, memory cards, and SOJ DRAM chips. If you have purchased a SIMCHECK II PLUS or a SIMCHECK II se PLUS, your tester can support the SDRAM/EDO/FPM DIMMs without an extra adapter.

Using our proprietary algorithms, SIMCHECK II runs a thorough test on the memory module, testing every memory cell. All chips (bits) are tested simultaneously to yield a faster test and to enable the instrument to detect errors that are caused by interference

among the chips on the module. SIMCHECK II is not merely a go/no-go tester. In fact, it explicitly identifies the faulty bits within a defective module, and provides other important repair related information. While 100% accuracy in memory testing is technically impossible (See Appendix B), SIMCHECK II achieves a high degree of accuracy in detecting bad memory devices.

Since SIMCHECK II is fully automatic and extremely user friendly, anyone can use it with great ease. Its full graphics LCD display shows clear instructions and test results. It has Zero Insertion/Removal Sockets for both 30-pin and 72-pin SIMMs. If you have ever experienced the frustration of removing a SIMM module from a regular SIMM socket, you will be amazed at the ease of use of our unique SIMM socket. Pressing one button starts the fast BASIC test which automatically measures and displays the module size, Mode Type (including support for EDO), Access Time (speed), Cycle Time measurement and more. The BASIC test concludes with detailed structure information and you can terminate the test at this point if you wish, since BASIC test is sufficient for most of your testing needs.



If you decide to test the module more rigorously, do not terminate the test after BASIC test. EXTENSIVE test automatically follows with Voltage Cycling and Voltage Bounce tests which verify the module performance under varying voltage conditions. The March Up/Down algorithm detects interference among cells. Various tests like Relative Refresh and Relative Spikes provide detailed insight into the quality of the tested module. Our proprietary Chip-Heat mode automatically warms the chips for temperature related speed measurement at the end of EXTENSIVE test.

The AUTO-LOOP test provides the perfect burn-in means for your memory modules, as well as additional pattern testing.

In the SINGLE BIT test, SIMCHECK II identifies individual speed ratings and other related information for each bit.



SIMCHECK II incorporates advanced setup capabilities to satisfy

the needs of even the most demanding engineers. Graphic setup allows you to control major timing parameters, and you can also change the test flow or edit patterns with ease.

Since R&D activities for a product like SIMCHECK II never end, one of our major design goals for SIMCHECK II was to create a STAND ALONE product with firmware which could be easily upgraded and expanded to protect your investment. This goal was achieved using modern FLASH EPROM technology and a PC Windows companion program, which allows you to download the firmware from our Web site on the Internet or from a distribution diskette. SIMCHECK II comes with a built-in serial interface for easy connection to the PC.



To make sure that you quickly become familiar with all of SIMCHECK II's capabilities, we have included an easy to use DEMO mode that clearly explains its operation and numerous features. To gain the most from this instrument, please read this manual.

Please visit our web site at www.innoven.com for up-to-date manual information, including addendums for newly released products.

We are confident that you will find SIMCHECK II or SIMCHECK II se to be an indispensable tool.