

# Dell Dimension FlexBay F\_USB connector conversion to standard internal USB header connector.

(not the regular metal shielded connector that comes out of the back of your computer) This conversion will enable you to connect to standard USB devices that use a 4 or 5 pin header connector.

- Dimension 3100
- Dimension E310
- Dimension 5000
- Dimension 5100
- Dimension 5150
- Dimension E510
- Dimension 9100
- Dimension 9150
- XPS 400
- Precision 380

Although I have not tested it with all these models, it works great with the E510/5150 computer, which I have. In researching the Dell Media Reader compatibility chart, these are the models that Dell claims their proprietary media reader will fit, therefore the FlexBay USB header on these models should all be the same. The XPS 400 I saw looked the same.

In my case I used this adapter to install the **ULTRA 7-in-1 Media Reader Floppy Drive Combo**. It can be ordered from Tiger Direct for \$29.99, or from NewEgg.com, **Mitsumi Model FA404M BLK** among other sources if you do a search. I purchased mine on eBay for only \$21. Any other media reader will work fine too, as long as it has the standard internal 4 pin internal USB connector as pictured left (Fig.1). A **5**



Fig.1

Standard USB

pin USB connectors will work as well, just ignore the shield pin (not used) on the end. 5 pin USB assignment details are toward the end of this article.

If you wish to create your own FlexBay adapter with the aid of my photos, pin-outs and instructions, here is the part number and source to order from. **Dell part# R6401 FlexBay cable assembly**, about \$20 shipped to your door in two or three days. This can be ordered from Dell, phone **1-800-449-3355** or **1-800-915-3355**. This FlexBay cable is the one you will modify for this project.

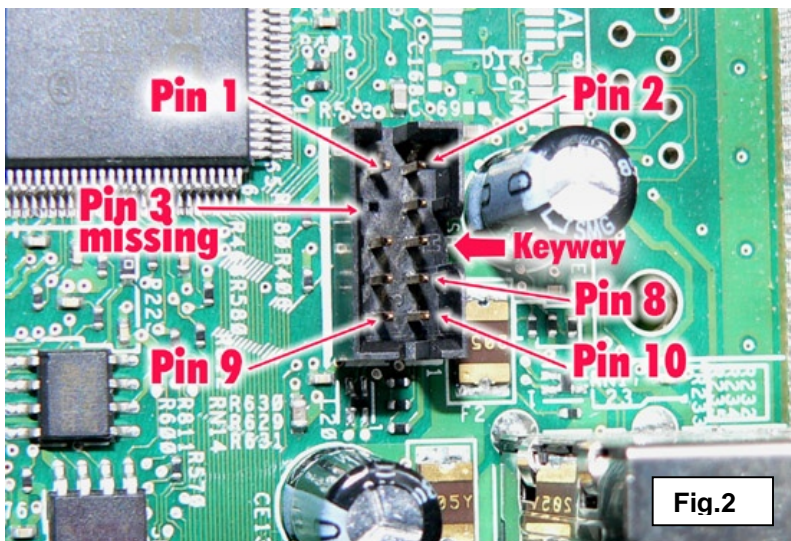


Fig.2

This is what your FlexBay F\_USB header socket should look like, (Fig.2) with pins as I have called them out. If it doesn't look like this then you have a different, or older, model Dell. The only pins you will need to use for your conversion are pins 2, 8, 9, and 10. Note the missing pin 3. The keyway for positioning the connector is on the right side, so you don't get the connector on backwards and mess up your pin-out sequence, and the functionality.

