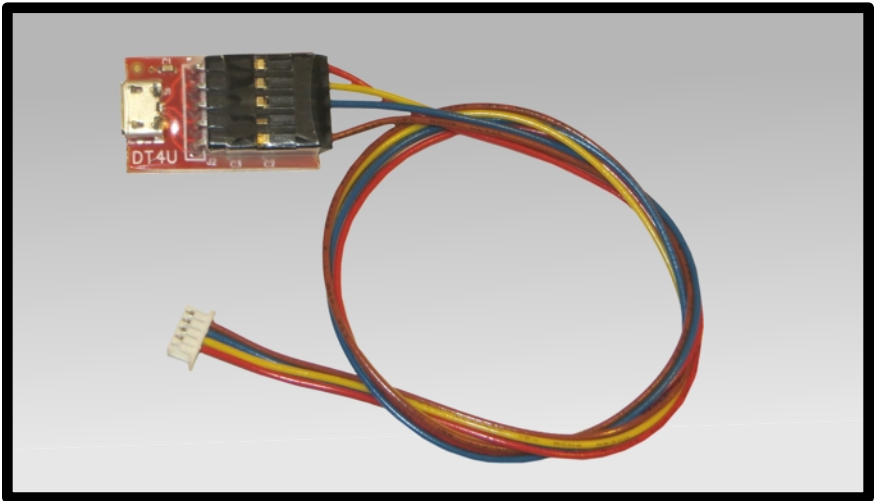


DT4U Users Manual



PerfectFlite

The logo features the text 'PerfectFlite' in a stylized, italicized orange font. Below the text is a horizontal orange line with a yellow and red arrowhead pointing to the right.

DT4U Users Manual

USB Data Transfer Hardware and Software for the
PerfectFlite *Pnut* and *StratoLogger*



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Introduction

These instructions pertain to the DT4U data transfer kit and the *Pnut* or *StratoLogger* altimeters. The DT4U cable and hardware can also be used with older Alt15K/WD and miniAlt/WD altimeters; software and instructions for use with these models are located in the “Legacy Products” folder on the CD. Similarly, the earlier DT2U and DT3U USB data transfer kit can also be used with the newer *Pnut* and *StratoLogger* altimeters and their associated software.

Installing the USB Driver

Windows XP, Vista, or 7:

If your computer is connected to the internet:

Plug the DT4U USB cable into your computer. A “Found New Hardware” message will appear. Windows Update will automatically locate and install the latest drivers for two devices: “USB <-> Serial” and “USB Serial Port”.

If your computer is not connected to the internet:

Locate and run the file “CDM20814_Setup” from the “USB Drivers>Windows” folder on the installation CD. This will install the necessary drivers.

After the drivers are installed, you can move on to the next section “Install the Download Program”.

MacOS X:

Locate and double-click the file “FTDIUSBSerialDriver_v2_2_16.dmg” from the “USB Drivers>Mac” folder on the installation CD. A new disk image icon will appear on your desktop. When you open it, you will see two files:

“FTDIUSBSerialDriver_10_3” (for Mac OS X 10.3)

and

“FTDIUSBSerialDriver_10_4_10_5_10_6” (for Mac OS X 10.4 – 10.6)

double click on the file appropriate for your version of OS X, and follow the instructions for installing the driver. Restart your Mac when done.

Installing the Download Program

Make sure the USB driver is installed and the DT4U is plugged into your computer's USB port.

Open the "Download Program" folder on the CD and drag the folder appropriate to your computer type (Windows or Mac) onto your computer's hard disk.

Open the folder and run the "PerfectFlite DataCap" program.

The first time you run the program it will search for available ports and give you the opportunity to select the DT4U's port. If you have other ports available on your computer, you can easily determine which one is the DT4U by temporarily unplugging its USB cable and clicking "rescan". The port you want will disappear from the list. Plug the USB cable back in, wait a few seconds, and hit "rescan" again. The port will reappear and you can select it.

The program will remember the port setting and you shouldn't have to reselect it unless your computer's configuration changes or you run the program on a different computer.

