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it's a keyboard thing

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📄 **Author**   **Topic: USB converter for Apple M0100 mouse (Read 12283 times)**

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Yoe
Thread Starter

Posts: 273

Location: Skellefteå, Sweden

Alps & ISO <3

📎 **USB converter for Apple M0100 mouse**
« **on:** Mon, 10 August 2015, 08:06:30 »

When trying to find an already made USB converter for the M0100 mouse, I did not find one. However, I stumbled upon this bus mouse converter by GuilleAcoustic:

https://hackaday.io/project/5875-busmouse-to-usb-hid-conversion
https://geekhack.org/index.php?topic=68612.0

With help from him and from some nice old documentation on the M0100, I figured out how this could possibly work. And, luckily, it did 😄

The only changes made to the code is setting an internal pull-up for the switch pin (my first version used an external resistor), and commenting out the state check for right and middle buttons.

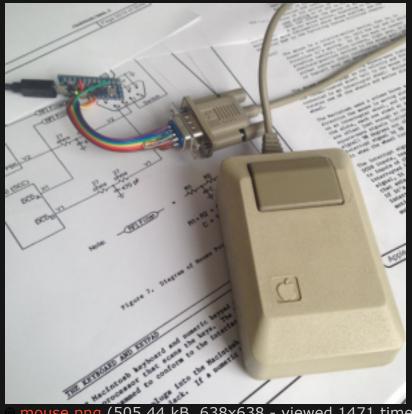Wiring to the DB9 goes:

Code: [Select]

```
DB9     Pro Micro
    1       GND
    2       VCC
    3       GND
    4       D0      (pin 3)
    5       D1      (pin 2)
    6       -       (not connected)
    7       B3      (pin 14)
    8       D3      (pin TX0)
    9       D2      (pin RX1)
```

The code with my changes here:

```
/* ==========================================================================
   Author   : GuilleAcoustic
   Date     : 2015-05-22
   Revision : V1.0
   Purpose  : Opto-mechanical trackball firmware
   --------------------------------------------------------------------------
   Wiring informations: Sparkfun Pro micro (Atmega32u4)
   --------------------------------------------------------------------------
     - Red    : Gnd                           |   Pin: Gnd
     - Orange : Vcc (+5V)                      |   Pin: Vcc
     - Yellow : X axis encoder / channel A     |   Pin: PD3 - (INT0)
     - Green  : X axis encoder / channel B     |   Pin: PD2 - (INT1)
     - Blue   : Y axis encoder / channel A     |   Pin: PD0 - (INT2)
     - Violet : Y axis encoder / channel B     |   Pin: PD1 - (INT3)
     - Grey   : Switch 1                       |   Pin: PB3
```

Many thanks to GuilleAcoustic for this!

mouse.png (505.44 kB, 638x638 - viewed 1471 times.)

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CPTBadAss
Woke up like this

Re: USB converter for Apple M0100 mouse
« **Reply #1 on:** Mon, 10 August 2015, 08:09:04 »

You should shoot a video on your Instagram with the mouse and keyboard in action 😄. Looks damn good!

Logged

Posts: 14305
Location: CT, USA
Rich Homie Huang.

Please check out TactileZine.com!

sth
2 girls 1 cuprubber

Re: USB converter for Apple M0100 mouse
« **Reply #2 on:** Mon, 10 August 2015, 08:09:20 »

Is this just on a teensy??? I might have to make one of these 😄

Logged

Posts: 3434

Yoe
Thread Starter

Posts: 273

Location: Skellefteå, Sweden

Alps & ISO <3

Re: USB converter for Apple M0100 mouse
« **Reply #3 on:** Mon, 10 August 2015, 08:58:39 »

> **Quote from: CPTBadAss on Mon, 10 August 2015, 08:09:04**
>
> You should shoot a video on your Instagram with the mouse and keyboard in action 😄. Looks damn good!

