

# DDR3 LR-DIMM

## SP3000 DDR3 LRDIMM Tester



Transparent  
Mode test  
with  
Assembly  
Fault  
Detection

CST Inc, leading worldwide manufacturer of memory tester and automation is proud to introduce the stand alone SP3000 DDR3 LR DIMM Tester design for detecting hard to capture LR-DIMM assembly faults.

This tester is specially targeted at the High Volume Memory Module Manufacturers.

The SP3000 DDR3 LR-DIMM DDR3 Tester comes with a standard 240pin DIMM socket for testing the latest DDR3 LR-DIMM memory

The SP3000 DDR3 LR-DIMM Tester is built with flexible architecture to support DRAM, SDRAM, DDR, DDR2 & DDR3 Memory Module testing with a change of optional adapter.

**SP3 LRDIMM Tester is not a Real-time functional tester. All Memory Test perform in Transparent Mode.**

### SP3000 DDR3 LRDIMM Feature

#### Auto Identify:

- **Memory Type: 240pin LR-DIMM Memory only**
- **Memory Buffer type (Inphi, Montage)**
- Memory Configuration
- Memory Size

#### Fast Speed Assembly Testing

- Uses state-of-the-art DDR-III controller
- LRDIMM Transparent Mode Test
- **Super Fast Test time**

#### Effective Test Algorithm

- Quick test, checks for assembly faults such as incorrect series resistors
- Detail Transparent Mode test
- Programming and check SPD
- **Fault Focusing – pinpoint to faulty chip(s)**

#### Ease of Use

- Easy to read LCD display
- 5 Easy Push Button Selection
- Output bad results to printer
- Audible buzzer for pass/fail indication
- Colored LED for Test, Pass and Fail status

#### Ez Upgrading

- Adapter support only **LRDIMM** module
- Firmware upgrade via internet
- Support wide range of test adapters
- Support RoboFlex2 & 3 Handler
- Interface with PC software via RS232/USB Port
- Universal power supply ( 12V DC)

### Technical Specification

Clock Frequency	: Fixed
Address depth	: 4 Giga-word (16 Row x 12 Col)
Data width	: 72 bit
No of Rank	: 4 & 8
Voltage range	: 1.35,1.5,1.6,1.7,1.8,1.9 & 2.0 Volts
CAS Read Latency	: Fixed
Trcd & Trp Adjustment	: Fixed
Cas Write Latency	: Fixed
Internal bank	: 8 Banks
Burst Chop Mode	: Fixed BL8, BL4 & On the Fly
Dynamic ODT selection	: 40, 60 & 120 ohm (Auto Select)
ZQ adjustment	: Auto Calibration
Refresh Cycle	: Auto / Self Refresh
Static Test Pattern	: Walk Data , Walk Address & Series resistor test
Dynamic Test Pattern	: Marching Test
SPD Programming	: Read/Write & Editable Byte 0 – 255 Reversible SPD Write Protect

### General Specification

DDR3 LR-DIMM Adapter	: 240 Pin DDR3 DIMM (Standard)
Power Adapter	: input 100 /250 Vac, 50 /60Hz Output 12 VDC @ 3A
Operating Temperature	: 15 ~110 Degree F
Dimension	: 9.25" x 9.25" x 2"
Weight	: 6 pounds

# SIMMTESTER.COM

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## The SP3000 DDR3 LR-DIMM Memory Tester

The CST **SP3000 DDR3 LR\_DIMM** Adapter is the latest test adapter for the SP3000. It supports testing of 240-pin DDR3 LR-DIMM that complies with JEDEC standards.

The SP3000 DDR3 LR-DIMM adapter plugs into the existing SP3000 base tester. This makes the DDR3 LRDIMM adapter by far the most cost-effective solution for testing high-speed DDR3 LR-DIMM modules. No special setup is required. As with all of CST products, the adapter is simple to use. Insert the DDR3 adapter, turn the SP3000 tester on, insert a DDR3 LRDIMM module into the heavy duty Yamaichi test socket, then press the start button to begin testing.

