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MITSUBISHI ELECTRIC

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Introduction

This guide contains instructions on installing expansion cards and extra memory in your computer. This document should be your only source of information when installing either of these.

You should read this document before purchasing extra memory. If, having read the relevant instructions, you are not confident about installing the upgrade, you may wish to have your supplier or service organisation install it for you.

Before you start installing the upgrade you should be thoroughly familiar with all the relevant instructions in this guide.

Warning

Never carry out any work on the equipment with power applied. Always switch off at the mains, isolate the batteries and remove the power lead from the equipment before starting work.

At the rear of this guide is some information about CPU module upgrades. These are not user installable items, only competent service personnel may install them.

Anti-static precautions

All electronic components and equipments are sensitive to static electricity. Even small electrostatic discharges can render components useless or severely shorten their working life, therefore you should always take preventative measures.

No work should be carried on any item unless it is in a Special Handling Area (SHA) as defined in BS CECC 00015:Part 1. In general this involves:

* a common earth point
* an earthed bench or bench mat
* an earthed wrist strap

Note

An anti-static stud is provided on the rear panel of the Apricot FTs.

Power down procedure

If security is enabled a user of appropriate authority must be logged on before the system can be powered down.

1. Push the STANDBY button
2. Confirm by pushing the button under the “Y” on the LCD display.
3. Isolate the internal UPS battery by setting the BATTERY ISOLATION switch to the “0” position.
4. Isolate the FTs from any auxiliary external battery supply.
5. Unplug the mains power supply.

Power up procedure

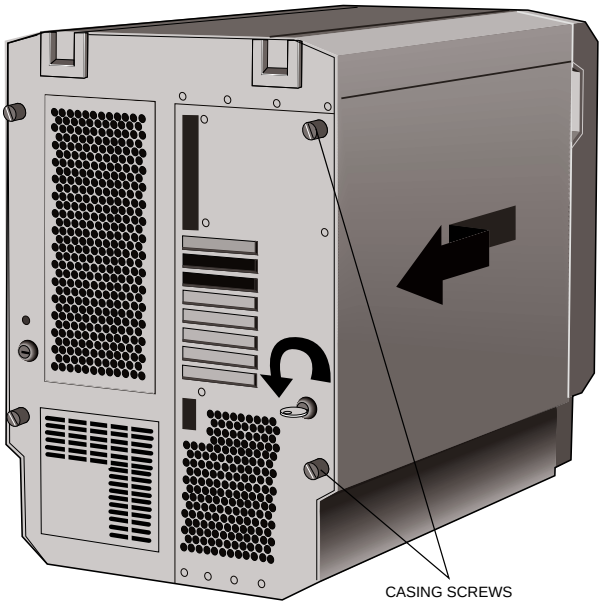
1. Ensure that the battery isolation switch is in the “0” position.
2. Connect the FTs to any auxiliary external battery supply.
3. Plug in the mains power supply.
4. Set the BATTERY ISOLATION SWITCH to the “1” position.
5. Push the POWER button.
6. Perform any required power-on security procedure.

Removing the left side panel

The left side panel (as viewed from the front) is located by two pegs at the front, and secured by two thumbscrews and a keylock at the rear.

The left side panel allows access to the electronics bay where the motherboard and power distribution board are located.

To remove the side panel:



1. Power the system down.
2. Unlock the security lock on the rear panel.
3. Unscrew the two thumbscrews.
4. Swing the rear of the panel away from the system unit until the rear flanges are clear of the system unit.
5. Support the front of the panel and pull it rearwards to free it from the pegs.

Replacement is simply the reverse of removal.

Adapter cards

Eight 32-bit Micro Channel slots are available on the system board for the installation of adapter cards. One slot is always occupied by a hard disk controller. Each slot has a blanking plate in the rear panel and a slot in the bridge assembly at the front of the system unit.

The slot nearest the top of the system unit (labelled 6) is a video slot suitable for use with video adapters that use only the Micro Channel Video Extension. Six of the other seven slots are standard 32-bit slots and include the Micro Channel Matched Memory Extension.

The exception is slot 1. It includes the Matched Memory extension, but is also fitted with an additional extension. This is reserved for future use, and slot 1 must not be used for an XGA card. If you wish to install an XGA card it should be installed in slot 4, 5, 7 or 8.

In order to simplify cabling between drive controllers and the drive bay, it is recommended that slot 6 is left unoccupied (except for a video card), and slot 3 is left unoccupied (except for a secondary drive controller). Any other adapter cards should be fitted in slots 1, 4, 5, 7 and 8 working down the system unit. Only after all these slots are full should cards other than video adapters or drive controllers be fitted in slots 6 or 3.

