# **KeyAT-5 Firmware Upgrade**

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These are instructions for upgrading firmware for the KeyAT-5 RS-232 to USB Keyboard Port Adapter.

#### **Connections**

The KeyAT-5 RS-232 to USB Keyboard Port Adapter can upgrade its firmware via the serial port using the application Tera Term Pro version 4.53 or greater.

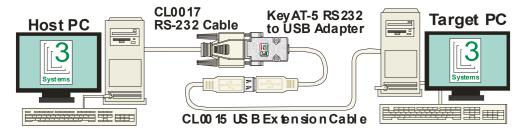
Host site in Japan with Japanese and English versions:

http://ttssh2.sourceforge.jp/

Mirror site in North America:

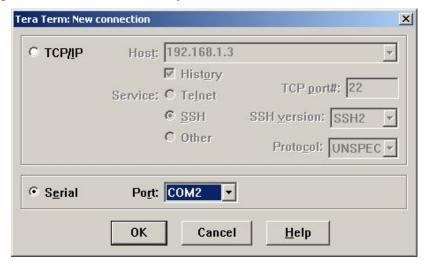
http://www.neocom.ca/freeware/TeraTerm/teraterm utf8 453.exe

With the KeyAT connected and powered a target PC such as shown in the diagram below on the right, you want to run Tera Term on a host PC (or Laptop) shown in the diagram below on the left.



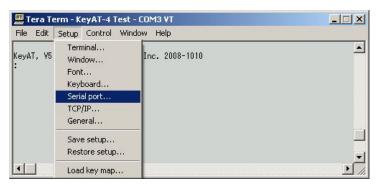
#### **Running Tera Term**

When you run Tera Term, it will prompt you for the connection. You want to specify "Serial" and select the COM port that you are using to connect your PC to the KeyAT serial port. That would most likely be "COM1", "COM2, "COM3" or "COM4".



The serial port may be labeled on your PC. If not, look at your computer documentation. You need to use a cable that is a "straight-through" cable, where the same pin numbers at each end are connected to each other. L3 Systems Part CL0017 is a cable you can use to extend the length of the RS-232 connection.

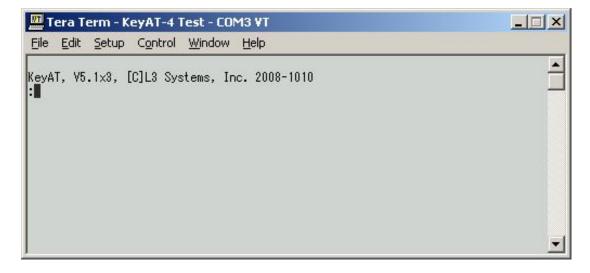
You need to configure Tera Term to match the KeyAT-5's settings. Using the Tera Term top pull down menus, you want to select: "Setup→ Serial Port". The "Port" should match the serial port that is connected to you host PC (typically COM1 or COM2), and the other parameters should be set as shown below. The default KeyAT baud rate is 9600 with 8 data bits and no parity. Also, it is VERY IMPORTANT to make sure that the transmit delay on the bottom-right is set to "100" msec/line.





# **Verifying Connection to the KeyAT**

If the KeyAT is connected properly, you should be able to press the "Enter" key on the host keyboard and see a colon prompt on the Tera Term screen. Unplugging the USB connection to the target, waiting 5 seconds, and then re-plugging will cause the KeyAT to reset and display the version number of the firmware as shown below. If this is a 2<sup>nd</sup> or more try, when you press "Enter", you should see a "Pony>" prompt.

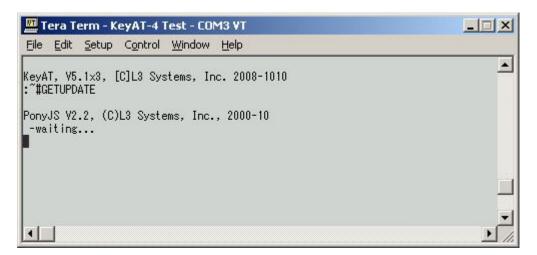


If you don't see a colon (:) prompt or "Pony>" in response to a "enter" key, check that all cables are connected as in the 1<sup>st</sup> diagram, and that the serial port specified to Tera Term is the same as the one you are using. Also, make sure that the target PC is running, since that is where the KeyAT obtains its power.