CST has incorporated latest state-of-the-art technology "**DDR3 Memory Controller**" in the design of the new SP3000 DDR3 –LRDIMM Adapter.

### DDR3 Advanced Technology

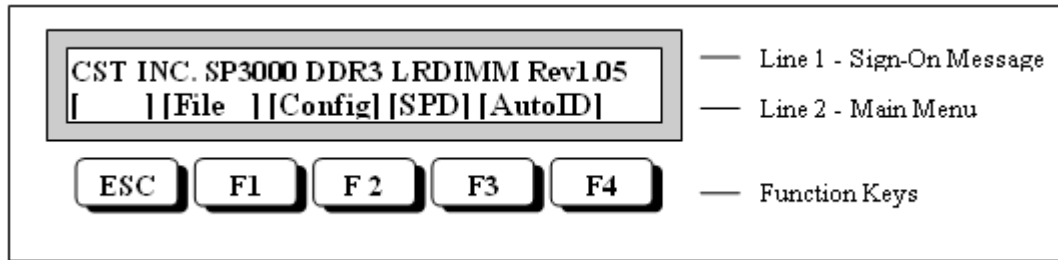
- Main Adapter DDR3 LRDIMM controller test LRDIMM in transparent mode : **Transparent mode:** For module testing purposes, the memory buffer can be placed in transparent mode, where it acts as a simple signal re-drive buffer and passes commands and data directly through to the DRAM devices
- High efficiency switching power regulator to generate the DDR3 STTL-15 interface power source.
- Build in analog circuit for measuring the module's current, voltages.
- User Programmable controlled Vtt regulator.
- High resolution VDD high efficiency switching power regulator.

The SP3000 DDR3 LRDIMM adapter includes many new features which are relevant to the differences between DDR3 technology and the older DDR2 and DDR technology. As with all of CST SP3000 testers, each LRDIMM module's size, structure, and type are automatically detected, without the need for user's setup. The test flow follows our standard Basic Test, Extensive Test, and Auto-Loop process. The SP3000 DDR3 LRDIMM adapter is very simple to operate, with little training or setup required.

### DDR3 Test Features

- Supports Burst Length of 4 & 8
- Supports CAS LATENCY (CL) Fixed
- Support On-Die-Termination (ODT)
- Test all DDR3 LRDIMM at lower frequency.
- Supports new LRDIMM mode registers enhancements.
- Improved current and temperature sensing circuitry.
- True 1.35 & 1.5V testing with a wide support range of 1.35V to 2.0V
- Parallel testing capability of 64/72-bits.
- Heavy Duty , 240-pin test-quality for convenient module handling.
- Automatic detection and support for LR DIMM modules.
- Automatic detects x4 or x8 chip type
- Support up to 16 rows and 12 column address lines to support 32 GB modules.
- Complete SPD programming support.

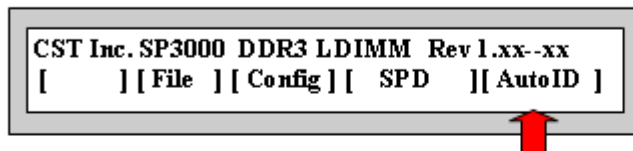
## BASIC Operation



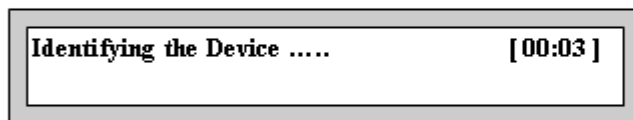
### Auto ID an Unknown Device

Assume device type is unknown (in this example, 1024Mx72 is used), an **Auto-ID** function is carried out to determine the memory device attribute. The **BASIC** test is performed to determine if the module is good or bad.