To install an adapter card:

1. Power the system down.
2. Remove the left side panel of the system unit.
3. Loosen the thumbscrew at the bottom of the blanking plate for the slot that the adapter is to occupy, and remove the blanking plate.

   Note

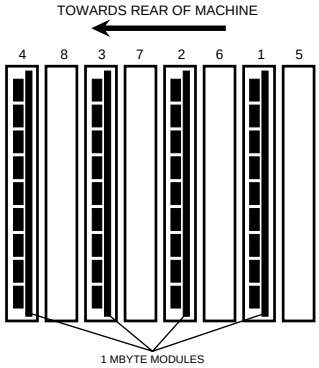
   If the thumbscrew is tight it may be necessary to use a screwdriver or coin to release the thumbscrew.
4. Place the adapter card above the required connector making sure that the front edge of the card locates in the appropriate notch in the bridge assembly. The following two illustrations show the possible internal layouts.
5. Push the card firmly into the connector. Do not use excessive force.
6. Secure the card by tightening the thumbscrew at the bottom of the rear panel of the card.
7. Replace the left side panel.
8. Power the system up with the Reference diskette and reconfigure for the new adapter.

Installing memory modules

A variety of memory configurations are possible in the Apricot FTs. Two different capacities of Single Inline Memory Modules (SIMMs) are available: 1 Mbyte and 2 Mbyte.

The following diagrams show the type of SIMM that should be fitted in each slot for each possible memory capacity. The memory sockets are labelled ‘MM1’ to ‘MM8’, note that the sockets are not numbered in sequence.

4 Mb



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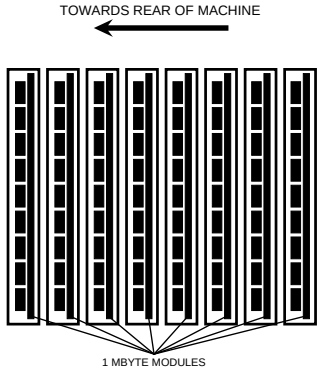

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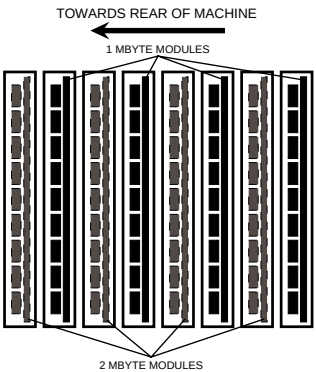

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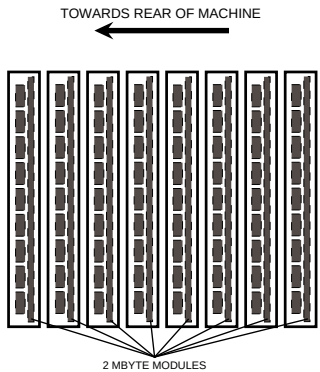
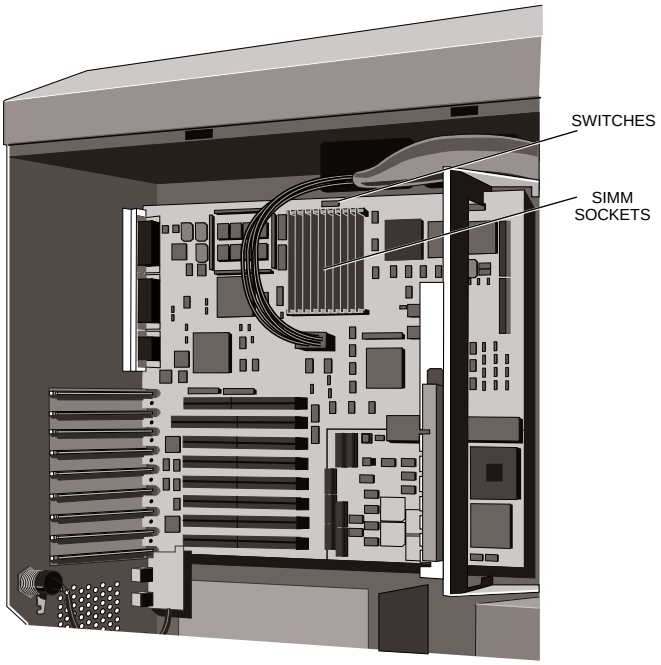


Obtaining access

The SIMM sockets are accessible with the left side panel removed. To obtain access:

1. Take suitable anti-static precautions.
2. Remove the left side panel.
3. Identify the SIMM sockets from the illustration below.