If you have a "Pony>" prompt, then skip to the "Loading from Pony Monitor" section on page 6 further on.

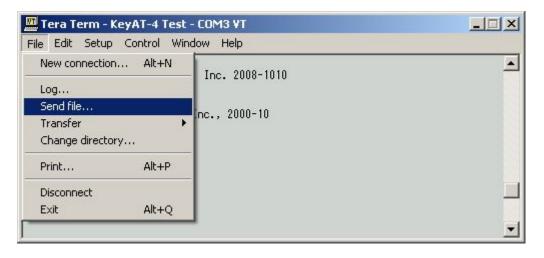
## **Loading the New Firmware**

Now type "~#GETUPDATE" and press enter. Important: *This command is case sensitive*, so "GETUPDATE" must be in uppercase letters. The "-waiting..." message tells you that it is waiting for the new firmware update file to be sent.



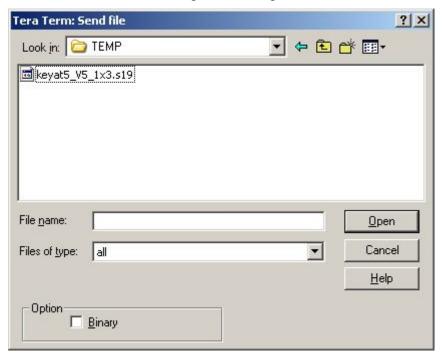
### Sending the Data File

Now you need to send the firmware data file from the host computer to the KeyAT-5. Select from the top bar "File→Send File"

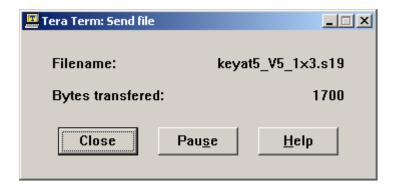


### Selecting the File to Send

You will now see a selection window. You need to find the file that was extracted from update package that has an extension of "s19", with the name in the form of keyat5\_Vnnnn where nnnn is the version number. Example would be keyat5\_V5\_1x3.s19. You will need to select that file and press the "Open" button.

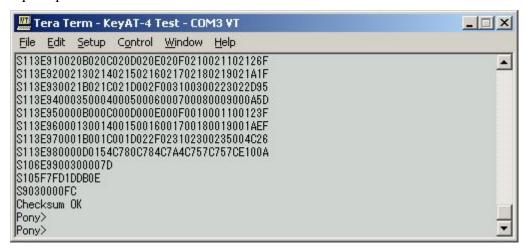


After selecting thefile, you will see lines of the firmware data starting with "Scroll down the screen with a pop-up window such as the one shown below:



#### After the File is Downloaded

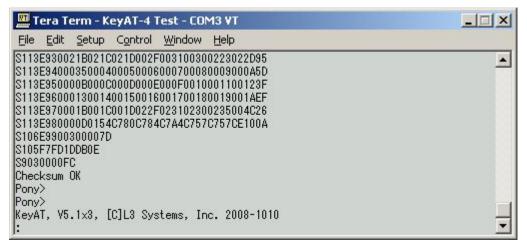
After the last firmware data line is sent, a "Checksum OK" should appear followed by a "Pony>" prompt.



If instead a "Checksum Bad" message appears, you need to go to the "Loading From Pony Monitor" section on page 6 below and try another download.

# Restarting the KeyAT to Run the New Firmware

If all went well, you can then run the new KeyAT firmware by unplugging the USB connection to the target, waiting 5 seconds, and then re-plugging. *Note that if you had previously changed the baud rate of the KeyAT, you will need to set it back to 9600.* This will cause the KeyAT to reset and display the version number of the firmware as shown below followed by a "colon" prompt.



At this point you're finished and can use the updated KeyAT for your application.

# **Loading From Pony Monitor**

If for some reason the download failed, you will need to start another download. This time, however, it will be from the "Pony" prompt of the Pony monitor. To start another download, type "V" and press enter. The monitor will overwrite the command line with the text "-waiting...". This means it is waiting for the data to be sent.



After doing the "V" command, you need to send the file again. Go up to the "Sending the Data File" section on page 3.