

# ELECTRON Single Board Computer

## Installing Your Processor and Memory

If your Single Board Computer is supplied with a processor and/or memory they are packed separately, to avoid any possible damage during transportation. Before proceeding further please read the whole of this sheet.

### Electro-Static Discharge

Your Single Board Computer is susceptible to damage by electrostatic discharges. In order to avoid damage, you should work at an anti-static bench and observe normal anti-static precautions. Wear an anti-static wrist strap connected to an earth point *before* opening any packaging. Keep all items in their anti-static packing until required.

If your computer board was supplied with processor and/or memory, you will also have a disposable wrist strap. Remove the protective paper from the end with the visible copper strip, and stick this firmly to any available earthed metalwork or chassis. Remove the protective paper from the other end, hold the free end against the bare wrist with the adhesive uppermost and wrap the tape firmly around the wrist and stick it down. The strap can be used only a limited number of times.

Where a wrist strap is not available, discharge any static charge you may have built-up by touching an earth point. Avoid any further movement that could build up another static charge. Touch an earth point from time to time to avoid further build-up, and remove the items from their anti-static bags only when required.

### Battery

Your Single Board Computer is fitted with an on-board Lithium battery. Take care not to short circuit the battery by placing the board on conducting surfaces. Shorting the battery will reduce its life, and may be hazardous.

### Fitting the Processor and Fan

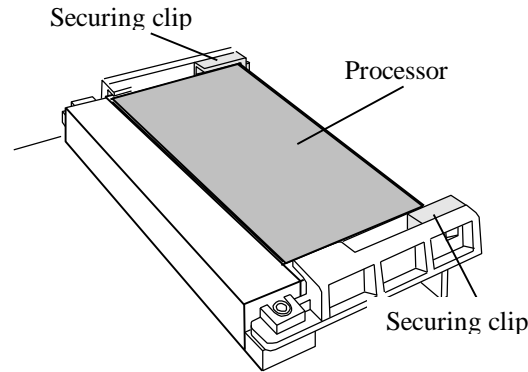
The Electron Computer Board will accept Intel Slot 1 processors (Pentium) directly. PGA processors (Celeron) require a converter board to adapt the Socket 370 PGA device to the Slot 1 socket. Instructions for fitting the processor to the adapter are included with the adapter card. Thereafter, the assembly method is exactly the same for both types.

Early Pentium II processors were externally configured for processor speed by a series of links located at J4 on the Electron board. Only if you are installing an early Pentium II processor do you need to refer to the table in the User Manual on the CD-ROM and set the jumpers according to the processor speed. Pentium III processors automatically configure the processor speed and voltage, and ignore the settings of J4.

In order to secure the latest Pentium II and Pentium III processors or the adapter card, two plastic clips must be inserted into the processor socket, one at either side of the processor. The Electron SBC is supplied with these clips in place. In order to install the processor you must first remove the clips from the socket. The following instructions describe how to remove the clips, and install the processor:

1. Position the Electron in front of you, with the gold PICMG connectors closest to you.
2. Ensure both of the DIMM sockets on the Electron are empty.
3. Place the processor by the Electron with the connector towards you and the fan-heatsink assembly facing upward.
4. Carefully note the position and orientation of the two plastic clips in the processor socket. Each clip will only fit in one side of the socket, and only in one orientation.
5. Remove the two clips from the processor socket.
6. Position the clips on the left and right corners of the processor. There is a slot in each clip that fits on to the backing plate of the processor.

7. Carefully holding the clips in place, pick up the processor and offer it up to the connector with the edge of the processor nearest the DIMM sockets raised away from the Electron.
8. When the connector on the processor meets the socket lower the far edge of the processor until the processor is parallel with the Electron. The illustration over shows the correct position of the clips and the processor. For clarity the processor fan-heatsink assembly is omitted from the illustration.



9. Press the CPU firmly into place by squeezing it into the connector. Avoid squeezing against any components mounted on the lower edge of the board.
10. When the processor is fully home, the clips should be secured in the socket, and it should not be possible to move the processor significantly in any direction. If this is not the case the processor has not been inserted correctly, and you must remove it and start again.
11. Connect the fan power lead to the connector labelled FAN1 near the bottom right corner of the processor socket.

## Fitting the Memory

Insert the first DIMM (memory module) into DIMM socket 2, the socket nearest the processor, observing the polarisation slots in the DIMM. Press it firmly into place ensuring that the retaining clips lock into position. If a second DIMM is required, fit it to the remaining socket using the same technique.

## Fitting the DiskOnChip Module

Note that the DiskOnChip module may be permanently damaged if it is installed incorrectly. Align pin 1 of the DiskOnChip module with pin 1 of the on-board socket. Push the module into the socket carefully until it is fully seated. Check that it is secure and that there are no bent pins. Refer to the User Manual on the CD-ROM for the software configuration.

## Installing the Board

The board is now ready to be installed in a backplane. However, the board is now very heavy and could be damaged by holding it in such a way as to allow it to flex the circuit board. Handle it carefully.

## Transportation

If the processor board is to be transported, it is strongly recommended that the processor and memory are removed from the board and packed separately. (Removal is a reversal of the above). This should avoid damage due to the weight of the CPU and the vulnerability of the DIMMs. The units should be enclosed in anti-static bags.

Avoid the black conductive plastic type of anti-static bags for the processor - they will discharge the on-board battery. Use the clear metallised type as supplied.