

Usage instructions

Congratulations on buying a great product for tinkering, debugging, testing and many other things.

This manual will guide you through the usage instructions for the C2C caberQU USB C cable tester. Please read this carefully in order to be able to assemble everything without problems. If you face any problems, don't hesitate to write a mail.

Information:

Insert a CR2032 cell with the positive side („+“) facing up into the cell holder. Make sure not to short circuit it and don't use damaged or wrong batteries.

The C2C caberQU board applies a voltage to all pins of a cable and measures which ones are connected to the other end. It features LEDs for each of the 24 pins and even shield. So in total 25 LEDs offer all possible combinations for USB-C receptacle pin usage in different modes:

- USB 2.0/1.1
- USB Power Delivery
- USB 3.0/3.1/3.2
- Alternate Mode
- Debug Accessory Mode
- Audio Adapter Accessory Mode

See <https://en.wikipedia.org/wiki/USB-C> to check which pin should be connected to where.

The amount of possible USB C cable combinations is endless. If you use the wrong cable, data transmission may be slower than possible or certain devices may not work at all. In the USB C standard, the cable plays an important role and has to advertise itself as such. All of them need to have certain pins connected, some need to be grounded, some need to have resistors attached.

Unfortunately there is no easy way to extract whether a certain cable can support a certain use case. If a cable has a broken pin, that makes it even worse, due to their unpredictable behavior. The C2C caberQU cable tester solves this once and for all. By flipping the USB connectors, the opposing LEDs for some pins light up due to them not being mirrored. That's on purpose and defined in the USB C standard. The product is sold with one CR2032, the PCB and some basic instructions. You have to extract the needed pins for your desired usage on your own, unfortunately that can not be done universally for all possible combinations.

No dedicated power supply is needed, all necessary power is supplied via the CR2032 battery.

Please note that if you have a cheaper shipping option I'm gladly using it and refunding you the difference. The item still is a prototype. It is working as intended, but funny quirks and other things are possible. It is not certified and only suited for prototyping.

If you have any questions, just shoot me a message!

Have fun tinkering and thanks for buying!

The schematic diagram illustrates the layout of the USB_C_cable_tester_v1 PCB. The top section shows the front panel with 21 test points (TP1 to TP21) and their corresponding components (resistors R1-R21 and LEDs LED1-LED21). The bottom section shows the internal components: CR2032 Battery, USB C connector J3, USB C connector J4, optional grounding, and CC1 & CC2 components. The PCB is labeled 'USB4080-03-A_REVA'.

Diagram illustrating a USB C cable tester setup. The tester is a central box labeled "USB C cable tester" with a "CR2032" battery and the email "caberQU@traunmueller.net". Two blue USB C cables are plugged into the tester. The cable on the right is labeled "cable under test".

<https://www.tindie.com/stores/petl/>