
A5000 2Mb RAM Upgrade Fitting Instructions

**Memory Expansion Board
for Acorn A5000 Computers**

ARA 0200



Introduction

The Watford Electronics A5000 2Mb memory upgrade is a professional four-layer card with sturdy connectors and surface mount memory chips, it is designed to be fitted inside a 2Mb A5000 (ALB12) computer.

The upgrade adds an additional 2Mb to the 2Mb of memory already fitted on the A5000 motherboard, increasing the total memory to 4Mb.

Check list

In addition to these instructions you should also have received the A5000 2Mb RAM card, two plastic support pillars and one link jumper.

Required Tools

The only tools required to install the upgrade are a No. 1 (small) Pozidriv or Philips screwdriver and a pair of pliers.

Important

Please read all these instructions before installing the upgrade.

If for any reason you are not able, or do not feel confident about fitting the memory upgrade then you should either seek advice from an experienced engineer, or take the computer to Watford electronics or any Acorn Authorised Dealer who will arrange to fit the card for you. Remember to take your computer in its original packaging. The Dealer may make a small charge for installing the upgrade. It is well worth having the upgrade installed professionally, rather than *risking damage* to the board or computer through incorrect installation.



To install the upgrade the computer and all peripherals must be switched off and disconnected from the mains. Ensure the heads are parked on all hard disk drives.



To avoid damage by static electricity DO NOT remove the upgrade from the protective anti-static bag until you are ready to fit it.

Installation

Follow the simple steps in the following stages to install the upgrade.

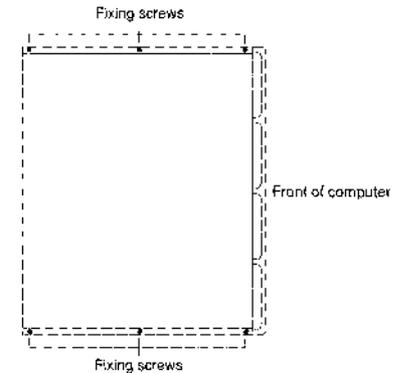
Handling the board

Handle the upgrade very carefully at all times. Hold the board by the edges. Avoid excessive pressure on any of the components or parts. The IC memory is very sensitive to static electricity and is therefore easily damaged by static.

Stage 1 — Removal of the cover

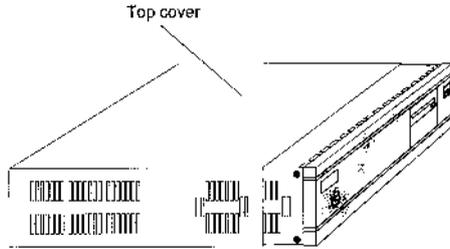
To *remove* the top cover of the computer from A5000 series machines:

- 1 Switch off and ensure all leads and peripherals etc. are disconnected.
- 2 Place the computer on a work surface covered by a clean soft covering (eg. a blanket) and turn it over so that it rests on its top cover.
- 3 There are six cover retaining screws, three along each of the short sides, which should be removed.
- 4 After removal of the retaining screws turn the computer back over, being sure to hold it along the longest sides to ensure the cover does not slide off.



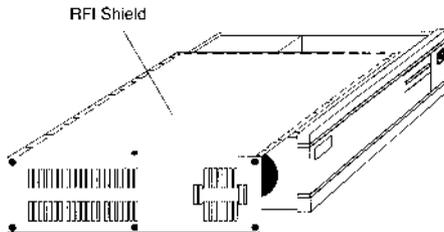
A5000 cover fixing screws

- 5 The top cover can now be removed by sliding it carefully towards the back until it can be lifted up and away. Remove the lid completely.



A 5000 cover removal

- 6 Some A5000 models incorporate an RFI shield over the case which must be removed. To remove the shield unscrew the five fixing screws on the right hand side of the computer (as viewed from the rear). Slide the shield off carefully, using a screwdriver in the top hole if required.

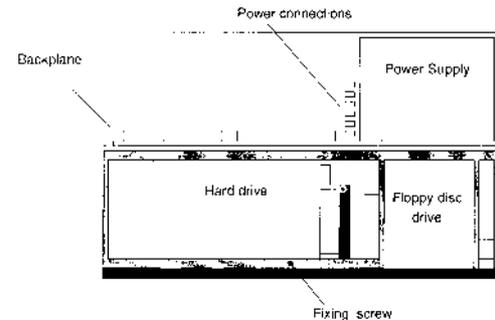


A 5000 RFI shield removal

Stage 2 – Removal of the drive support assembly

The drive support assembly consists of a metal framework onto which is mounted the hard and floppy disk drives and the expansion card backplane. This assembly is at the front of the computer, but is easier to remove if you are at the back of the computer.

