

Day 5 - Amstrad CPC464 USB Keyboard

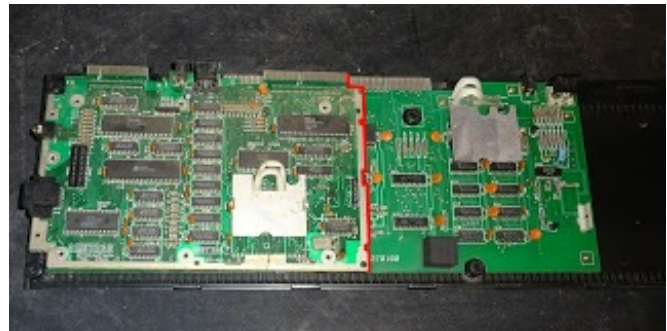
blog.tynemouthsoftware.co.uk/2015/12/day-5-amstrad-cpc464-usb-keyboard.html

This is day 5 of the Advent Calendar of USB keyboards. Today, a CPC464 USB keyboard. I've done a few of these on request.

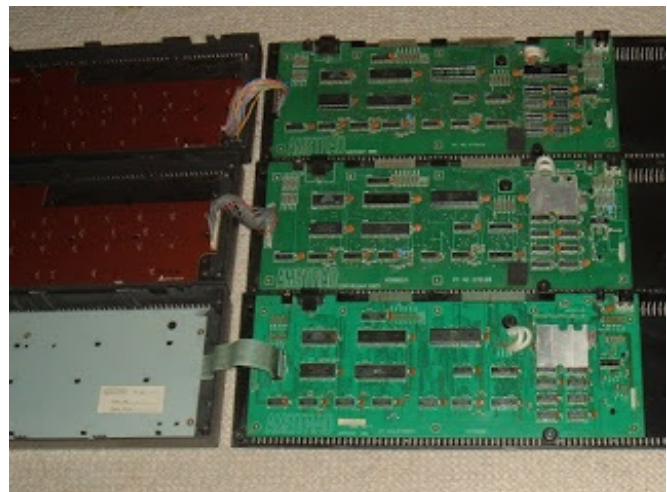
Not the best photo, I don't think my camera has a wide enough lense to fit it all in. I should have used panorama mode. The case is so large, even though as the design progressed through quite a number of revisions of the CPC464, the size of the PCB inside was reduced almost in half from the first version to the last. I think there may have been a later possibly smaller board with just 2 RAM chips.



There were also a number of different types of keyboards with different connections. Some of the early ones had various different types of wired versions, some with the socket on the board and a trailing lead on the keyboard, some the reverse of that with the socket on the keyboard. I have one board with three sets of pads for three different pinouts of connector, so I'm avoiding using those to make things easy.



Most of the later ones had membrane keyboards, and it seems the membrane ones are the most common, so that's what I have designed the USB keyboard controller to use.



The keyboard controller fits on the back of the keyboard and the membrane tails plug in side by side. They are both 10 way, if the keys are all wrong, you have the tails reversed. Like the Spectrum+2, the power LED is part of the tape drive. I do the same thing here and wire the LED instead to the controller.

I am tempted at some point to use a working tape deck and modify it to play audio tapes, since it has a volume control, speaker and amplifier, and a power switch. I would need to change some of the audio circuits to remove the filtering in place for data use, but it should be possible. May be a lot of work for something that would never be used though. The keyboard controller is mounted on the back of the keyboard. On this version of the

case, the monitor connector was in just the right place for the USB cable to exit.

The CPC464 keyboard isn't bad, most of the usual keys in reasonable positions. The arrow keys are slightly odd though. I mapped the 'Copy' key in the centre as ctrl+c, with shift + copy as ctrl+v.

No Pi version of this yet, but there is loads of space inside if anyone has a desk wide enough to use one of these. You can order an Amstrad CPC 464 USB keyboard conversion kit below. This consists of a controller board, mountings and USB cable. Note this is only suitable for membrane type keyboards, you can see through the holes in the side what type yours is. You will need to solder onto the power LED if you wish that to illuminate. Remember, this is only suitable for keyboards with membrane tails, not the versions with bundles of wires.

Update: now also available for the [CPC6128](#), please select the appropriate version below

USB keyboard kit

Tune in tomorrow to open another window on the [Advent Calendar of USB keyboards](#).





Amstrad CPC6128 USB keyboard

blog.tynemouthsoftware.co.uk/2016/02/amstrad-cpc6128-usb-keyboard.html

Following on from the [Amstrad CPC464 USB keyboard](#) I recently added to the range, I have been asked to do a CPC6128.

The CPC6128 looks quite different, with a different arrangement of keys, but the keyboard connection is the same.

I thought it would be worth a try seeing how similar it was, so I built up the keyboard controller and loaded in the same firmware I used for the CPC464. Yes, that's another revision of the USB keyboard controller, now on V3.5.

Most of the keys matched correctly, the main differences were the key markings. There were a few keys with additional shift functions, \ + shift gives ` [+ shift is {, and] + shift is }. On the CPC464, there is a large blue Enter key on the right, and a smaller one on the bottom right of the numeric keypad, also marked Enter. The CPC6128 has a large Return key and an Enter key half an inch away. Not sure why they changed the naming between two quite similar machines.

The main difference though is the numeric keypad is numbered 0-9 on the CPC464, but f0-f9 on the CPC6128. These are in the same position in the key matrix, so I have setup the CPC6128 as a separate mapping.

The copy key is now left of the space bar, so I have set that to be the Windows / GUI key as that is where it would be (on the CPC464 this was mapped as Control+C). I also mapped the lower Enter key as Alt. This gives the full compliment of Shift, Control, Alt and Gui, all in reasonable places. Esc, Tab and Caps Lock are also normally situated, making this quite a familiar keyboard layout to use.

Other than those, the rest of the key mappings were the same. The LED is fitted with a plug on the CPC6128, so just plugs onto a header on the keyboard controller so it lights up when powered on.

The CPC464 and CPC6128 USB keyboard kits are available to buy below. Note the



CPC464 version is only for keyboard with membranes, as shown - see the original article for more info.

USB keyboard kit

