

VEET 2.1: Using the Command-line Interface

Using the Command-line Interface

You can directly access the VEET's firmware through the **virtual serial port interface** available when a VEET temple arm is connected to a computer via USB.

This is an advanced feature that you shouldn't usually need—VEETManager is the safer and preferred choice of communication with the device; however, connecting via virtual serial port interface can be useful for performing bulk operations, accessing advanced commands that are not exposed in the VEETManager and for troubleshooting (e.g. if you can't communicate with the device through the VEETManager).

To communicate with the VEET via a virtual serial port interface, please follow the steps below.

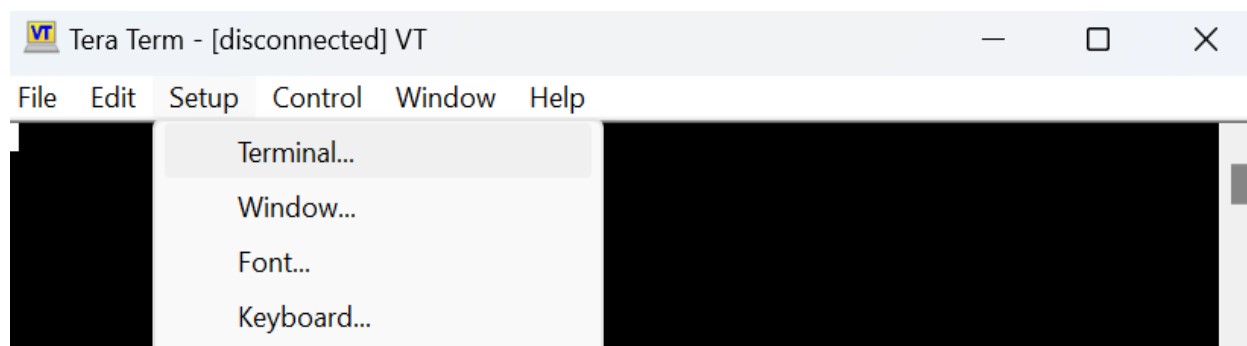
Windows: Using Tera Term to Connect to VEET

Please note that you can use any terminal program that supports serial communication—we simply chose Tera Term to navigate this example.

1. Charge each VEET temple arm on wall power for at least 5 minutes.
2. Make sure you are not running the VEETManager.

WARNING: The VEETManager also connects over virtual serial port and supports only one connection at a time: while open, the VEETManager blocks other programs from accessing the serial port.

3. Connect one VEET temple arm to your computer. To avoid device conflicts, connect **only one** temple arm at a time.
4. Download Tera Term from the following [link](#) (make sure you get the “current latest release”).
5. Open Tera Term. Click **Setup**, then select **Terminal** from the drop-down menu.



Setup / Terminal on Tera Term

6. In the **Terminal** tab, use the **Transit** drop-down menu to select **CR** and enable (check) **Local Echo**.

Tera Term: Additional settings ✕

General	Control Sequence	Copy and Paste	Visual	Log	Cygwin	Encoding
Font	Theme	Keyboard	Mouse	TCP/IP	Terminal	Serial port
						Window

Terminal size

X

☒ Term size = win size
☐ Auto window resize

New-line

Receive:

Transmit:

Terminal ID:
☒ Local echo

Answerback:
☐ Auto switch (VT<->TEK)

