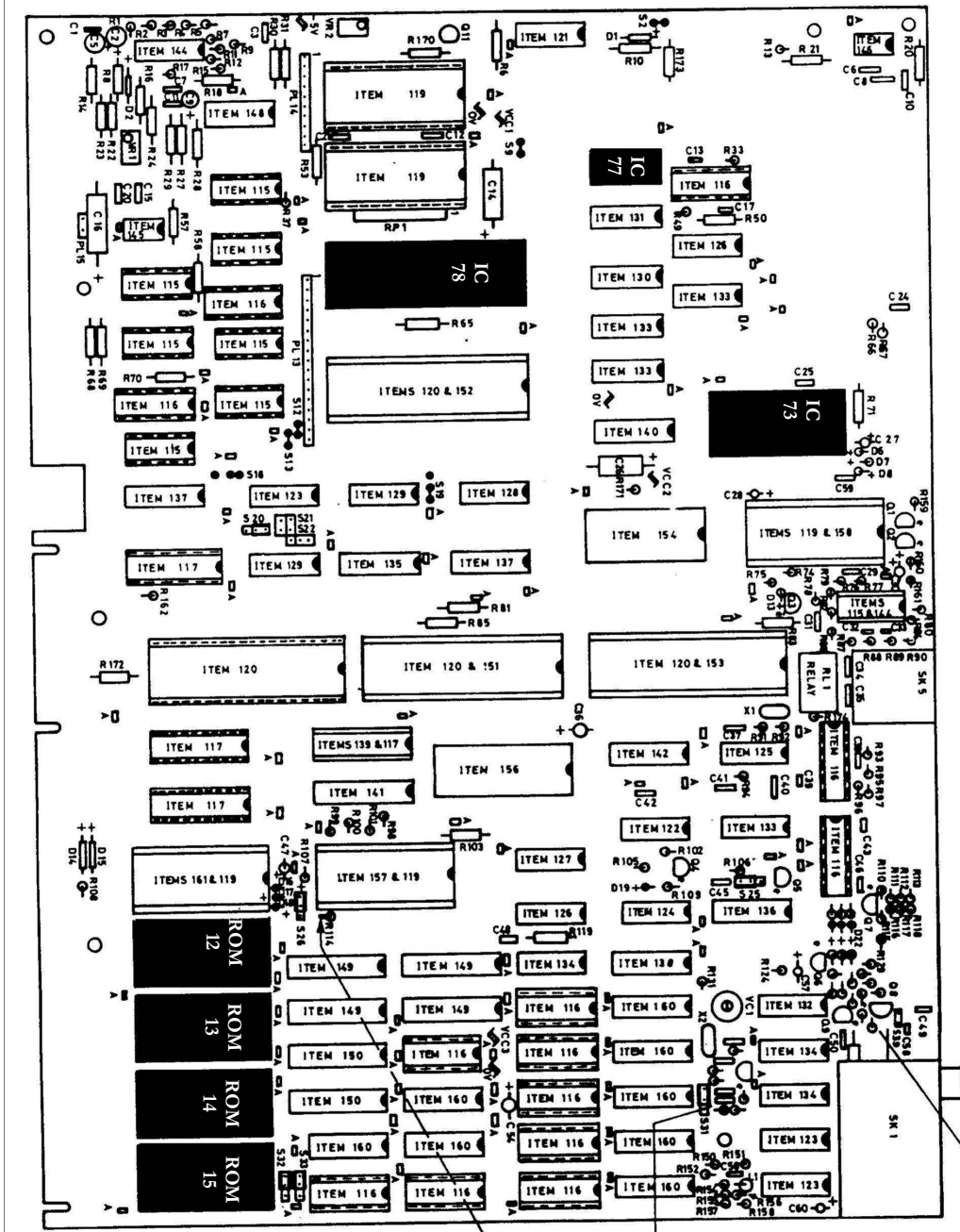




BBC Model B Sideways RAM Module Fitting Instructions



Component Location inside the BBC Microcomputer

The diagram above shows the location of the ICs referred to in these instructions inside the BBC microcomputer. These are shaded black and give the IC or ROM socket number for each.

