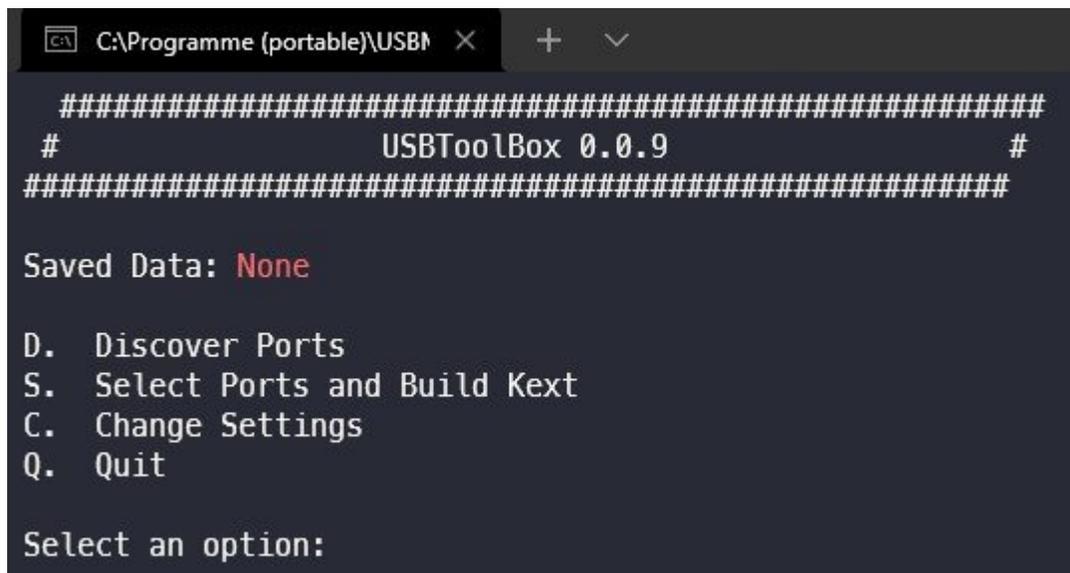# USB-Ports mappen unter Windows

Beitrag von „LetsGo" vom 14. Dezember 2021, 14:31

Hier mal eine Anleitung mit Bildern anhand meines Systems (Optiplex 5070 SFF)

Hier findet ihr eine exzellente allgemeine Anleitung (Information), warum wir überhaupt ein USB Mapping vornehmen müssen.

Die Bedienung funktioniert einfach mit dem jeweiligen Buchstaben gefolgt von Enter. z.B: C und Enter für das Settings Menü

Das Settings Menü (C):

Änderungen werden einfach mit den entsprechenden Buchstaben (T, N, A, C) und dann Enter vorgenommen

```
##########################################################
#                    Change Settings                      #
##########################################################

T.   Show Friendly Types: Disabled
     Show friendly types (ie. 'USB 3 Type A') instead of numbers.
N.   Use Native Classes: Enabled
     Use native Apple classes (AppleUSBHostMergeProperties) instead of the USBToolBox
kext.
A.   Add Comments to Map: Enabled
     Add port comments inside the map.
C.   Bind Companions: Enabled
     Tie companion ports together. If one companion is enabled/disable/port type chang
ed, the other companion will also be affected.
B.   Back

Toggle a setting:
```

- T. Show Friendly Types: zeigt dann halt z.B: USB 3 Type A statt 3, USB 3 Type C statt 9 usw. an

```
Port 1 | USB 2.0 | USB 3 Type A (guessed)
Port 2 | USB 2.0 | Type C – with switch (guessed)
Port 3 | USB 2.0 | Type A (guessed)
  – USB Keyboard – operating at USB 1.1
```

```
Port 1 | USB 2.0 | Type 3 (guessed)
Port 2 | USB 2.0 | Type 9 (guessed)
Port 3 | USB 2.0 | Type 0 (guessed)
  – USB Keyboard – operating at USB 1.1
```