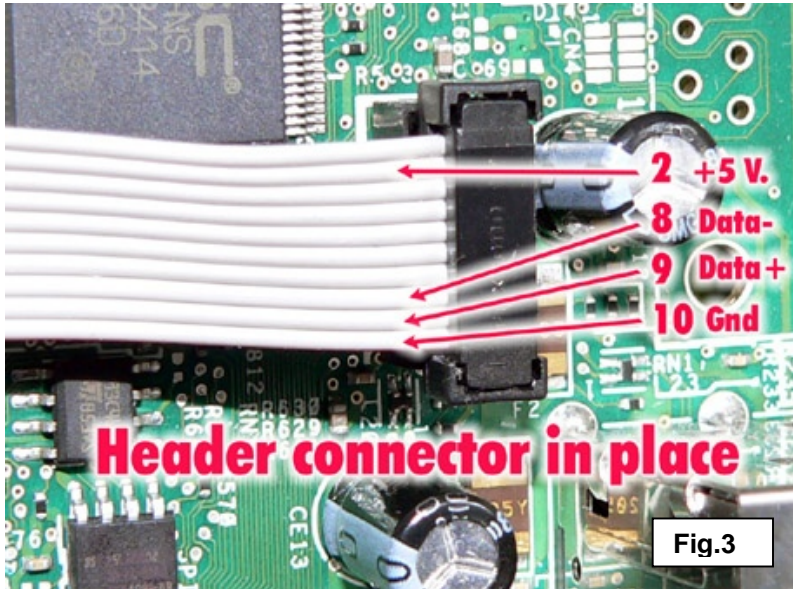


Fig.3

With the Dell FlexBay cable connector (Dell part# R6401) in place you should have something that looks like this picture. (Fig.3) The pin functions are called out in red.

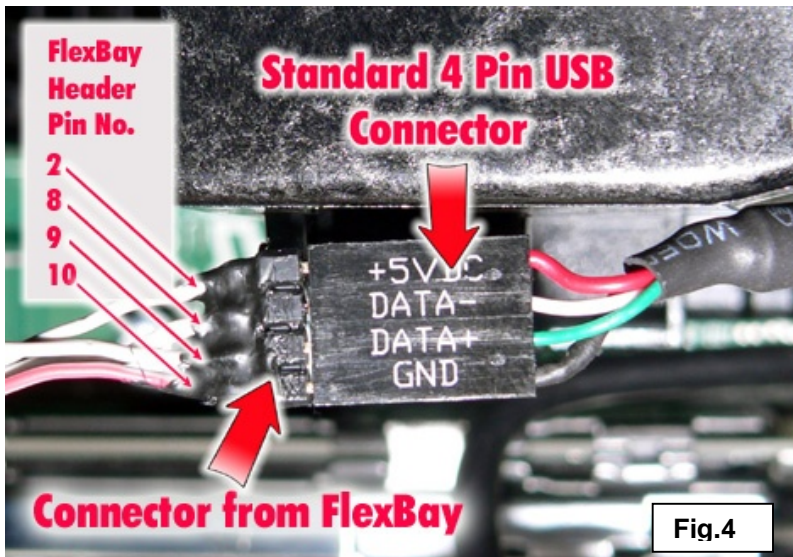


Fig.4

This is the business end of the adapter, hooked up, in place and functioning. (Fig.4) The announced pin numbers are the FlexBay header pin numbers, and the wire order on the FlexBay cable connector as well. The 4 pin USB connector belongs to whatever media reader or USB device you choose to install.

This is the wiring as freshly soldered and exposed before making it look pretty. (Fig.5)

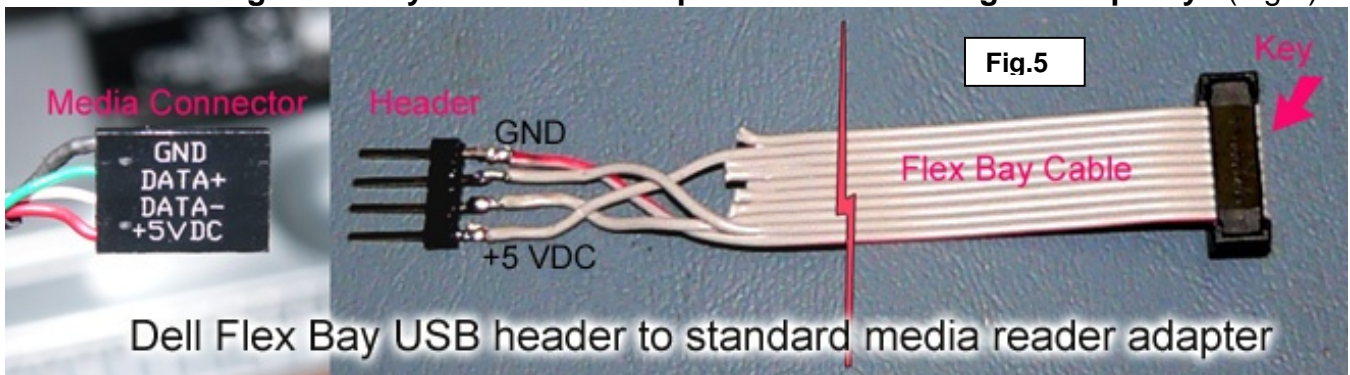
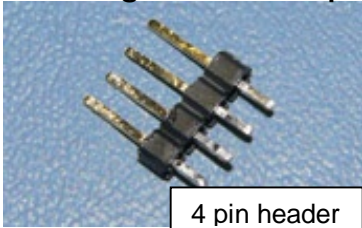