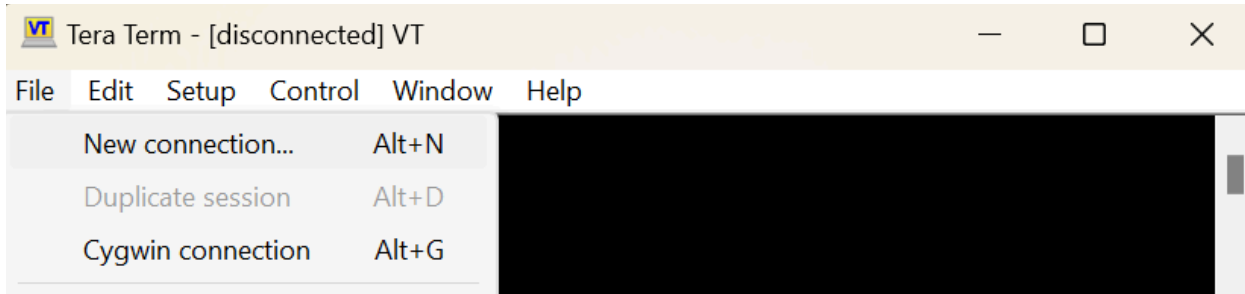
OK

Cancel

Help

Terminal Settings on Tera Term

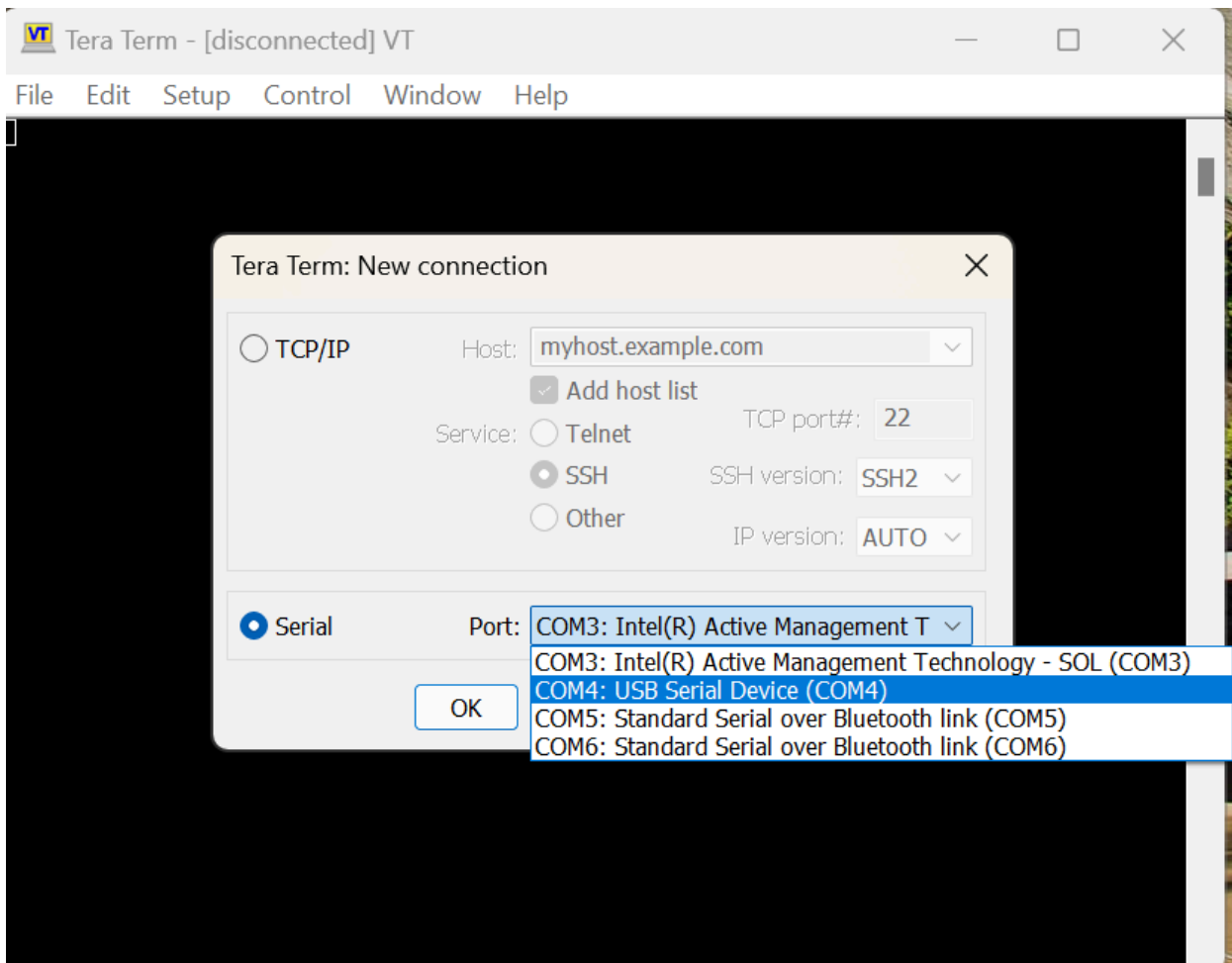
7. Click **OK**.
8. Click **File**, then select **New Connection** from the drop-down menu.