- N. Use Native Classes: disabled: UTBMap.kext wird erstellt, enabled: USBMap.kext wird erstellt
- A. Add Comments to Map: Man kann zu einem späteren Zeitpunkt eine Beschreibung der USB Ports hinzufügen. Bei Aktivierung wird diese Beschreibung (siehe Set Custom Names) als comment in die info.plist des erstellten Kextes übernommen.
- C. Bind Companions: Da ein physischer USB 3 Port wegen der Abwährtskombatibilität einen USB 3 und USB 2 Teil besitzt, nützt uns diese Funktion beim Mappen. Einfach USB 3 oder 2 Stick in den Port stecken und der Gegenpart wird automatisch erkannt.

Discover Ports (D):

Als Bsp. habe ich mal einen USB Stick in den Front USB 3 Port (Port 17) gesteckt um den

weiteren Verlauf und Funktionen des Programms zu erklären. Dann (B)ack und in das "Select Ports and Build Kext" Menü wechseln

```
################################################################
#                    Port Discovery                    #
################################################################

Intel(R) USB 3.1 eXtensible-Hostcontroller - 1.10 (Microsoft) | USB 3.0 (XHCI) | 26 ports
   Port 1  | USB 2.0 | Type 3 (guessed)
   Port 2  | USB 2.0 | Type 9 (guessed)
   Port 3  | USB 2.0 | Type 0 (guessed)
      - USB Keyboard - operating at USB 1.1
   Port 4  | USB 2.0 | Type 255 (guessed)
   Port 5  | USB 2.0 | Type 0 (guessed)
      - Gaming Mouse G502 - operating at USB 1.1
   Port 6  | USB 2.0 | Type 3 (guessed)
   Port 7  | USB 2.0 | Type 255 (guessed)
   Port 8  | USB 2.0 | Type 3 (guessed)
   Port 9  | USB 2.0 | Type 0 (guessed)
   Port 10 | USB 2.0 | Type 3 (guessed)
   Port 11 | USB 2.0 | Type 0 (guessed)
   Port 12 | USB 2.0 | Type 3 (guessed)
   Port 13 | USB 2.0 | Type 255 (guessed)
   Port 14 | USB 2.0 | Type 255 (guessed)
   Port 15 | USB 2.0 | Type 255 (guessed)
   Port 16 | USB 2.0 | Type 255 (guessed)
   Port 17 | USB 3.0 | Type 3 (guessed)
      - Ultra USB 3.0 - operating at USB 3.0
   Port 18 | USB 3.0 | Type 9 (guessed)
   Port 19 | USB 3.0 | Type 255 (guessed)
   Port 20 | USB 3.0 | Type 255 (guessed)
   Port 21 | USB 3.0 | Type 3 (guessed)
   Port 22 | USB 3.0 | Type 3 (guessed)
   Port 23 | USB 3.0 | Type 3 (guessed)
   Port 24 | USB 3.0 | Type 3 (guessed)
   Port 25 | USB 3.0 | Type 255 (guessed)
   Port 26 | USB 3.0 | Type 255 (guessed)

B.   Back

Waiting 5 seconds:
```

Select Ports and Build Kexts (S):

Hier sieht man jetzt den praktischen Nutzen der Companion Funktion. Port 6 wurde als USB 2 Teil des Port 17 erkannt. Ich habe in diesem Fall einen USB 3 Stick angesteckt. Würde man einen USB 2 Stick verwenden, leuchtet Port 6 im "Discover Ports" Menü auf und Port 17 würde

