

RAMCHECK®

**The latest breakthrough in
memory testing technology has arrived!**



INNOVENTIONS, the company that developed the world's first portable DRAM tester and set the standard in portable test equipment with the SIMCHECK line of products, now brings you RAMCHECK, the latest in reliable and affordable memory testing technology today.

Highly modular and user friendly, RAMCHECK and its optional adapters redefine the capabilities of an affordable and portable memory tester. The newly designed test engine and scaleable data interface provide faster tests and higher accuracy of timing measurements. RAMCHECK's architecture has been optimized to better support the memory devices of today and tomorrow. It comes with PC Communication software that allows it to print and log test reports, and to update its stand-alone firmware via the Internet.

You are in good company! Over the last decade, SIMCHECK product users include most of the Fortune 500 companies as well as thousands of small companies demanding value and reliability. And to support our loyal customers, we have designed the new RAMCHECK so that every SIMCHECK II or its derivative can be affordably upgraded to the RAMCHECK level.

Powerful!
Easy To Read!

RAMCHECK® SCREEN IMAGES

FEATURES & BENEFITS

- Saves you time by quickly testing your memory on RAMCHECK, not inside your computers.
- Saves you money by checking and identifying all your expensive inventory of memory modules.
- Don't let RAMCHECK's small size and low cost deceive you! It's 184MHz test engine, parallel data access capability, and state-of-the-art timing circuitry provides you with features heretofore available only in expensive desktop testers.
- RAMCHECK's modular design and its variety of existing and planned adapters provide you with broad coverage of today's and future memory technologies.
- Easy to learn and easy to use. Provides size, speed, type and detailed structure information with a single push of a button. Automatic tests provide full support for SDRAM/EDO/FPM without the need for special setup.
- Use it as a stand-alone tester, or connect it to your PC via the built-in serial interface and the free PC Communication program that allows you to log test results and to print hard copies.
- Fully and quickly test PC133 SDRAM technology at actual clock speeds, with automatic PC133/100/66 detection.
- Setup for user-defined tests and parameters fulfill the requirements of advanced users.
- Quickly change test parameters using the change-on-the-fly feature.
- RAMCHECK and its optional adapters come with high-quality Zero-Insertion-Force sockets for convenient handling.
- Upgrade the test firmware easily via the Internet at no additional cost.
- Gain support for Serial Presence Detect (SPD) data, including reading, editing, and programming.
- 100-240 VAC 50/60Hz universal switching power supply included.

Test Reports

Prompts the user to begin the test by pressing F1.

16Mx64'S STRUCTURE:
BANKS:2 -3:0+1+2+3
CHIP SIZE: 4x2Mx8
SDRAM 168P UNBUFFERED

Structure information indicates which control signals are used.

OK BASIC TEST OK
32Mx64=256M
100MHZ UB
SDRAM 4-clk

Clearly identifies good and bad modules.

8Mx64'S SPEED: 133MHZ
TEST=PC-133
PAGE BURST=133MHZ
SPD=PC-133

Summary screens inform whether module is PC-133 compliant.

BANK 1: DATA BITS
B1 B4
JEDEC:DQ22 PIN=21

Scrollable error menus provide error details plus its associated pin number.

ACCESS TIME FROM CLK
T_{ac} (CL=3): 5.0ns
T_{ac} (CL=2): 5.0ns
T_{ac} RANGE: <PC-133>

Reports individual access times from the clock at both CAS latency 2 and 3.

ADDRESS PINS STUCK:
CONTINUE END
P14/P7=A2 at 1
ERROR 1 OF 2

Displays address wiring errors.

8Mx64'S SPEED: 100MHZ
TEST=PC-100
PAGE BURST=100MHZ
SPD=PC-100

Identifies PC-133/100/66 modules.

DEVICE TYPE WARNING:
ASYMMETRIC 4K REFRESH
12 ROWS 10 COLUMNS

Clearly indicates variations from standard devices.

UNEQUAL SIZES

Reports unequal bank sizes.

Test Phases

BASIC TEST AAAAAAA
BYTES: B1 AAAAAAAAAA B9
00:05.2 100MHZ UB
32Mx72 SDRAM B2/0

BASIC Test checks wiring & memory cells. (Shown: 3V Unbuffered module running at 100MHz.)

VOLTAGE BOUNCE
WRITE AAAAAAA
00:12.1 55/125ns
16Mx64 3.00V B1/1

VOLTAGE BOUNCE tests data retention during voltage variation between read & write.

EXTENSIVE TEST
0000000000

EXTENSIVE Test performs various tests to establish memory quality.

MARCH UP/DOWN
MARCH DOWN 55555555
00:04.7 63/150ns
16Mx72 4.50V B1/0

MARCH UP/DOWN reveals adjacent cell interference problems.

VOLTAGE CYCLING
BYTES: B1 AAAAAAAAAA B9
00:02.3 53/120ns
16Mx72 5.00V B2/1

VOLTAGE CYCLING performs tests under all allowable voltage conditions.