Fig.5

Dell Flex Bay USB header to standard media reader adapter

To complete the adapter, you will need to purchase or find a small section (4 pins in a single row, see photo) of standard 1/10" O.C. (Center to Center) pin header.



I salvaged mine from an old retired motherboard. You can also order the part from [Digi-Key](#) electronics supplier, 1-800-344-4539. [Part #WM6604-ND 4 pin break away header](#), price is .38 cents. The pins are .320 long on this header.

If you don't want to pay them the \$5 minimum order fee and shipping \$, you can email me from eBay and I will send you a salvaged one for \$4.00 including shipping.

Cut the Dell proprietary FlexBay cable assembly in half, using the end as shown above (Fig.5), with the plastic socket keyway (visible in below photo Fig. 9) on the right. Cut the excess wires away as shown, leaving about 1" to 2" of the longer needed wires, corresponding to pins 2, 8, 9, and 10. Make sure none of the ragged wire strands of the clipped ends touch each other, check that very close. I used super glue to seal the ends and hold the wire strands in place. Strip about 1/16" of insulation from the long wires. Solder the exposed wire ends to your standard USB header as shown above. Then cover them with epoxy or glue to avoid shorting them out. I used some liquid rubber and a piece of shrink tubing to make it pretty.

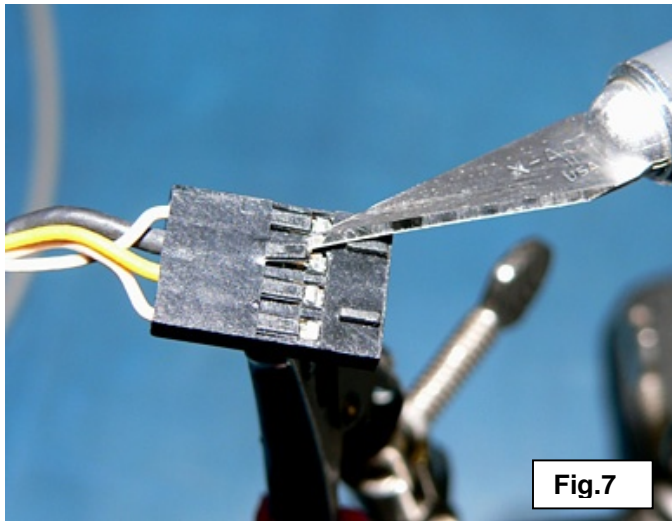


Red: + 5V / Voltage + / VCC  
White: D - / Data - / USB -  
Green: D + / Data + / USB +  
Black: GND / Voltage - / Ground  
Black: S-GND / Over Current / Shielding