als USB 3 Teil erkannt werden.

```
☐ C:\Programme (portable)\USBM  ☒    +  ⌄

   ####################################################
   #            Select Ports and Build Kext          #
   ####################################################

Intel(R) USB 3.1 eXtensible-Hostcontroller – 1.10 (Microsoft) | USB 3.0 (XHCI) | 4/26 ports
[ ]   1.  Port 1  | USB 2.0 | Type 3 (guessed) | Companion to 22
[ ]   2.  Port 2  | USB 2.0 | Type 9 (guessed) | Companion to 18
[#]   3.  Port 3  | USB 2.0 | Type 0 (guessed)
          – USB Keyboard – operating at USB 1.1
[ ]   4.  Port 4  | USB 2.0 | Type 255 (guessed)
[#]   5.  Port 5  | USB 2.0 | Type 0 (guessed)
          – Gaming Mouse G502 – operating at USB 1.1
[#]   6.  Port 6  | USB 2.0 | Type 3 (guessed) | Companion to 17
[ ]   7.  Port 7  | USB 2.0 | Type 255 (guessed)
[ ]   8.  Port 8  | USB 2.0 | Type 3 (guessed) | Companion to 24
[ ]   9.  Port 9  | USB 2.0 | Type 0 (guessed)
[ ]   10. Port 10 | USB 2.0 | Type 3 (guessed) | Companion to 21
[ ]   11. Port 11 | USB 2.0 | Type 0 (guessed)
[ ]   12. Port 12 | USB 2.0 | Type 3 (guessed) | Companion to 23
[ ]   13. Port 13 | USB 2.0 | Type 255 (guessed)
[ ]   14. Port 14 | USB 2.0 | Type 255 (guessed)
[ ]   15. Port 15 | USB 2.0 | Type 255 (guessed)
[ ]   16. Port 16 | USB 2.0 | Type 255 (guessed)
[#]   17. Port 17 | USB 3.0 | Type 3 (guessed) | Companion to 6
          – Ultra USB 3.0 – operating at USB 3.0
[ ]   18. Port 18 | USB 3.0 | Type 9 (guessed) | Companion to 2
[ ]   19. Port 19 | USB 3.0 | Type 255 (guessed)
[ ]   20. Port 20 | USB 3.0 | Type 255 (guessed)
[ ]   21. Port 21 | USB 3.0 | Type 3 (guessed) | Companion to 10
[ ]   22. Port 22 | USB 3.0 | Type 3 (guessed) | Companion to 1
[ ]   23. Port 23 | USB 3.0 | Type 3 (guessed) | Companion to 12
[ ]   24. Port 24 | USB 3.0 | Type 3 (guessed) | Companion to 8
[ ]   25. Port 25 | USB 3.0 | Type 255 (guessed)
[ ]   26. Port 26 | USB 3.0 | Type 255 (guessed)

Binding companions is currently on.

K. Build UTBMap.kext
A. Select All
N. Select None
P. Enable All Populated Ports
D. Disable All Empty Ports
T. Show Types

B. Back

– Select ports to toggle with comma-delimited lists (eg. 1,2,3,4,5)
– Change types using this formula T:1,2,3,4,5:t where t is the type
– Set custom names using this formula C:1:Name – Name = None to clear
Select an option:
```

Die Funktionen K, A, N, P, D, T:

(K): Wäre "Use Native Classes" im Settings Menü aktiviert, würde hier "Build USBMap.kext" stehen.

(A), (N), (P), (D): eigentlich selbst erklärend

(T): Show Types: zeigt die verschiedenen Connector Typen (nähere Beschreibung samt Bildern siehe hier!)

Nun zu diesen Punkten:

-Select Ports ...: einfache einzelne Ports an und abwählen.

-Change Types: Würde das Programm z.B: einen Port falsch deklarieren, könnte man hiermit

den Typ ändern. In diesem Beispiel würde t:17:0 meinen Port 17 und 6 von Typ 3 (USB 3 Typ A) in Typ 0 (USB 2 Typ A) ändern.

