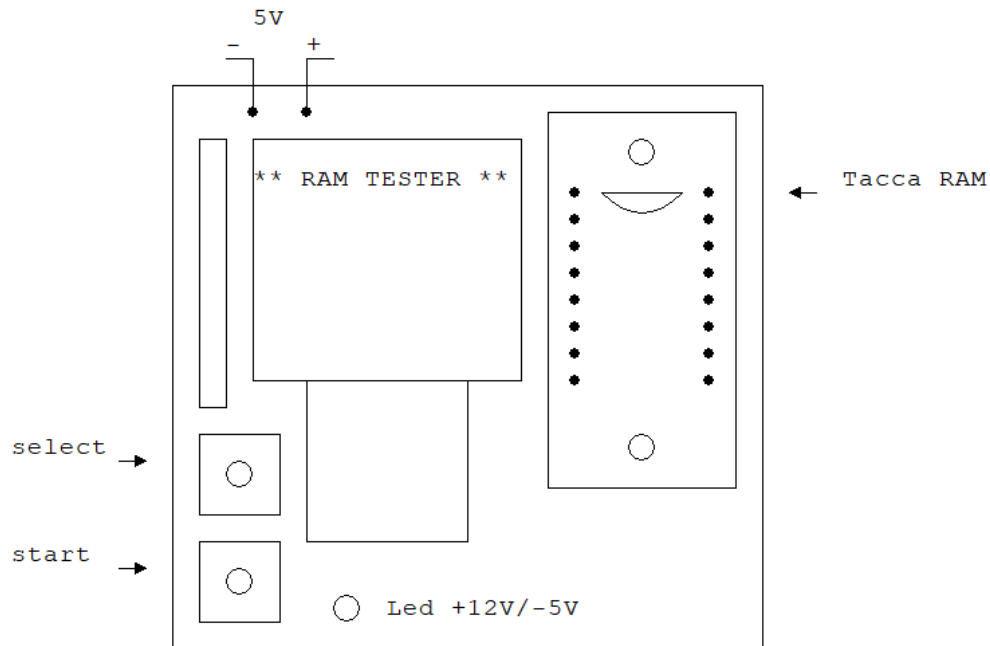


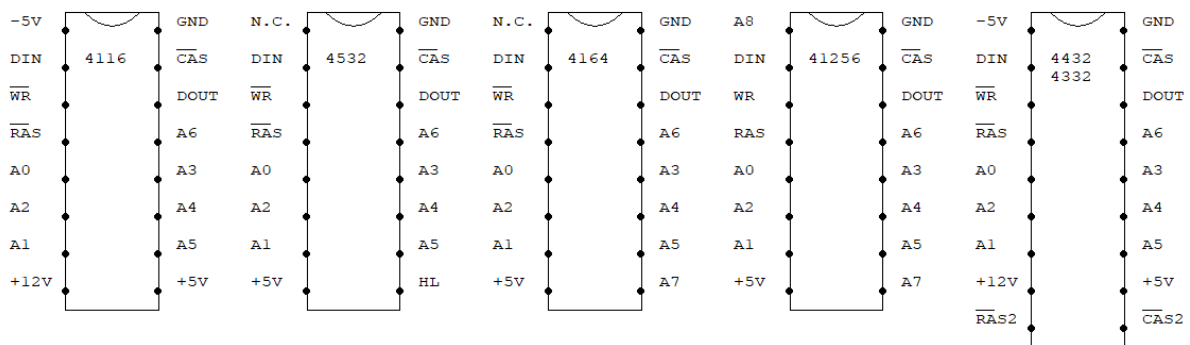
RAM Tester V 1.7 Manual

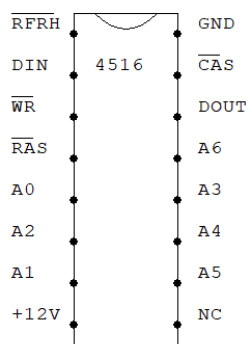


The tester can check the operation of different types of 1-bit dynamic RAM, more specifically:

4116	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 data sheet relating to your memory to check the pin matches.





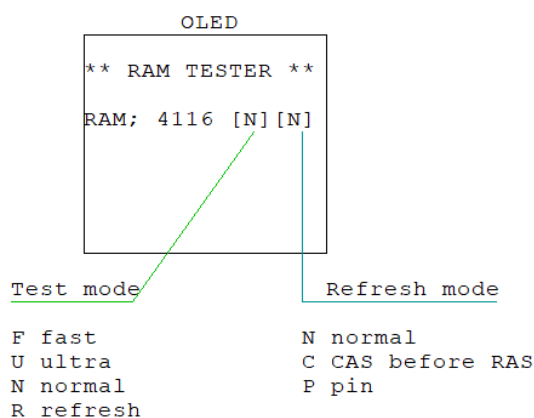
For the RAM 4332/4432 you need to operate differently than the others, further in the manual will be specified how to do.

SELECT BUTTON

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

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

In Fast mode, each cell is written and read again immediately, 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 read again fully. 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. In Refresh mode the RAM is first fully written and read again after a wait 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 key also has another function, if kept pressed for more than 3 seconds it changes the way the refresh of 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 laundering 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 for nnnn will be indicated the address of the faulty cell. The Start button also applies +12V and -5V voltages if the 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!

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 sockets will be left out (and you will eventually have to raise those sockets) this way you will test the first 16k socket. To also test the second you will have to raise the 4 (RAS) and 17 (CAS) sockets and connect the socket (and eventually welding wires to RAM) the 9 (RAS2) and 10 (CAS2) sockets.