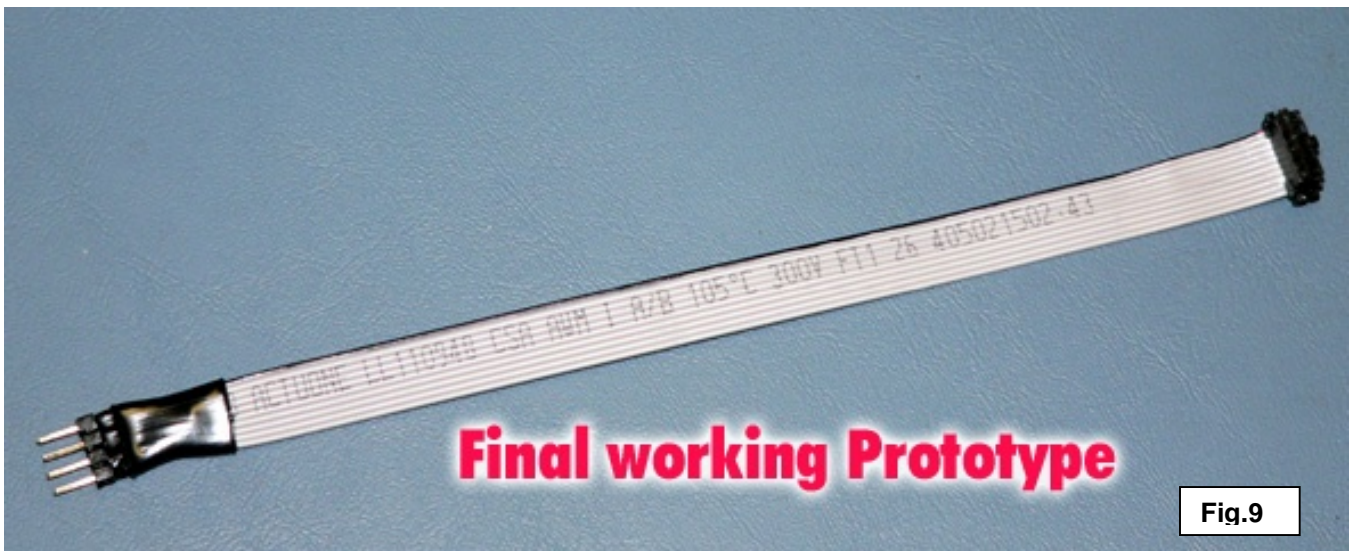
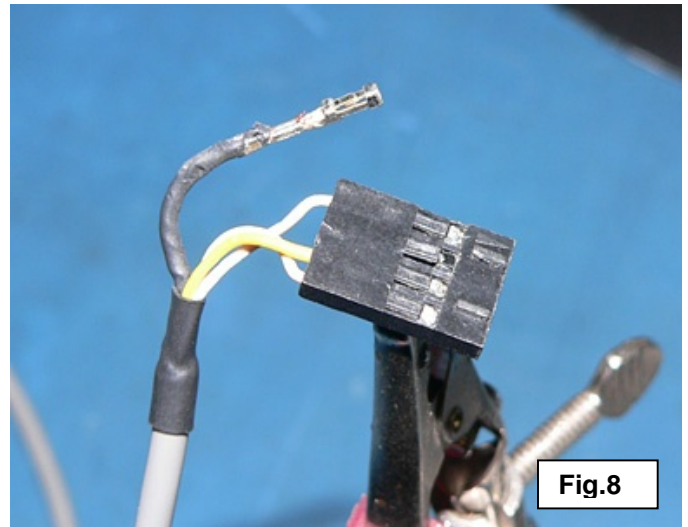
Pin Assignments for the **5 pin** USB header connectors at left (Fig.6). The shield pin is not needed, as it is the same connection as the "ground" or GND connection. Most USB header connectors can be rewired, by simply prying up the small tang that holds the tiny socket in the plastic header, pull it out and place it in a new position. This way if your USB header connector is not the proper configuration, just change it to standard pin order. See photos below for details.

## Changing USB connector pin-out ordering:

Prying up the tang lock (Fig.7)



Pin removed (Fig.8)



This is the final fancied up prototype. (Fig.9) I sold this one for \$25 shipped. Profits are pretty slim when you consider parts cost and the labor time.

I hope you find this article useful, I put a lot of time into this, finding the proper pins on FlexBay, photos, parts sources, construction and testing, etc. When done properly, it works quite well.



Installed Combo drive hooked to FlexBay adapter.

**And last but not least! Please be careful if you do not know what you are doing, as you could mess up your computer, and even worse, void your warranty (if there is one). I take no responsibility for that.**

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