Using the Download Program

Downloading Data

Run the “PerfectFlite DataCap” program and select the port as noted above if this is the first time the program has run. Connect the white plug on the DT4U to the altimeter’s data connector and turn the altimeter ON. While the initial settings are beeping, go to the “Data” menu and select “Acquire”. The beeping should stop, and you will be presented with a window from which to select the flight you want to download. The altimeter retains full flight information from the last 31 flights, with the most recent flight placed at the end of the list. Select the flight that you want to download by clicking its radio button and then start the download by clicking the “Start” button.

Note: If you don’t select “Acquire” before the end of altimeter’s initial beeping sequence, the altimeter will not be accessible via the data port. This is to prevent any possible electrical noise from interrupting the altimeter in flight. If you waited too long and the altimeter can’t be found, switch it off, wait five seconds, switch it back on, and try again during the startup beeps.

The data will download, and a graph of altitude vs. time will appear. Additional graphs can be displayed including Smoothed Altitude, Velocity, Temperature, and Battery Voltage. A list of the individual data points can be obtained from the “Data>Inspect” menu item. If you have downloaded data from the *StratoLogger* deployment altimeter, the data points corresponding with the exact instant the Droogie and Main chutes were deployed are highlighted in red. Individual data points, shift-clicked selection ranges, or all of the data points (using the “select all” button) can be selected and copied to the clipboard for transfer to another program.

After downloading your data you may want to save it to disk using the “Save As” item in the File menu. The data is saved in a text format that can be imported into a spreadsheet program for further analysis.

Altimeter Setup

Altimeter parameters can be changed using the “Altimeter>Setup” menu item. A list of the changeable parameters, along with explanations of their functions, is available in the altimeter’s manual.

Altimeter Tests

Several tests are available in the “Altimeter>Test” menu. The “SelfTest” function runs several internal tests on the altimeter and returns a pass/fail result. The “Get Data” function returns the current pressure, temperature, and battery voltage from the altimeter. The “Fire Drogue” and “Fire Main” functions (*StratoLogger* only) turn on the Drogue or Main ejection outputs for 1 second when their buttons are clicked. This can be used to facilitate ground testing of ematch battery combinations.

The “Volt Test” function can be used to check the wiring in your avionics bay for poor connections. Since the *StratoLogger* can survive several seconds without power, checking for poor/loose connections can be difficult. If you wiggle the wires around and a connection is broken momentarily, the altimeter most likely won’t even notice it because of its built-in brownout protection. The VoltTest function provides a handy way to fully test your wiring. Connect the altimeter, start the VoltTest, and observe the status line. It will say “Test in

progress: Status good, voltage constant at X.X volts...” when running normally. At this point you should wiggle any suspect wires and connections while watching the status line. Even an extremely short power dip will result in an immediate change to: “Test halted: Status FAIL: Y.Y volts detected.” with the lower voltage reported. If you ever get a failure while running this test, check the connection in question carefully to see what caused the problem, repair the poor connection, and retest thoroughly before flight.

Additional Information

The altimeter will “chirp” periodically when connected to the data transfer kit and turned on. This “battery saver” chirp is to remind you that it is switched on so you won’t forget to turn it off after downloading the data.

Troubleshooting

“Altimeter Not Found” or “Error in Data Length” message when attempting to download data from the altimeter:

- Check all cables to make sure they are plugged in properly.
- Make sure altimeter is turned ON and is beeping out its initial settings/last flight altitude. If you have waited too long and it is silent, turn it off, wait five seconds, then turn it back on and try again.
- Make sure the USB drivers are installed properly. You should have a “USB Serial Port” entry in the Windows Device Manager under the category of “Ports (COM & LPT)”. Note the COM# in the device manager entry and make sure that you have selected the same COM# in the download program’s Altimeter>CommPort menu.
- You can also identify the proper COMM Port number by making sure the USB cable is plugged into the DT4U and computer, and then selecting the Altimeter>CommPort menu item. Make a note of the available ports in the list, then unplug the USB cable and click “Rescan”. The port that is being used by the DT4U will disappear from the list. Plug the USB cable back in, wait 5 seconds, and click “Rescan” again. When the DT4U’s port reappears in the list, select it.

Other Errors:

- Check the Downloads area of www.perfectflite.com to make sure you are running the latest version of the software.