7. RAMCHECK OPTIONS

There are various options that are available to expand RAMCHECK's capabilities. These additions include optional adapters that support 144-pin DIMMs, DDR devices, individual TSOP SDRAM chips, as well as older style SIMM modules.

These options enhance your testing capabilities, making sure that your investment does not become obsolete as new memory devices are introduced to the market.

As we continuously develop new options, you may also want to check our web site (<u>http://www.innoventions.com</u>) for updated information.

7.0 QUICK INDEX

ADAPTER	P/N	DESCRIPTION
RC DIMMCHECK 144	INN-8668-1	144-pin DIMM adapter supporting
		SDRAM/EDO/FPM modules.
RC SIMM Adapter (72-p only)	INN-8668-2	72-pin SIMM adapter supporting
		EDO/FPM modules.
RC SIMM Adapter (72+30 pin)	INN-8668-2-A	72-pin and 30-pin SIMM adapter
		supporting EDO/FPM modules.
RC Sync Chip Adapter (54-pin)	INN-8668-3	Supports individual SDRAM TSOP
		chips in the 54-pin, package.
RC Sync Chip Adapter (54+50+44 pin)	INN-8668-3-A	Supports individual SDRAM TSOP
		chips in the 54-pin, 50-pin, and 44-
		pin packages.

7.1 RC DIMMCHECK 144



Our new addition to the RAMCHECK[®] line provides a needed solution for testing SDRAM and standard EDO/FPM DRAM 144-pin SO DIMM modules at an affordable price.

The RC 144 Adapter (p/n INN-8668-1) bursts complex pattern tests, into and from the tested module, at a true 133MHz (or faster) synchronous rate. The automatic test provides the tested module's size, voltage, frequency, and type. RAMCHECK's internal 184MHz test engine verifies that the tested module can accept the various mode commands, including CAS latency of 1, 2, and 3, sequential, or interleave type bursts at different lengths, and the single write mode. It further verifies interleaved bank operation.



Install or remove this adapter only when RAMCHECK is OFF!



DIMM insertion and removal should be done only when RAMCHECK is in STANDBY Mode.

7.1.1 OPERATION

RAMCHECK automatically detects the presence of the RC 144 Adapter. The tester also automatically determines if the tested module is SDRAM or standard DRAM without the need for special setup.

In fact, you can test standard DRAM following an SDRAM, or vice versa, without the need of manual settings.

7.1.1.1 CONNECTION AND DIMM INSERTION

This adapter connects to RAMCHECK via the two adapter expansion slots located below the 168-pin socket. Plug the adapter into the expansion slots only when RAMCHECK is OFF.

INSERTION: The RC DIMMCHECK 144 uses a vertically mounted high quality test socket with two ejectors that need to be opened prior to insertion. Carefully insert the DIMM into the socket, pushing it evenly along its top. When the DIMM is

properly inserted, the ejectors will snap onto the semi-circular notches on each side of the module.

REMOVAL: The DIMM is easily released from the socket by pulling both ejectors sideways.

7.1.1.2 DIMM TESTING

Full support for SDRAM and EDO/FPM DIMM modules is available on the RC DIMMCHECK 144. They will test according to our procedure outlined in Section 4.3.2. Please note that the Burst LED will not glow when Standard EDO/FPM DRAM DIMMs are tested.

BASIC TES	555!	55555
BYTES: BI	IIIIII	II 38
00:00.5	100MHz	
8M×64	SDRAM	B1/0

After the BASIC test, RAMCHECK will provide explicit structure information on the module tested.

8Mx64`S STR	RUCTURE:
BANKS:1 Chip Size:	-5:0
CHIP SIZE:	4×2M×8
SDRAM 144P	UNBUFFERED

THE .

SPD Management including editing and filing are explained in further detail in Section 4.4.

7.1.2 SPD MANAGEMENT

If RAMCHECK detects the use of an SPD EEPROM chip, a summary screen will appear giving you the option of entering the SPD Management Mode.

1M×64`S STRUCTURE: SERIAL PRD ISE TO VIEW THE SPD PARITY MODE				
<u>SER</u> IAL	PRD			
F5= T0	VIEW	THE	SPD	
PARITY	MODE			

7.2 RC SIMM ADAPTER



Another new addition to the RAMCHECK[®] line provides a solution for testing older style 72-pin and optionally 30-pin standard EDO/FPM DRAM SIMM modules at an affordable price.

RAMCHECK automatically detects the presence of the RC SIMM Adapter. The tester also automatically determines if the tested module is EDO or FPM without the need for special setup. This adapter comes standard with 72-pin SIMM module support (p/n INN-8668-2), but also can be ordered with both 72-pin and 30-pin sockets (p/n INN-8668-2-A).

7.2.1 OPERATION

7.2.1.1 CONNECTION AND MODULE INSERTION

This adapter connects to RAMCHECK via the two expansion slots located beneath the 168-pin DIMM socket. Plug the adapter into the expansion slots only when RAMCHECK is OFF. Upon initial turn on, RAMCHECK will automatically identify the SIMM adapter.



