



# **MASTER SERIES**

## **Econet Module Fitting Instructions**

## FITTING AN ECONET MODULE

*These instructions explain how to install an ECONET module in Master 128 and Master Compact microcomputers, after reading the introduction you should then refer to the part of the instructions relevant to your machine.*

### Introduction

Any modification or upgrade carried out to the printed circuit board of any ACORN equipment is undertaken at the sole risk of the person carrying out the modification or upgrade. No claim for loss or damage to the equipment caused by the modification or upgrade by unqualified personnel shall be accepted by ACORN COMPUTERS Ltd.

Before commencing an upgrade please read all of the instructions carefully. If you are in doubt about your ability to carry it out, the upgrade kit and your computer should be taken to your nearest authorised ACORN dealer.

A charge may be levied by the dealer for installing the Econet upgrade in your machine, such a charge shall be entirely at the discretion of the dealer.

### **IMPORTANT**

*Most electronic devices can be damaged by static electricity, therefore it is important to note the following points:*

- i) Avoid personal static charge where possible.*
- ii) Keep the IC(s) in the anti-static foam until fitting.*
- iii) Avoid touching the pins on the IC(s) whilst fitting.*

### Machine orientation

Within this fitting instruction, the points of the compass are used to indicate the way in which components are oriented. With the machine positioned such that the keyboard is nearest you and uppermost, the nearest edge is designated to be SOUTH, the rear NORTH and right and left are designated EAST and WEST respectively.

The ECONET module will be installed in the NORTH-EAST corner of the printed circuit board on both the Master 128 and Compact machines.

### Upgrading the Master 128

Before attempting to fit the Econet module to your machine first ensure that the unit is disconnected from the mains power supply. The upper half of the case must be removed from the unit to allow access to the main printed circuit board. To do this, turn the computer upside down and place it on a firm, flat

half of the case by lifting it directly upwards from the machine.

Included in the ECONET module upgrade kit are two plastic printed circuit board support posts. These must be fitted to the main printed circuit board before installing the ECONET module.

The positions at which these posts are to be fitted are shown in figure 1. When fitting the P.C.B supports, ensure that the base flange does not interfere with any component on the P.C.B. To fit the support, insert one end into the hole in the P.C.B and press down gently.

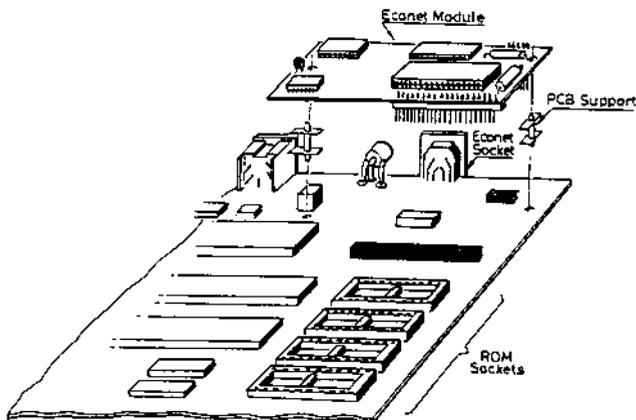


Figure 1

***When the support is correctly fitted, it will not be possible to withdraw it from the hole in the P.C.B. Care must therefore be taken to ensure the correct positioning of the P.C.B support before pressing it home.***

When the P.C.B supports are installed on the main P.C.B, the ECONET module should be placed in position ensuring that:

1. The pins of PL1 on the ECONET module are aligned with the corresponding holes in SKT5 on the main P.C.B. The two WEST most holes of SKT5, labelled 'a' and 'b', are not used.
2. The pins of PL2 on the ECONET module are aligned with the corresponding holes in SKT6 on the main P.C.B.
3. The P.C.B supports are aligned with the corresponding holes on the ECONET module P.C.B.

When you are satisfied that all the pins and supports are correctly aligned, the ECONET module P.C.B may be pressed gently into place. The ECONET module is correctly seated when the barbs on the tips of the P.C.B supports have cleared the surface of the ECONET module P.C.B. An audible click should be heard when the barbs spring into place securing the P.C.B.

***Take care not to exert too much pressure when pressing home the ECONET module P.C.B, this may lead to damage of the various connectors.***

## Installing the ANFS

Having fitted the ECONET module, it is necessary to fit the Advanced Network Filing System (ANFS) ROM.

The ANFS ROM must be inserted into one of three sockets, IC27,37 or 41. It is recommended that socket IC27 should be used where possible. If it is not possible to use socket IC27 then one of the other two sockets may be used, but it will be necessary to change the position of a link on the main P.C.B (see NOTE 1).

To insert the ANFS ROM, hold the ends of the IC between thumb and forefinger, and line up all the pins over the destination socket. The pin 1 end of the IC (see NOTE 2) should face to the WEST. If you are unsure of which way round the IC should be installed, refer to the other ICs on the main PCB which all face WEST.