File / New Connection on Tera Term

9. Select **Serial** and use the **Port** drop-down menu to choose your desired USB Serial Device (the VEET temple arm).

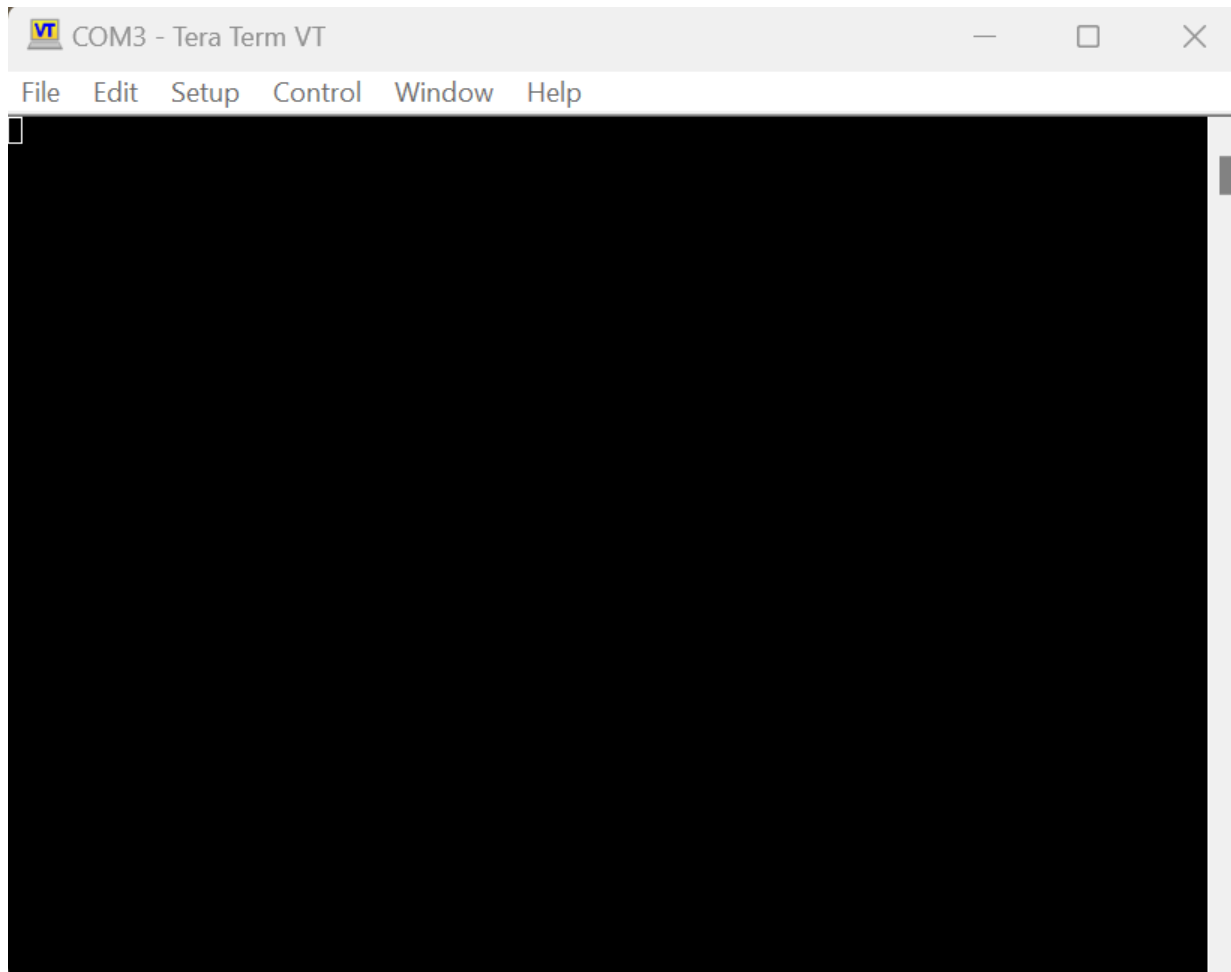
NOTE: If there are multiple USB Serial Devices connected to your computer, you may need to disconnect and reconnect the VEET temple arm to determine the correct one. However, keep in mind that Windows may assign the VEET a new COM-port number.



Selecting a USB Serial Device on Tera Term

10. Click **OK**. If the VEET is functioning properly, you can communicate with the device via

virtual serial port at this point.