CHIP-HEAT MODE
1.15A
01:11.7 133MHZ
32Mx72 3.30V

CHIP HEAT MODE tests at actual operational temperatures.

MODE TEST
CL=3 BL=1+2+4+8+FULL
CL=2 BL=1+2+4+8+FULL
16Mx64 3.30V

MODE Test identifies burst lengths at CAS latency of 2 and 3.

AUTO-LOOP 33CC33CC
LOOP#3980 B2/0
19:30:46.3 133MHZ
16Mx72 3.15V SDRAM

AUTO LOOP tests memory with endless pattern changes. Great for burn-in.

Test Log

TEST LOG
BASIC TEST
TEST AT 5V
SIZE: 16Mx64=128M

Detailed test logs reveal results after each test.

CHIP SIZE: 4x2Mx8
SPEED: 166MHZ
CLOCKS: 4-clk
SINGLE WRITE OK

Review stored results on a scrollable display.

TEST=PC-133
FINAL SPEED: 133MHZ
BASIC TEST OK
TIME: 00:26.3

Final speed and test time is recorded.

Setup

SETUP PARAMETERS
SIZE QUIT
TIMING AUTO
VOLTAGE MORE

Clear and interactive menus.

SETUP LIST
SETUP SIZE: 316Mx72
SETUP SPEED: 100MHZ
VOLTAGE SETUP: 3.3V

Detailed SETUP LIST tracks all default program changes.

SKIP TESTS:
ENTER ABORT
VOLTAGE CYCLING
SKIP THIS TEST

Test Flow Setup allows for test flow customization.

-RAS ADD -CAS
Trcd= 21ns

Graphic timing parameter setup pleases the most advanced users.

SETUP SPEED:
166MHZ
ENTER ABORT
184MHZ

Frequency Setup for SDRAM DIMMs.

SETUP MAIN PATTERNS
ENTER ABORT
PATT1: B5B5B5

Program your own test patterns used throughout the test.

Change-On-The-Fly

CHANGE-ON-THE-FLY:
SPEED RETURN
VOLTAGE
REFRESH

Make ON-THE-FLY parameter changes with the push of a button.

TEST OUT AT 5V - NOT FOR 3.3V RAM!
TEST OUT AT 3.3V
5V RAM FAIL OR SLOW

ON-THE-FLY changes include voltage variation from 5V to 3V & vice versa.

SPEED OVERRIDE:
56ns
ENTER ABORT
RAS ACCESS: 56ns

A one-time speed override allows you to change the tested access time.

SPD Management

SPD MANAGEMENT:
READ SPD
SHOW BUFFER
PROGRAM VERIFY

Allows you to read, edit & program your module's SPD device.

PROGRAMMING...
(16-BYTE PAGE) ***
OK

Three different SPD programming modes are available. SPD data can be saved to disk via the PC Interface.

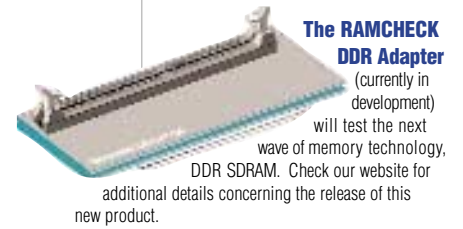
SPD VIEWER
SERIAL PRESENCE
DETECT - 256 BYTES:
0-3:0D 08 02 0A

The SPD buffer allows you to review previously read SPD data.

RAMCHECK® OPTIONAL ADAPTERS

Don't let RAMCHECK's compact size deceive you! With its four expansion sockets, RAMCHECK is a highly expandable and modular tester. In addition to the add-on devices shown on this page, we are continuously developing more optional adapters to support future memory technologies.

Please visit www.innoventions.com to review the latest additions to our product line.



The RAMCHECK DDR Adapter

(currently in development)

will test the next wave of memory technology, DDR SDRAM. Check our website for additional details concerning the release of this new product.



RAMCHECK SIMM Adapter

is for testing older 72-pin SIMM modules. It can also come with an optional test socket for 30-pin SIMMs, as shown.



Direct Printer Interface

Although you can print all test reports via the PC Interface included with RAMCHECK, the optional Direct Printer Interface allows you to print directly from RAMCHECK to a printer without the need for a PC connection.



RAMCHECK 144 Adapter supports 144-pin SDRAM/EDO/FPM modules with configurations of 64 and 72 bits.



RAMCHECK Sync Chip Adapter

supports popular TSOP chips in sizes of 16Mx16, 4Mx16, 32Mx8, 8Mx8, 64Mx4, 16Mx4 and more. Shown with all optional sockets.