Haha, maybe.. and show off my lack of wpm and the lack of resolution and accuracy of that ancient mouse.. 😛

> **Quote from: sth on Mon, 10 August 2015, 08:09:20**
>
> Is this just on a teensy??? I might have to make one of these 😁

It's a Pro Micro, but you can use a Teensy instead if you like.

Logged

Hzza

Posts: 377

Location: Windsor, UK

Re: USB converter for Apple M0100 mouse
« **Reply #4 on:** Mon, 10 August 2015, 09:35:08 »

This is pretty cool, I'd love to see a shot of your new working set up 😁.

I'm pretty sure someone added mouse support to the hasu ADBs converter a few months back, with the intention being that you could daisy chain it off of a keyboard running hasu's converter. I never got around to testing it though...I've got a mouse and all the parts for a new converter kicking around, maybe I'll have a go tonight. I'm struggling to adjust to a mouse with only 3 buttons down from one with 5 so god knows what I'd do with a 1 button mouse 😁.

edit - Oh wait, that's a serial mouse! My bad, I saw Apple and assumed ADB 😁.
« *Last Edit: Mon, 10 August 2015, 09:39:53 by Hzza* »

Logged

Yoe
Thread Starter

Posts: 273

Location: Skellefteå, Sweden

Alps & ISO <3

Re: USB converter for Apple M0100 mouse
« **Reply #5 on:** Mon, 10 August 2015, 11:18:14 »

Yeh, not even serial actually. The mouse connects the quadrature signals from the encoders directly. (See links in OP for info on this if curious.)

Logged

GuilleAcoustic

Re: USB converter for Apple M0100 mouse
« **Reply #6 on:** Tue, 11 August 2015,

15:09:44 »

Please shoot a video with heavy click action, I'm gonna play it in loop.

I will add the internal pull-up support to my code. This was my first ever arduino code and I never thought it would be of any use to someone. Glad it found a nice home.

Logged

Posts: 77

Location: France

Yoe
Thread Starter

Posts: 273

Location: Skellefteå, Sweden

Alps & ISO <3

Re: USB converter for Apple M0100 mouse
« **Reply #7 on:** Thu, 13 August 2015, 04:58:35 »

> **Quote from: GuilleAcoustic on Tue, 11 August 2015, 15:09:44**
>
> Please shoot a video with heavy click action, I'm gonna play it in loop.
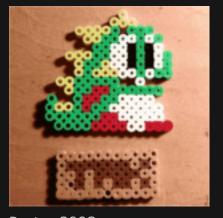>
> I will add the internal pull-up support to my code. This was my first ever arduino code and I never thought it would be of any use to someone. Glad it found a nice home.

Ok, I'm not a video savvy guy, but here you go!

https://youtu.be/hk-n0wEGkWY

Logged

hasu

Posts: 3093

Location: Tokyo, Japan

@tmk

Re: USB converter for Apple M0100 mouse
« **Reply #8 on:** Thu, 13 August 2015, 05:20:10 »

Great job really two of you guys!

I like to try this someday when I can get my hand on the mouse.

