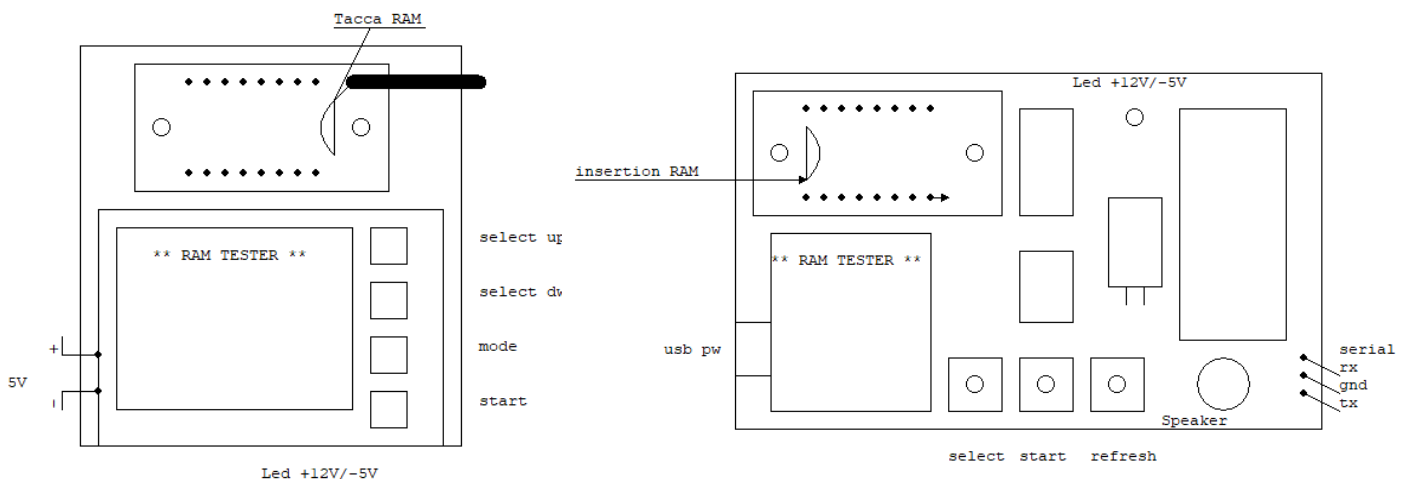


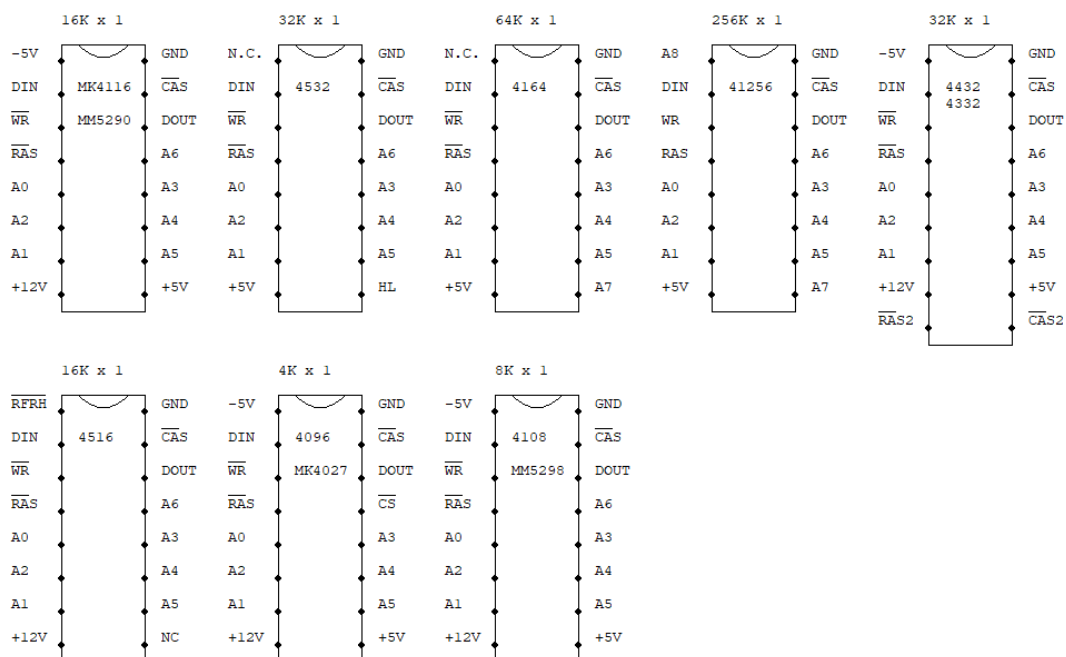
RAM TesterV 5.0 Manual



The tester can check the operation of different types of 1-bit dynamic RAM, more specifically:

4096	4Kb
4108	8Kb
4116	16Kb
D2118	16Kb.
4516	16Kb
4432/4432	32Kb (16k x2)
4532 (H and L)	32Kb
4164	64Kb
41256	256Kb

There are several versions of different manufacturers that label RAMs more or less differently, always check the datasheet relating to your memory to check the pin matches.



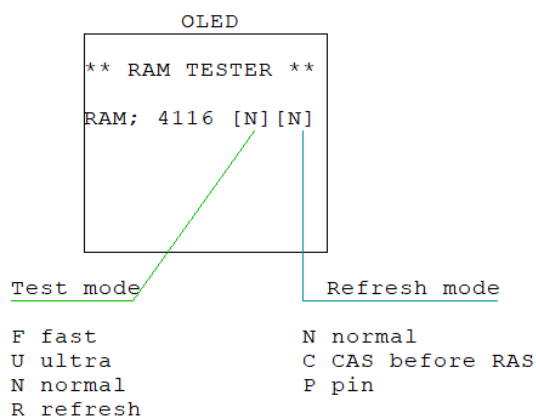
For the RAM 4332/4432 and D2118 you need to operate differently than the others, further in the manual will be specified how to do.

SELECT BUTTON (MODE in 4 buttons PCB)

The quick pressure of such a button allows you to change the model of RAM in exam, cyclically. The pressure above half a second, on the other hand, changes the test mode, i.e.:

F=fast **N**=normal **U**=Ultra **R**=refreshcycle of 30 sec.

In Fast mode, each cell is written and immediately read, allowing a very quick review. In Normal mode, however, all the content of RAM is first written (testing with both 0 and 1) and then fully read again. The Ultra mode is identical to the Normal mode but "early read/write" method is used, meaning that in a single cycle the cell's content is read and written at same time. In Refresh mode the RAM is first fully written and read again after a wait state of 30 seconds, during which only the refresh cycles operate. This mode is the slowest but allows a more deep test of the RAM, effectively testing the memory's ability to retain data over time.



The SELECT (MODE) key also has another function, if kept pressed for more than 3 (0.5 in 4 buttons PCB) seconds it changes the way of the refresh for the RAM cells is performed.

N = Normal. The RAM is "cycled" on all row addresses.

C = CAS before RAS. This mode is normally present in 41256 but may also be present in other RAMs according to the manufacturer.

P = Pin. The 4516 has a PIN (1) for automatic refresh

launders without the need to provide row address.

During the selection of RAM, the modalities are automatically applied according to the selected model. You can change it as you wish to perform in-depth checks.

START BUTTON

If everything went well at the end of the test, the letter ***** OK ***** will appear otherwise the letter ER: nnnn where nnnn indicates the address of the faulty cell. The Start button also applies +12V and -5V voltages if the 4096, 4108, 4116 and 4332 models were selected. This allows you some protection in case you left a different RAM inserted during the model's change. ALWAYS check the RAM before starting the tests! Wrong voltages are deadly for memories.

RAM 4332.

The RAM 4332 has two selectable banks of 16k with RAS/RAS2 and CAS/CAS2. If you insert RAM from pin 1 into the socket, the 9 and 10 pins will be left out (and you will eventually have to raise those pins) in this way you will test the first 16k space. To also test the second you will have to raise the 4 (RAS) and 17 (CAS) pins and connect (eventually welding wires to RAM) the pins 9 (RAS2) and 10 (CAS2).

RAM D2118.

The D2118 RAM is a 16K single-power RAM. It can be tested by selecting 4516 and changing the refresh mode to "N" instead of "P".

Software for PRO version: <http://elecheap.com/drampro/ramtest.zip>