

Sideway-RAM for Electron and BBC

Miniature 16-k-RAM-Card

General Description

The stars of the Electron and BBC still shine bright. There is a wealth of ROM based software available for these machines but the problem is that the BBC has only 4 free ROM sockets available and placing a ROM in the Electron can only be done after fitting an ROM cartridge in the Plus 1 expansion unit. Of course you can buy a commercially sold ROM expansion unit that fits up-to 16 ROMs but those are difficult to find these days. This project explains how to build a 16-k-RAM-Card that fits into the ROM socket that can be found inside the Plus1 expansion unit or the ones that are available inside the BBC micro.

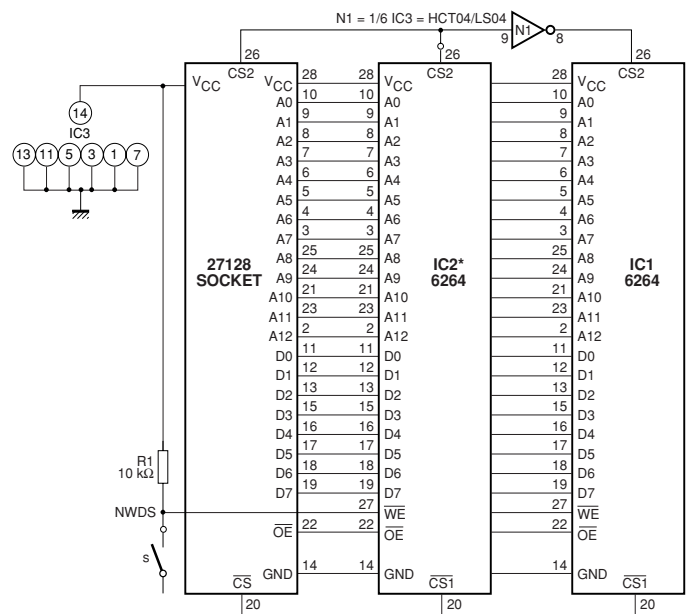
A small PCB, 2* SMD 8k static RAM ICs and a 7404 fit in a socket that will still be available to fit a 16K ROM (the Plus1 ROM in the case of the Electron). The only extra thing you need to do is to make a connection to the write-strobe

Instructions

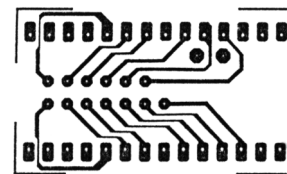
First you place 28 needles through the islands and cut them at a length of 1 cm. Secondly 2 RAM ICs have to be welded on top of each other with the exception of pin 26. Then weld these 2 ICs on the PCB. pin 26 of the upper IC has to be connected with a thin wire to the island for pin 28. Place the resistor and the 74HC04 on the PCB. Remove the Plus1 ROM and plug the PCB into the Plus1 ROM socket. Weld a wire between the NWDS-connection on the PCB and the NWDS-line in the Plus1 (pin 8 from IC77 of the BBC) and replace the Plus1 ROM in the 16k ROM socket of the RAM-Card.

WARNING! Do not damage the SMD semiconductors during the assemblage of the project!

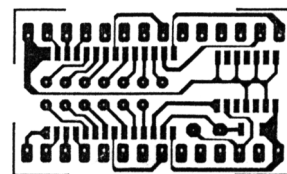
Diagram



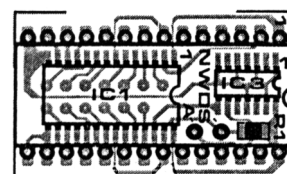
PCB Layout



PCB bottom



PCB upper side



Components positioning