- 1 If a hard disk drive is fitted then unplug the 40-way grey ribbon cable from the motherboard.
- 2 Remove the the W-shaped EMU spring clip, which earths the floppy drive to the main case by pressing it down and pulling it out with a pair of pliers. (Only fitted on sonic models).
- 3 Undo and remove the fixing screw holding the drive support assembly to the front of the metal case. This is located in the middle of the assembly, near the front of the computer.
- 4 If you have an early A5000 (issue 1 PCB) then you will have to remove two red power supply connections positioned nearest to the backplane. You can use the pliers for this, and wiggle the tabs carefully to ease them off.
- 5 Firmly grasp both ends of the support assembly, and using quite a firm pull, lift it upwards. The whole assembly including the drives should lift and the end tags disengage from the sides.
- 6 The detached assembly should be lifted clear and turned upside down so that the top of the floppy disc drive rests on top of the power supply. Be careful not to stress any of the cables.



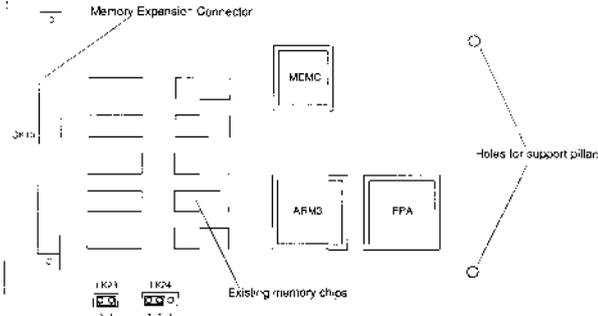
Stage 3 – Installation of the card

The card is fitted onto the memory expansion connector (SK10) located on the left hand side at the front of the motherboard, as shown below. Two plastic support pillars are used to support the other end of the card, these are supplied with the upgrade and should be fitted in the two holes opposite the expansion connector. A link jumper also needs to be added to tell the computer that it has extra memory.

- 1 Install the supplied support pillars into the locating holes in the motherboard. They should click into position with a little downward pressure and will fit either way round.
- 2 Locate the link LK23 and fit the supplied link jumper onto it.
- 3 Carefully remove the RAM upgrade from the protective anti-static bag. Hold the board with your fingers down the longest sides.
- 4 Position the upgrade over the memory expansion connector and at the same time align the holes in the upgrade PCB with the ends of the support pillars.
- 5 Carefully push the upgrade downwards onto the connector and support pillars. Make sure there is no gap at the connector.



Very little force is required to fit the card, if it does not fit easily then remove it and try again, otherwise damage may be done to the card or expansion connector.



Front of computer

Stage 4 – Replacement of the drive support assembly

To reassemble the computer the drive support assembly must be refitted and all leads reattached.

When refitting the drive support assembly. Make certain that the floppy disc drive is located correctly in the front panel, and that the end tags are positioned above the corresponding slots on the side panels, and that the backplane connector aligns with the motherboard connector.

When aligned, press down firmly on the metal assembly so that the end tags slip into the side slots and the backplane connector mates properly.

The drive support assembly is replaced by following the reverse process for removal as used in 'Stage 2 – Removal of the drive support assembly':

- 1 Refit the drive support assembly.
- 2 Reconnect the two red power supply connections (if removed).
- 3 Replace the drive support assembly fixing screw.
- 4 If removed, replace the floppy drive's EMC spring clip.
- 5 Reconnect the hard disk drive's 40 way ribbon cable to the motherboard.

Stage 5 – Replacement of the cover

To replace the cover, use the reverse process for removal, by following steps 1 to 6 for 'Stage 1 – Removal of the cover' in reverse.

Make sure that the screws are securely tightened.

This completes the installation of the memory upgrade.

Testing the RAM after Installation

Setup your peripherals and computer ready for use and switch on.

When your A5000 powers-up RISC OS performs a memory test. If a memory fault is found the floppy *disc light* will flash and the monitor will display a *red screen* for around 20 seconds. If the test is successful, then the total amount of memory will be displayed momentarily at the top left of the screen. Also once within the Desktop you can easily determine the amount of memory by using the *Task Manager*.

To use the *Task Manager* to display available memory, click on the Acorn logo icon at the bottom right of the icon bar - the task display window will be opened. Scroll the task display window until the system memory allocation figures become visible. These figures will reflect the new memory capacity of your machine.

If problems should occur

Should you not be able to power up your computer, or if the amount of available RAM is not as expected then turn off immediately and first check the links LK23 and LK24 are correct.

If the problem persists, again turn off and then follow the entire fitting procedure once more, ensuring that the upgrade board is correctly and firmly seated.

If no better results are obtained, please phone our Technical Department for advice, or to obtain a Goods Return Authorisation (GRA) number. Under no circumstances tamper with the delicate electronic circuit board of the A5000 or the RAM board.

A5000 Products

Watford have many more exciting products for the A5000, here a few examples:

- IDE hard disk upgrades from 105Mb
- BBC User I/O expansion card
- 256 Greyscale hand scanner and expansion card
- 386SX-25MHz PC expansion card

See our current catalogue for full details.

Watford Electronics

Distributors of: Electronic Components, Micro Computers & Peripherals

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