-Set custom names …:

```
– Select ports to toggle with comma–delimited lists (eg. 1,2,3,4,5)
– Change types using this formula T:1,2,3,4,5:t where t is the type
– Set custom names using this formula C:1:Name – Name = None to clear
Select an option: c:17:Front USB 3
```

```
[#]  17. Port 17 | USB 3.0 | Type 3 | Companion to 6
         Front USB 3
            – Ultra USB 3.0 – operating at USB 3.0
```

mit c:17 (enter) löscht man wieder die Beschreibung

```
– Select ports to toggle with comma–delimited lists (eg. 1,2,3,4,5)
– Change types using this formula T:1,2,3,4,5:t where t is the type
– Set custom names using this formula C:1:Name – Name = None to clear
Select an option: c:17
```

Jetzt wie es z.B: anhand meines Systems aussehen sollte:

1) Discover Ports: Stick in alle benötigten Ports stecken

```
  ####################################################
  #                 Port Discovery                   #
  ####################################################

  Intel(R) USB 3.1 eXtensible-Hostcontroller - 1.10 (Microsoft) | USB 3.0 (XHCI) | 26 ports
    Port 1 | USB 2.0 | Type 3 (guessed)
    Port 2 | USB 2.0 | Type 9 (guessed)
    Port 3 | USB 2.0 | Type 0 (guessed)
      - USB Keyboard - operating at USB 1.1
    Port 4 | USB 2.0 | Type 255 (guessed)
    Port 5 | USB 2.0 | Type 0 (guessed)
      - Gaming Mouse G502 - operating at USB 1.1
    Port 6 | USB 2.0 | Type 3 (guessed)
    Port 7 | USB 2.0 | Type 255 (guessed)
    Port 8 | USB 2.0 | Type 3 (guessed)
    Port 9 | USB 2.0 | Type 0 (guessed)
    Port 10 | USB 2.0 | Type 3 (guessed)
    Port 11 | USB 2.0 | Type 0 (guessed)
    Port 12 | USB 2.0 | Type 3 (guessed)
    Port 13 | USB 2.0 | Type 255 (guessed)
    Port 14 | USB 2.0 | Type 255 (guessed)
    Port 15 | USB 2.0 | Type 255 (guessed)
    Port 16 | USB 2.0 | Type 255 (guessed)
    Port 17 | USB 3.0 | Type 3 (guessed)
    Port 18 | USB 3.0 | Type 9 (guessed)
    Port 19 | USB 3.0 | Type 255 (guessed)
    Port 20 | USB 3.0 | Type 255 (guessed)
    Port 21 | USB 3.0 | Type 3 (guessed)
    Port 22 | USB 3.0 | Type 3 (guessed)
    Port 23 | USB 3.0 | Type 3 (guessed)
    Port 24 | USB 3.0 | Type 3 (guessed)
    Port 25 | USB 3.0 | Type 255 (guessed)
    Port 26 | USB 3.0 | Type 255 (guessed)

  B.  Back

  Waiting 5 seconds: |
```