INSERTION: 30-pin SIMM modules are inserted into the lower socket and 72-pin SIMM modules are inserted into the larger socket above. Note that the lower left corner has a curved notch for pin 1 identification. Also notice that there are standard holes on each side of the module. The socket has two flanges that can be pushed back about 35 degrees. Inspect them closely and notice that each flange has a pin that is designed to enter into the holes on the module's sides when they are correctly inserted.

With very gentle pressure, insert the module into the socket and tilt it backward (thus also tilting the flanges) until the small pins on the socket flanges enter the holes in the module sides. With both hands return the flanges to the normal vertical position until the SIMM module enters the socket. Practice it a few times and you will be amazed how easy it is compared to working with regular SIMM sockets!

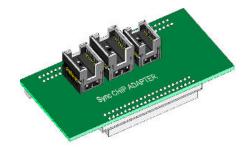
REMOVAL: Make sure that the Module Power **red** LED is off (if not - press ESC). In certain modules, the **red** LED may still be glowing slightly, even when the tester is in Standby Mode; if this occurs, it is still safe to remove the module from the socket, as the module is allowing only a minor amount of leakage current to flow. This however, should not be an indication of a defective device.

Place one finger on top of the SIMM module to **prevent the module from popping upward** and simultaneously push the two flanges away from you.

The test procedure for the RC SIMM Adapter is identical to our regular module test for EDO/FPM devices.

	BASIC ⁻	TEST	AAAAAA	AAA
	BYTI			84
Ľ	00:01.3		125nS	2
	L6MX32	FPM		-82

7.3 RC SYNC CHIP ADAPTER



The RAMCHECK Sync CHIP Adapter supports popular TSOP chips in sizes of 16Mx16, 4Mx16, 32Mx8, 8Mx8, 64Mx4, 16Mx4 and more.

This adapter is available supporting 54-pin TSOP SDRAM chips (p/n INN-8668-3) and also supporting all three popular styles of 54-pin, 50-pin, and 44-pin TSOP SDRAM chips (INN-8668-3-A).

RAMCHECK automatically detects the presence of the RC Sync CHIP Adapter.

7.3.1 OPERATION

This adapter connects to RAMCHECK via the two expansion slots beneath the 168-pin DIMM socket and is automatically identified by the tester. Plug the adapter into the expansion slots only when RAMCHECK is OFF.

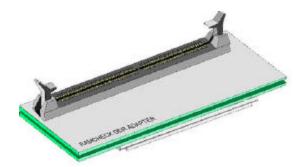
HANDLING THE TSOP CHIPS: The RC Sync CHIP Adapter uses up to three high-quality test sockets to support 54-pin, 50pin, 44-pin, and TSOP chips. Pin 1 of the TSOP chip is typically marked with a dot. Alternatively, the short edge of the package, which is near pin 1, may be marked with a semicircular tab. Place the chip in the corresponding socket so that pin 1 points away from you. Also make sure that the markings on the top of the chip face up (this is called "LIVE BUG" insertion). Insert the chip carefully at the bottom of the ZIF socket and press and release both sides of the black socket top to lock in the chip. Once the TSOP chip is inserted, press F1 to start the test.

BASIC TE	ST 0000F		1Mx16`S STRUCTURE:
	ES: 📴 🔺	B2	CHIP SIZE: 2×512K×16
00:00.6	100MHz	- 3, [
1M×16	SDRAM	B 1	JEDEC ×16



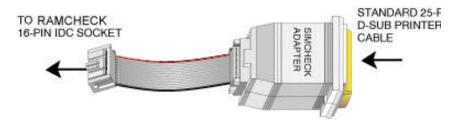
CHIP insertion and removal should be done only when RAMCHECK is in STANDBY Mode. Test summary and structure information screens follow the Basic Test. The test procedure is exactly the same as our SDRAM module test. After the test, press the black socket top to remove the chip from the socket.

7.4 RAMCHECK DDR ADAPTER



The RAMCHECK DDR Adapter (currently in development) will test the next wave of memory technology, DDR SDRAM. Please check our website for additional details regarding the release of this new addition to the RAMCHECK family.

7.5 DIRECT PRINTER INTERFACE



The optional DIRECT PRINTER INTERFACE (p/n INN-8558-4) allows you to print directly from RAMCHECK to a printer, without the need of a PC connection. This option includes a special adapter, which connects to the RAMCHECK 16-pin IDC socket, and a special PAL chip, which controls the IDC socket.

Please install the PAL chip into your RAMCHECK in accordance with the instructions and drawings in Appendix.

The adapter comes with a short 16-pin IDC cable that connects to the RAMCHECK's IDC socket. Your printer connects directly to the standard 25-pin D-SUB connector on the other side of the adapter.

NOTE: The DIRECT PRINTER INTERFACE is targeted for dot matrix printers only, many of which can now be purchased in a convenient narrow size.

Once you have installed the PAL chip and connected the printer, you can print the Test Log either manually or automatically. Select the mode using Setup, Configuration, More, Printer. In automatic printing mode, the Test Log is printed whenever you return to Standby after a test. In manual printing mode, you can print the current Test Log by pressing F5 while viewing the Test Log.