IMPORTANT NOTE

The BeebMaster BBC Model B Sideways RAM module provides a 16K bank of sideways RAM for use on a BBC Model B. To allow the machine to load data into the Random Access Memory contained in the module, a solderless modification is required to the Model B circuit board. This is achieved by taking pin 27 of the module to one of three possible positions on the BBC B motherboard to provide the write line to the RAM. As such, pin 27 has been cut to prevent contact with the ROM socket. This is intentional and does not mean that the module is damaged.

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Fitting the BeebMaster Sideways RAM Module to a BBC Model B Microcomputer

WARNING: *This upgrade is intended for a use with a standard BBC Model B microcomputer. It is not suitable for use with the BBC Master Series. It may be used with BBC Model B machines with ROM expansion boards fitted but the BeebMaster Sideways RAM module must be fitted to a socket on the BBC motherboard and not the ROM expansion board.*

1. Switch off the computer and unplug it from the mains. Switch off and unplug any peripherals connected to the computer.
2. Remove the computer's lid by unscrewing the four screws marked "FIX" - two at the rear of the computer and two underneath.
3. Remove the two (or three in some cases) fixing bolts holding the keyboard in position.
4. Unplug the keyboard connector and speaker connector from the main PCB and remove the keyboard.
5. Carefully insert the RAM module into a free sideways ROM socket. The notch on the module must be facing the rear of the computer and the connecting lead will be on the right-hand side of the module when the module is correctly positioned.

Please refer to the diagram overleaf for the location of the sideways ROM sockets. Keep a note of the ROM Socket number containing the module as this will be required when using the loading software.

6. The clip must be attached to one of three positions on the BBC microcomputer motherboard. Pressing the wired end of the clip will reveal a hook for attaching to an IC pin on the main circuit board.

The possible pins are:

IC 77, pin 8

IC 73 (7002 Analogue to Digital Converter), pin 24

IC 78 (8271 floppy disc controller), pin 10

Pin 8 of IC 77 is the easiest to locate. It is the pin in the bottom right-hand corner of the microchip, ie. the pin nearest the keyboard on the right-hand row of pins.

Pin 24 of IC 73 is the fifth pin counting from the top of the right-hand row of pins.

Pin 10 of IC 78 is the tenth pin counting down from the top of the left-hand row of pins.

Please refer to the diagram overleaf for the locations of these components inside the BBC Microcomputer.

7. Ensure that the clip is fully hooked around the appropriate pin and does not come into contact with adjoining pins before releasing the spring loaded mechanism.
8. Reassemble the computer and switch on.
9. If the BBC micro fails to start up normally, switch off immediately and check all the above steps.

1770 DFS

The Acorn 1770 DFS has built-in commands for use with sideways RAM. The BeebMaster Sideways RAM module is fully compatible with these commands.

Using the BeebMaster Sideways RAM Utility Disc

The current edition of the BeebMaster Sideways RAM Utility Disc contains three programmes, RAMLOAD, RAMCLR and RAMTEST. They are BASIC programmes which can be LOADED or CHAINED.

RAMLOAD

This programme allows you to load a ROM image or other data into the sideways RAM bank. You will be prompted for the filename and ROM socket number of the image to load. The ROM image will be recognised after the next hard reset.

RAMCLR

This programme will clear any data from the sideways RAM module. You will be prompted for the ROM socket number of the sideways RAM bank to clear.

RAMTEST

This programme will test for the presence of sideways RAM banks and report a ROM listing from 0 to 15 displaying either "ROM" or "RAM".

Compatibility with the Tube

Although the BeebMaster Sideways RAM module is fully compatible with the Tube, the software on the utility disc will not work across the Tube. To load a ROM image into sideways RAM for use across the Tube, you must first turn off the Tube, run RAMLOAD and then turn the Tube back on and press CTRL-BREAK.