2) Sieht dann so im "Select Ports ..." Menü aus:

```
Intel(R) USB 3.1 eXtensible-Hostcontroller - 1.10 (Microsoft) | USB 3.0 (XHCI) | 17/26 ports
[#]  1.  Port 1 | USB 2.0 | USB 3 Type A (guessed) | Companion to 22
[#]  2.  Port 2 | USB 2.0 | Type C - with switch (guessed) | Companion to 18
[#]  3.  Port 3 | USB 2.0 | Type A (guessed)
          - USB Keyboard - operating at USB 1.1
          - DataTraveler 3.0 - operating at USB 2.0
          - Gaming Mouse G502 - operating at USB 1.1
[ ]  4.  Port 4 | USB 2.0 | Internal (guessed)
[#]  5.  Port 5 | USB 2.0 | Type A (guessed)
          - Gaming Mouse G502 - operating at USB 1.1
          - DataTraveler 3.0 - operating at USB 2.0
          - USB Keyboard - operating at USB 1.1
[#]  6.  Port 6 | USB 2.0 | USB 3 Type A (guessed) | Companion to 17
[ ]  7.  Port 7 | USB 2.0 | Internal (guessed)
[#]  8.  Port 8 | USB 2.0 | USB 3 Type A (guessed) | Companion to 24
          - DataTraveler 3.0 - operating at USB 2.0
[#]  9.  Port 9 | USB 2.0 | Type A (guessed)
          - Ultra USB 3.0 - operating at USB 2.0
[#] 10.  Port 10 | USB 2.0 | USB 3 Type A (guessed) | Companion to 21
          rechts hinten über Ethernet
          - DataTraveler 3.0 - operating at USB 2.0
[#] 11.  Port 11 | USB 2.0 | Type A (guessed)
          - Ultra USB 3.0 - operating at USB 2.0
[#] 12.  Port 12 | USB 2.0 | USB 3 Type A (guessed) | Companion to 23
[ ] 13.  Port 13 | USB 2.0 | Internal (guessed)
[#] 14.  Port 14 | USB 2.0 | Internal (guessed)
          - BRCM20702 Hub - operating at USB 1.1
            - Bluetooth USB Host Controller - operating at USB 1.1
[ ] 15.  Port 15 | USB 2.0 | Internal (guessed)
[ ] 16.  Port 16 | USB 2.0 | Internal (guessed)
[#] 17.  Port 17 | USB 3.0 | USB 3 Type A (guessed) | Companion to 6
          - Ultra USB 3.0 - operating at USB 3.0
[#] 18.  Port 18 | USB 3.0 | Type C - with switch (guessed) | Companion to 2
          - Ultra USB 3.0 - operating at USB 3.0
[ ] 19.  Port 19 | USB 3.0 | Internal (guessed)
[ ] 20.  Port 20 | USB 3.0 | Internal (guessed)
[#] 21.  Port 21 | USB 3.0 | USB 3 Type A (guessed) | Companion to 10
          rechts hinten über Ethernet
          - DataTraveler 3.0 - operating at USB 3.0
[#] 22.  Port 22 | USB 3.0 | USB 3 Type A (guessed) | Companion to 1
          - DataTraveler 3.0 - operating at USB 3.0
[#] 23.  Port 23 | USB 3.0 | USB 3 Type A (guessed) | Companion to 12
          - DataTraveler 3.0 - operating at USB 3.0
[#] 24.  Port 24 | USB 3.0 | USB 3 Type A (guessed) | Companion to 8
          - DataTraveler 3.0 - operating at USB 3.0
[ ] 25.  Port 25 | USB 3.0 | Internal (guessed)
[ ] 26.  Port 26 | USB 3.0 | Internal (guessed)

Binding companions is currently off.
```

Für eine Broadcom Karte (in meinem Fall BCM94360NG) muss das Ganze so aussehen.

```
[#]  14. Port 14 | USB 2.0 | Internal (guessed)
          - BRCM20702 Hub - operating at USB 1.1
             - Bluetooth USB Host Controller - operating at USB 1.1
```