Logged

TMK products: ▪HHKB Alt ▪Converters ▪Alps64 ▪FC660C Alt ▪FC980C Alt

GuilleAcoustic

Posts: 77

Location: France

Re: USB converter for Apple M0100 mouse
« **Reply #9 on:** Thu, 13 August 2015, 09:38:39 »
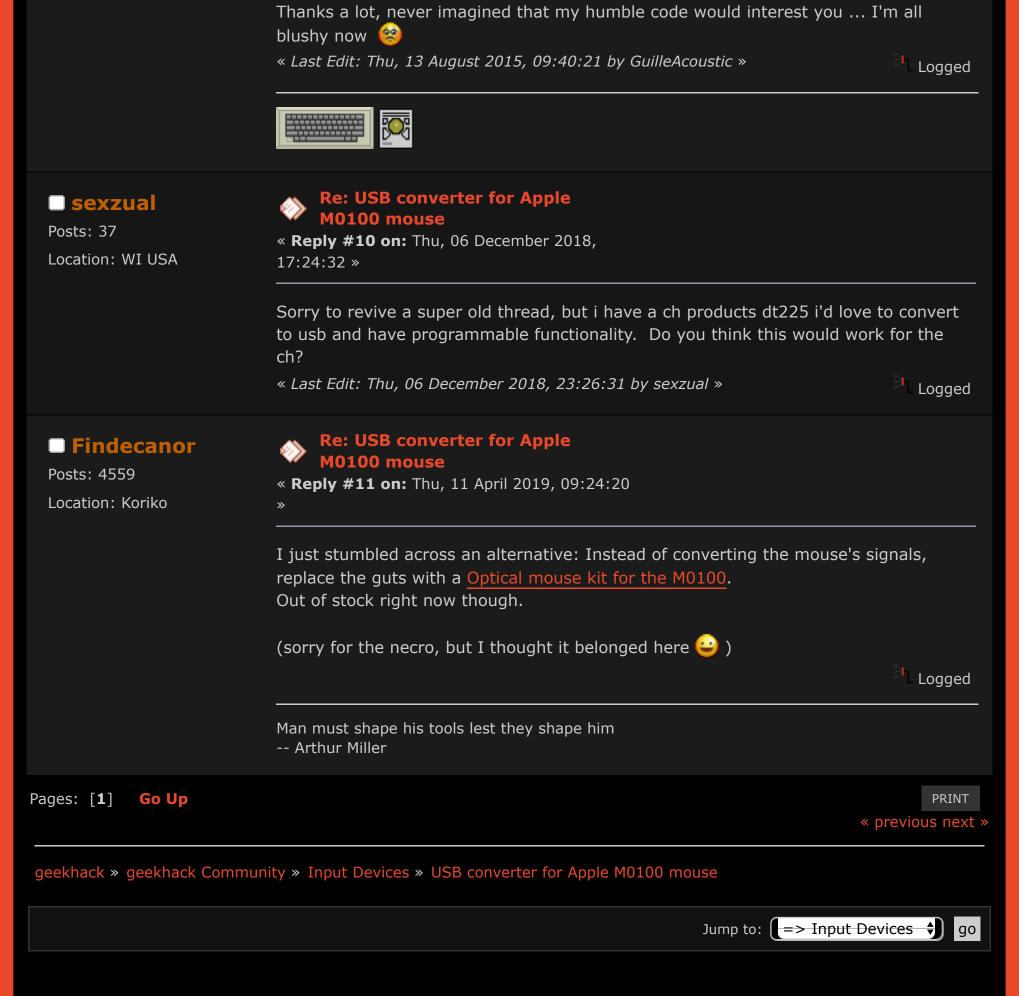
> **Quote from: Yoe on Thu, 13 August 2015, 04:58:35**
>
> Ok, I'm not a video savvy guy, but here you go!

Woot ! That is so nice. It is alive ! ALIVE !

> **Quote from: hasu on Thu, 13 August 2015, 05:20:10**
>
> Great job really two of you guys!
>
> I like to try this someday when I can get my hand on the mouse.

Thanks a lot, never imagined that my humble code would interest you ... I'm all blushy now 🥹

« Last Edit: Thu, 13 August 2015, 09:40:21 by GuilleAcoustic »

Logged

---

sexzual

Posts: 37

Location: WI USA

Re: USB converter for Apple M0100 mouse
« Reply #10 on: Thu, 06 December 2018, 17:24:32 »

Sorry to revive a super old thread, but i have a ch products dt225 i'd love to convert to usb and have programmable functionality. Do you think this would work for the ch?

« Last Edit: Thu, 06 December 2018, 23:26:31 by sexzual »

Logged

Findecanor

Posts: 4559

Location: Koriko

Re: USB converter for Apple M0100 mouse
« Reply #11 on: Thu, 11 April 2019, 09:24:20 »

I just stumbled across an alternative: Instead of converting the mouse's signals, replace the guts with a Optical mouse kit for the M0100.
Out of stock right now though.

(sorry for the necro, but I thought it belonged here 😃)

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Man must shape his tools lest they shape him
-- Arthur Miller

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