RAMCHECK PC COMMUNICATION

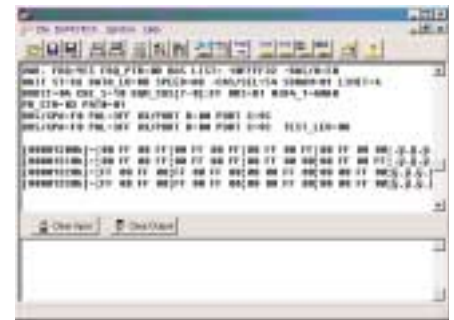
RAMCHECK and SIMCHECK are stand-alone products. However, they both include built-in serial interface ports and come with free PC Communication software that allows you to optionally interface the tester to your PC. Such an interface enables you to upgrade the firmware online, print test reports, program SPD devices, and much more.

REALTIME INTERFACE



The Realtime Interface allows you to print and log test results, with full control of RAMCHECK via the PC. A much more detailed test log and additional measurements are viewable on the PC screen compared to the tester's display. You can also jump from one test phase to another with great ease.

ADVANCED DIAGNOSTICS



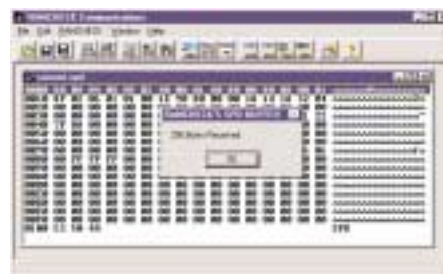
Advanced users can obtain more detailed data about the structure of the tested devices using the various debug modes of the tester.

FIRMWARE DOWNLOAD



The Firmware Download program allows you to update your RAMCHECK firmware with our latest test program as posted on our web site. If your computer has a direct connection to the Internet, this process is done automatically once you click the automatic download button. Alternatively, you can use the manual download mode if you obtain the firmware file using a different computer.

SPD PROGRAMMING



Memory manufacturers and advanced users have the ability to program and edit SPD devices using the PC Communication program. The program provides full on-screen support for reading, editing, programming and file handling of all your SPD devices. The special production mode allows automatic programming of the SPD of a tested module in accordance with a master SPD file.

RAMCHECK SETUP



The PC Communication software further enables you to setup your RAMCHECK and customize it using an intuitive setup interface on your PC screen. The software also provides you with the ability to save all of your various parameter settings to a disk file for future use.

SIMCHECK® II PLUS



Entry Level Testing Solution

Since its introduction in 1996, the SIMCHECK II and its later derivatives became the world's most popular and versatile portable memory testers. Currently, the SIMCHECK II LT PLUS is our entry level testing solution for PC133/100/66 and EDO/FPM modules. Supporting 168-pin SDRAM/EDO/FPM DIMM modules and 72-pin SIMM modules, it is identical to its predecessor, the SIMCHECK II PLUS, but without the obsolete 30-pin test socket.

SIMCHECK II LT PLUS combines 1nS timing technology and a 133MHz test engine to quickly and reliably test all popular SDRAM and EDO/FPM modules. Many of the powerful RAMCHECK screen images, the features list and the PC Communication program shown inside this brochure are also applicable for the SIMCHECK II series. And any SIMCHECK II product is upgradeable to the new RAMCHECK level.



The SIMCHECK II LT PLUS is the recent member of the SIMCHECK II PLUS series.

UPGRADE

SIMCHECK OPTIONAL ADAPTERS



Sync DIMMCKECK 144

supports all popular 144-pin SDRAM/EDO/FPM DIMM modules with configurations of 64 and 72 bits.



Sync DIMMCKECK 100

supports 100-pin laser printer DIMM modules with configurations of 32, 36, and 40 bits.



SIM II SOJ Adapter

a universal tool for testing most 20-pin to 42-pin SOJ chips. Supported sizes include: 256Kx4, 1Mx4, 1Mx1, 4Mx1, 4Mx4, 16Mx1, 1Mx16, 8Mx8, 16Mx4 and 2Mx8.



Sync CHIP TESTER

supports 44, 50, and 54-pin TSOP SDRAM chips. These include 4Mx4, 16Mx4, 64Mx4, 2Mx8, 8Mx8, 32Mx8, 1Mx16, 4Mx16, and 16Mx16.



200-pin DIMM Adapter

supports FPM/EDO 200-pin DIMM modules with a basic configuration of 144 bits used in the Sun Sparc Stations and other Sun Microsystem computers.



DRAM CARD TESTER

enables SIMCHECK to test JEIDA/JEDEC 88-pin DRAM memory cards with configurations of 18, 32, and 36 bits.

30-Day Money-Back Guarantee! In USA and Canada

One-Year Warranty!

(281) 879-6226 Fax (281) 879-6415

www.innoventions.com

Sales@innoventions.com

10425 Bissonnet St., Houston, TX 77099

 **INNOVENTIONS® Inc.**
"INNOVATIVE PRODUCTS FROM INVENTIVE MINDS™"

Copyright © 1996-2000. All rights reserved. INNOVENTIONS Inc. INNOVENTIONS, RAMCHECK, SIMCHECK and DIMMCKECK are registered trademarks of INNOVENTIONS Inc. All other brand names are trademarks of their respective owners.