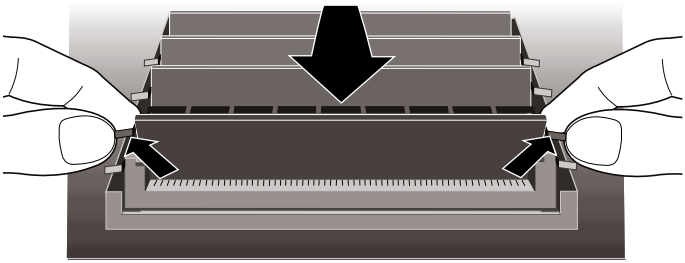
Installation

If you are fitting additional SIMMs remove those already installed.

Removing SIMMs

Starting with the SIMM nearest the front of the system unit and working towards the rear:

1. Note which socket the SIMM is in.
2. Lever the metal clips on each side of the socket gently away from the SIMM using your thumbnails. When the clips are far enough apart the top edge of the SIMM will move forward until the SIMM is at an angle of about 15°.



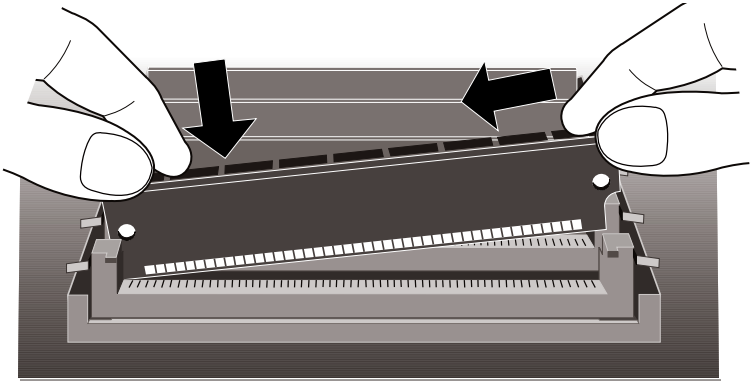
3. Taking care to avoid touching any of the components on the SIMM grip the top corners of the SIMM between thumb and first finger and carefully pull the SIMM out of the socket.
4. Repeat steps 1 to 3 for all the other SIMMs.

Inserting SIMMs

From the illustrations showing the possible SIMM combinations decide which SIMM capacity will be installed in each slot. Then, working from the socket nearest the rear of the system unit towards the front, install the SIMMs.

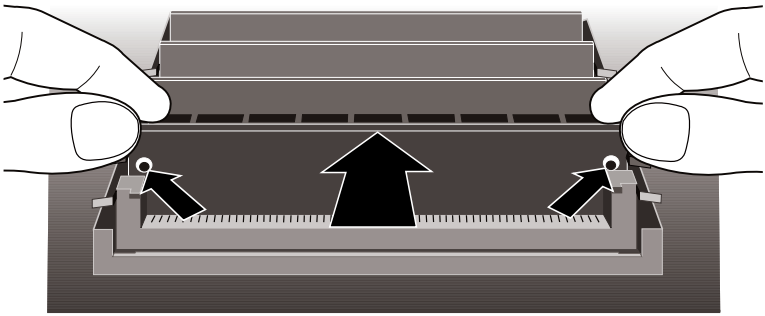
To fit a SIMM:

1. Hold the SIMM so that the memory chips are facing the rear of the system unit with the metal connector strip nearest the system board.
2. Position the SIMM above the socket at an angle of about 15°.



3. Lower the SIMM towards the socket. The right edge of the SIMM will be prevented from reaching the connector by the securing clip.
4. Allow the left edge of the SIMM to drop into the connector.
5. Push the SIMM gently to the right and lower the right edge into the connector.
6. Ensure that the SIMM is properly located in the connector.

7. Rotate the SIMM into the vertical position by pushing gently on the top corners.



8. If the SIMM is properly located the SIMM should remain in position held by the securing clips, and with a small plastic lug through the holes on either side of the SIMM.

Once all the SIMMs are installed reset the memory configuration switches to the appropriate setting and reassemble the computer. There is a label inside the system unit identifying the switches and the appropriate positions.

Reboot your computer with the Reference diskette and reconfigure your system for the extra memory.

Warning

Always ensure that the system unit is fully reassembled before powering it up.

CPU module upgrades

The add-ons described earlier may be installed by a confident and competent user. The installation of a CPU module upgrade is more complex, and should only be carried out by competent service personnel.

A range of 80486 processors are available for the system board fitted in the Apricot FTs. Depending on which processor is installed in your system you may be able to upgrade to a more powerful processor. Consult your supplier.

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