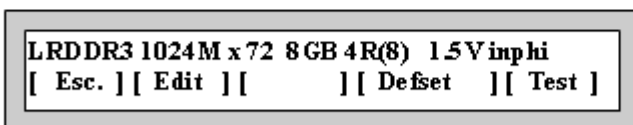
*Step 1:* Insert the unknown DDR3 LRDIMM device into the test socket. The main menu screen will display as follows:



*Step 2:* Select [ **Auto-ID** ] and you will be prompted the following menu  
Wait for a few seconds,



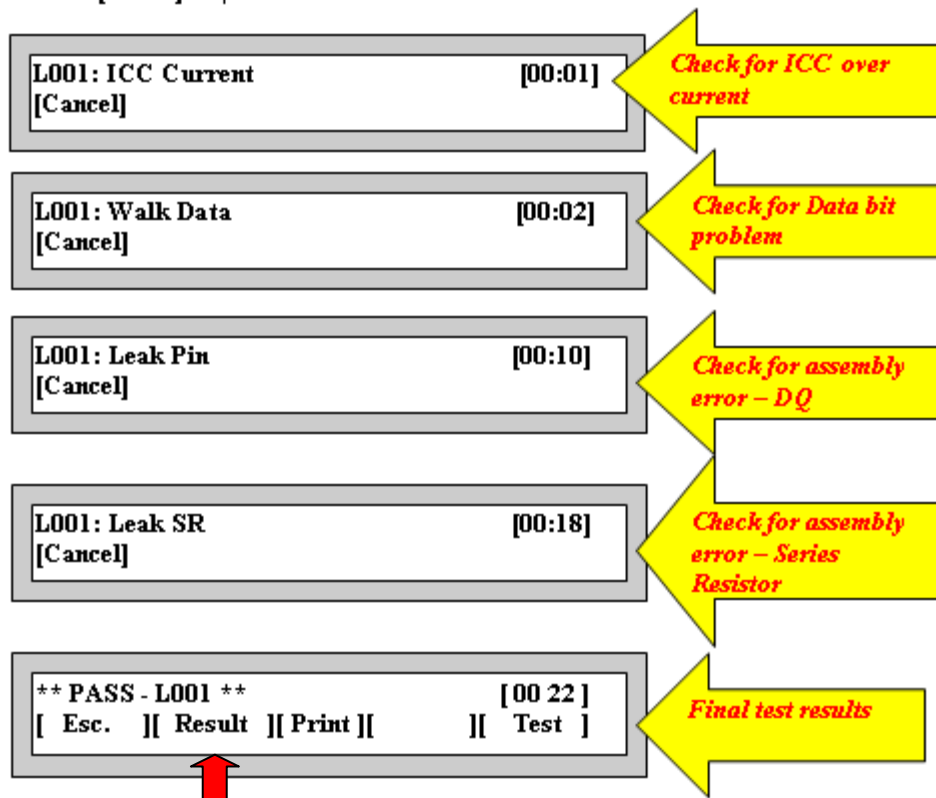
*Step 3:* Compare the device attributes shown on the LCD Display with your known device attributes. 8GB DDR3 LRDIMM



#### Indication of device are as follow:

- ◆ LRDDR3 :Double-Data-rate LRDIMM
- ◆ 1024Mx72: Address base x Data Bit configuration of module
- ◆ 8GB : Memory Size
- ◆ 4B : External Bank ..... Four external bank
- ◆ (8) : Internal Bank .....Eight internal bank
- ◆ Vdd : Vdd voltage ..... 1.35V

Step 4: Press **[ Test ]** to perform the **BASIC** Test.



Step 5: Press **[Result]** to view the individual pass/fail test result.

Step 6: Press **[ Print ]** to print a copy of the individual test result

Step 7: Press **[Esc]** **twice** to return to the main menu.  
Before reaching the main menu, the tester will prompt you to save the new device detected.

**For ordering:**

**SP3000 DDR3 LRDIMM DIMM Tester set: SP3-DDR3 LRDIMM**

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