

# ***BeebMaster Econet Upgrade Kit***

## ***Contents***

### ***Integrated Circuits***

1 x 74LS123 (Not supplied if disc interface already fitted)  
1 x 68B54  
1 x 74LS132  
1 x 75159  
2 x LM319  
1 x 74LS244  
1 x 74LS74  
1 x DNFS ROM

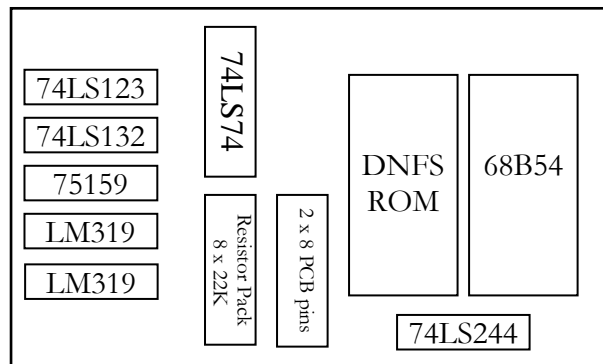
### ***Non-Integrated Circuits***

5 x 14-pin DIL IC socket  
1 x 20-pin DIL IC socket  
1 x 28-pin DIL IC socket  
1 x 5-pin DIN socket  
1 bank of 16 PCB link pins  
7 x link jumpers

1 x 10uF 10V Capacitor  
1 x 10nF Ceramic Capacitor  
1 x 2.2nF Ceramic Capacitor (supplied for issues 1, 2 & 3 only)  
1 x 8x22K SIL resistor pack

4 x 10kΩ resistor  
4 x 56kΩ resistor  
4 x 100kΩ resistor  
4 x 1kΩ resistor  
3 x 1M5Ω resistor  
1 x 1k5Ω resistor

### ***Component Location inside the BeebMaster Econet Upgrade Kit Box***



## **BBC Model B Econet Interface Fitting Instructions**

### **Important Note**

The integrated circuits in the BeebMaster Econet Upgrade Kit are electrostatic sensitive. Please observe the appropriate precautions for handling such devices when fitting this upgrade.

Please refer to the PCB Links Diagram and Component Location Diagram insert for the approximate locations of the components and links referred to in these instructions.

If you are in any doubt as to the fitting of the Econet Upgrade Kit to the BBC microcomputer, please contact BeebMaster for advice. DO NOT risk damage to your BBC or this upgrade kit if you are unsure how to proceed!

**BeebMaster**  
**34, Grasmere Road Royton Oldham Lancashire OL2 6SR**

**[www.BeebMaster.co.uk](http://www.BeebMaster.co.uk)**  
**[BeebShop@BeebMaster.co.uk](mailto:BeebShop@BeebMaster.co.uk)**

## Fitting the BeebMaster Econet Upgrade to a BBC Model B Microcomputer

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. Unplug the power supply connectors from the circuit board. Remember to keep a note of where each connector goes.
6. Remove the screws holding the PCB to the case. On some machines, the analogue port connector may have screws holding it to the case.
7. Disconnect the video out socket from the casing. This can be done by unscrewing the socket from the case which will release the socket assembly or by desoldering the two connecting wires from the socket.
8. Gently remove the circuit board from the computer casing.
9. Solder the 20 resistors to the circuit board. The values and positions are as follows:

R34-10k	R40-100k	R48-1k	R62-56k
R35-10k	R41-100k	R51-10k	R63-56k
R64-1M5	R44-1M5	R52-1k	
R36-1M5	R45-10k	R59-56k	
R38-100k	R46-1k	R60-56k	
R39-100k	R47-1k5	R61-1k	

10. Solder the 2 capacitors to the circuit board as follows:

10uF 10V Capacitor	C18
10nF Ceramic Capacitor	C23

11. Solder the 7 IC sockets to the circuit board in the following positions:

14-pin:	IC 91, IC 93, IC 94, IC 95, IC 97
20-pin:	IC 96
28-pin:	IC 89

12. Solder the 5-pin DIN socket at SK7.

13. Solder the Resistor Pack at RP2
14. Remove the link jumpers from the bank of pins and solder the pins at S11.
15. Insert the integrated circuits as follows:
 

1 x 74LS123	IC87 (Not required if disc already fitted)
1 x 68B54	IC89
1 x 74LS132	IC91
1 x 75159	IC93
2 x LM319	ICs 94,95
1 x 74LS244	IC96
1 x 74LS74	IC97
16. Insert the DNFS ROM into a spare sideways ROM socket.
17. Cut the wire links at link positions S2, S12 and S13. (S12 and S13 should already have been cut on a Model B).
18. Set the following link positions using MOLEX jumpers:-
 

S18-North
S19-East
S20-North
S21-2 x East/West
S22-North
S32-West
S33-West
19. **On issue 1, 2 or 3 boards only**, the following additional modifications are required:
  - a) Remove the capacitor C17 and replace it with a 2.2nF capacitor.
  - b) Cut the PCB track from IC26 pin 6 to IC96 pins 1 and 19 leaving the track from IC26 pin 6 to IC97 pin 2 intact.
  - c) Cut the track from IC89 pin 26 to IC97 pin 4 and link IC26 pin 9 to IC96 pins 1 and 19 and also to IC97 pin 4.
20. Set the Econet station number by adding one or more of the link jumpers to the bank of links at S11.
21. Reassemble the computer by repeating steps 1 to 8 in reverse.