3) Um das Portlimit von 15 einzuhalten deaktiviere ich die Companion Funktion im Settings Menü und wähle den USB 2 Companion Port (Port 2) vom Front USB-C Port und Port 21 (da hängt eh nur Peripherie mit USB 2 Speed dran) ab. Dazu einfach 2,21 eingeben und Enter drücken (wäre Bind Companions aktiviert, würde damit Port 2 und 18 sowie 23 und 10 deaktiviert werden)

```
- Select ports to toggle with comma-delimited lists (eg. 1,2,3,4,5)
- Change types using this formula T:1,2,3,4,5:t where t is the type
- Set custom names using this formula C:1:Name - Name = None to clear
Select an option: 2,21
```

```
##########################################################
#              Select Ports and Build Kext              #
##########################################################

Intel(R) USB 3.1 eXtensible-Hostcontroller - 1.10 (Microsoft) | USB 3.0 (XHCI) | 15/26 ports
[#]   1.  Port 1  | USB 2.0 | USB 3 Type A (guessed) | Companion to 22
[ ]   2.  Port 2  | USB 2.0 | Type C - with switch (guessed) | Companion to 18
[#]   3.  Port 3  | USB 2.0 | Type A (guessed)
            - USB Keyboard - operating at USB 1.1
            - DataTraveler 3.0 - operating at USB 2.0
            - Gaming Mouse G502 - operating at USB 1.1
[ ]   4.  Port 4  | USB 2.0 | Internal (guessed)
[#]   5.  Port 5  | USB 2.0 | Type A (guessed)
            - Gaming Mouse G502 - operating at USB 1.1
            - DataTraveler 3.0 - operating at USB 2.0
            - USB Keyboard - operating at USB 1.1
[#]   6.  Port 6  | USB 2.0 | USB 3 Type A (guessed) | Companion to 17
[ ]   7.  Port 7  | USB 2.0 | Internal (guessed)
[#]   8.  Port 8  | USB 2.0 | USB 3 Type A (guessed) | Companion to 24
            - DataTraveler 3.0 - operating at USB 2.0
[#]   9.  Port 9  | USB 2.0 | Type A (guessed)
            - Ultra USB 3.0 - operating at USB 2.0
[#]  10.  Port 10 | USB 2.0 | USB 3 Type A (guessed) | Companion to 21
            rechts hinten über Ethernet
            - DataTraveler 3.0 - operating at USB 2.0
[#]  11.  Port 11 | USB 2.0 | Type A (guessed)
            - Ultra USB 3.0 - operating at USB 2.0
[#]  12.  Port 12 | USB 2.0 | USB 3 Type A (guessed) | Companion to 23
[ ]  13.  Port 13 | USB 2.0 | Internal (guessed)
[#]  14.  Port 14 | USB 2.0 | Internal (guessed)
            - BRCM20702 Hub - operating at USB 1.1
              - Bluetooth USB Host Controller - operating at USB 1.1
[ ]  15.  Port 15 | USB 2.0 | Internal (guessed)
[ ]  16.  Port 16 | USB 2.0 | Internal (guessed)
[#]  17.  Port 17 | USB 3.0 | USB 3 Type A (guessed) | Companion to 6
            - Ultra USB 3.0 - operating at USB 3.0
[#]  18.  Port 18 | USB 3.0 | Type C - with switch (guessed) | Companion to 2
            - Ultra USB 3.0 - operating at USB 3.0
[ ]  19.  Port 19 | USB 3.0 | Internal (guessed)
[ ]  20.  Port 20 | USB 3.0 | Internal (guessed)
[ ]  21.  Port 21 | USB 3.0 | USB 3 Type A (guessed) | Companion to 10
            rechts hinten über Ethernet
            - DataTraveler 3.0 - operating at USB 3.0
[#]  22.  Port 22 | USB 3.0 | USB 3 Type A (guessed) | Companion to 1
            - DataTraveler 3.0 - operating at USB 3.0
[#]  23.  Port 23 | USB 3.0 | USB 3 Type A (guessed) | Companion to 12
            - DataTraveler 3.0 - operating at USB 3.0
[#]  24.  Port 24 | USB 3.0 | USB 3 Type A (guessed) | Companion to 8
            - DataTraveler 3.0 - operating at USB 3.0
[ ]  25.  Port 25 | USB 3.0 | Internal (guessed)
[ ]  26.  Port 26 | USB 3.0 | Internal (guessed)
```

4) Nun erstelle ich beide Kexte (UTBMap.kext und USBMap.kext) mit (K) Enter. Einfach im Settings Menü (Use Native Classes)umstellen. Bei Erstellung des USBMap.kext wird noch nach dem SMBIOS gefragt: ich nutze z.B: iMacPro1,1

5) Somit erhält man die generierten Kexte im USBToolBox Verzeichnis:

6) benutzt man UTBMap.kext muss man noch zusätzlich den USBToolBox.kext von Github runterladen und die beiden in den Kexts Ordner der EFI kopieren und dann in die config.plist einbinden. Dabei aufpassen, dass der USBToolBox.kext einen ausführbaren Pfad hat.

Für den USBMap.kext wird USBToolbox.kext nicht benötigt, da dieser die nativen Apple Kexte benutzt.

Zum Schluss sei angemerkt, dass man sich einfach ein wenig mit dem Programm vertraut machen sollte. Keine Angst, man kann nichts kaputt machen 🙂