Apply firm pressure to the IC, but do not force it. When the chip is in place it may appear to be slightly raised. Check that all the pins have entered the socket and that none are bent either outwards or under the body of the IC.

When the ECONET module P.C.B and the ANFS ROM have been installed, the re-assembly procedure is the reverse of the dismantling procedure.

### Setting the station number

Before attempting to add a machine to an existing ECONET, the station number must be set. The network manager should be asked to carry out this operation.

**NOTE 1:** Sockets IC37 and 41 share the same address space as four sideways RAM pages. The position of links LK18 and LK19 determine whether the address space is claimed by ROM or sideways RAM.

These two links are located close to the WEST side of ICs37 and 41 (see fig 1.), LK18 is used with IC41 and LK19 is used with IC37. These links consist of a three pin plug with a connector which may be push fitted onto two pins of the plug to make a connection. There are two possible positions for this connector:

**EAST** - the connector joins the central pin to the right hand pin (enables sideways ROM) or

**WEST** - the connector joins the central pin to the left hand pin (enables sideways RAM)

The use of one of the sockets with a ROM will preclude the use of 2K (two 16K pages) of sideways RAM. If both IC37 and IC41 are used in conjunction with sideways ROMs, all four of the 16K sideways RAM pages will be unavailable.

If IC27 is already occupied and you need all four pages of sideways RAM, you will need to fit the ANFS ROM into an EPROM

## Upgrading the Master Compact

Unplug all peripherals and remove the power lead from the computer.

Lay the computer face down on a flat surface and undo the four case fixing screws. Gently turn the computer over allowing the screws to fall free. Put them in a safe place until required again.

Lift the top case including keyboard away from the base of the computer - (taking care not to strain the ribbon cable) and lay it in front of the machine.

## Installing the Econet Module

Included in the ECONET module upgrade kit are two plastic printed circuit board support posts. These must be fitted to the main printed circuit board before installing the ECONET module.

The positions at which these posts are to be fitted are shown in figure 2. When fitting the P.C.B supports, ensure that the base flange does not interfere with any component on the P.C.B. To fit the support, insert one end into the hole in the P.C.B and press down gently.

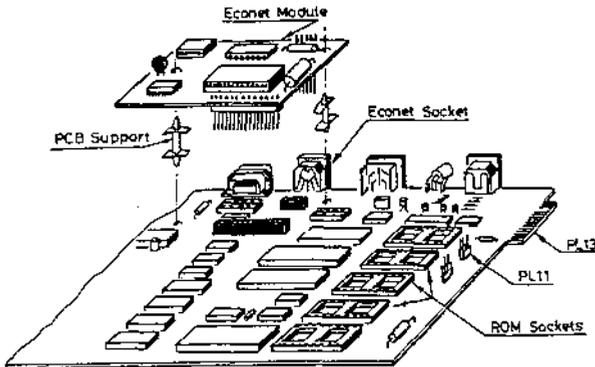


Figure 2

*When the support is correctly fitted, it will not be possible to withdraw it from the hole in the P.C.B. Care must therefore be taken to ensure the correct positioning of the P.C.B support before pressing it home.*

When the P.C.B supports are installed on the main P.C.B, the ECONET module should be placed in position ensuring that:

1. The pins of SKT1 on the ECONET module are aligned with the corresponding holes in SKT4 on the main P.C.B.
2. The pins of SKT2 on the ECONET module are aligned with the corresponding holes in SKT5 on the main P.C.B.
3. The P.C.B supports are aligned with the corresponding holes on the ECONET module P.C.B.

When you are satisfied that all the pins and supports are correctly

aligned, the ECONET module P.C.B may be pressed gently into place. The ECONET module is correctly seated when the barbs on the tips of the P.C.B supports have cleared the surface of the ECONET module P.C.B. An audible click should be heard when the barbs spring into place securing the P.C.B.

***Take care not to exert too much pressure when pressing home the ECONET module P.C.B, this may lead to damage of the various connectors.***

### **Installing the ANFS**

Having fitted the ECONET module, it is necessary to fit the Advanced Network Filing System (ANFS) ROM.

The ANFS ROM should be inserted into one of three sockets, IC17, 23, or 29.

Although it may be inserted into socket 1038 if PL11 is made South (refer to fig. 2) it must be noted that fitting ANFS in this way will disable selection of external Rams via PL13.

To insert the ANFS ROM, hold the ends of the IC between thumb and forefinger, and line up all the pins over the destination socket. The pin 1 end of the IC (see NOTE 2) should face to the WEST. If you are unsure of which way round the IC should be installed, refer to the other ICs on the main PCB which all face WEST.

Apply firm pressure to the IC, but do not force it. When the chip is in place it may appear to be slightly raised. Check that all the pins have entered the socket and that none are bent either outwards or under the body of the IC.

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