Connection to VEET on Tera Term

11. Verify the connection is active by typing **??** and hitting **return**. This Help command should display a list of available commands.

??

Console Help:

```
BL -> Enter bootloader (/veet_image_boot2.bin must be present on root drive)
FT -> Format FS (all data on Drive will be lost!)
GB -> Print Battery(mV)
GV -> Print USB Vbus Voltage(mV)
GI -> Print MCU Internal Temperature(degC)
GM -> Print Mount Side
GS -> Print Serial Number
GT -> Print RTC Time(s)
GU -> Print MCU Unique 128bit ID
LG -> Print Log
TM -> Set Transport Mode (RTC Preserved)
RE -> Device reset (SW)
RG -> RTC get stored time from eeprom
RS -> RTC set stored time in eeprom
RW -> Device reset (WDT)
S0 -> Sample IMU (BMI270)
S1 -> Sample PHO (AS7341)
S2 -> Sample TOF (TMF8828)
S3 -> Sample ALS (TSL2585)
SM<X> -> Set Mount Side, <X> is L or R
SN<X> -> Set Serial Number, <X> is up to 16 characters
ST<X> -> Set RTC Time, <X> is the epoch time in seconds
LW<X> -> Set White LED intensity 0-1000
LR<X> -> Set Red LED intensity 0-1000
VR -> Print firmware version
FV -> RAW firmware version
HV -> Print Hardware version
BU -> Update bootloader from internal bin file
```

VEET Command List on Tera Term

On Mac: Using SerialTools to Connect to VEET

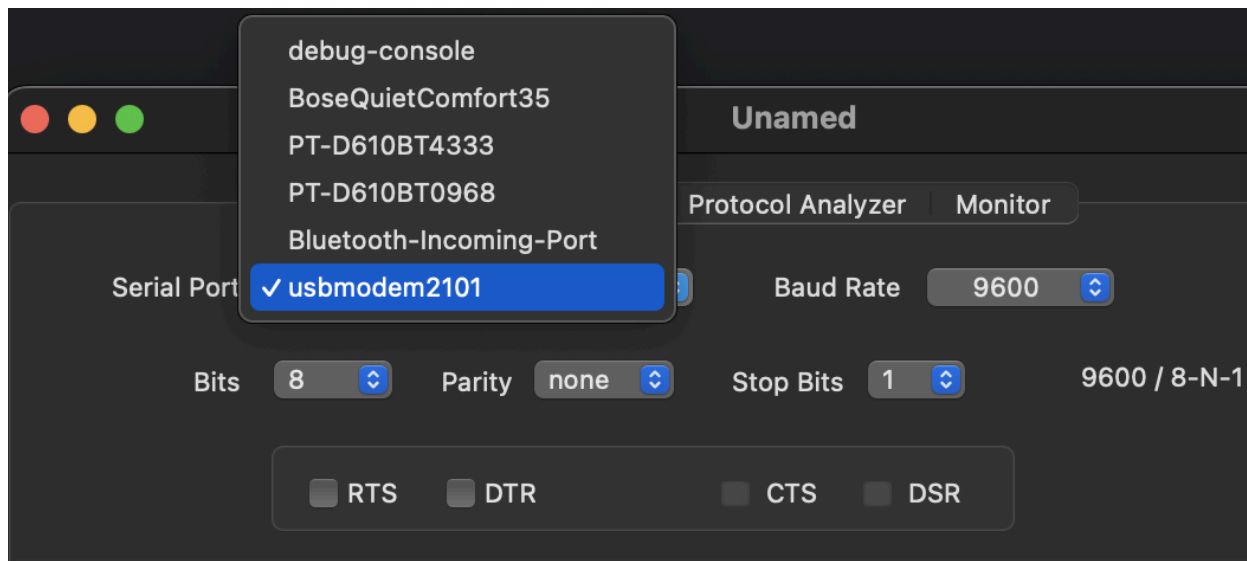
Please note that you can use any terminal program that supports serial communication—we simply chose SerialTools to navigate this example.

1. Charge each VEET temple arm on wall power for at least 5 minutes.
2. Make sure you are not running the VEETManager.

WARNING: The VEETManager also connects over virtual serial port and supports only one connection at a time: while open, VEETManager blocks other programs from accessing the serial port.

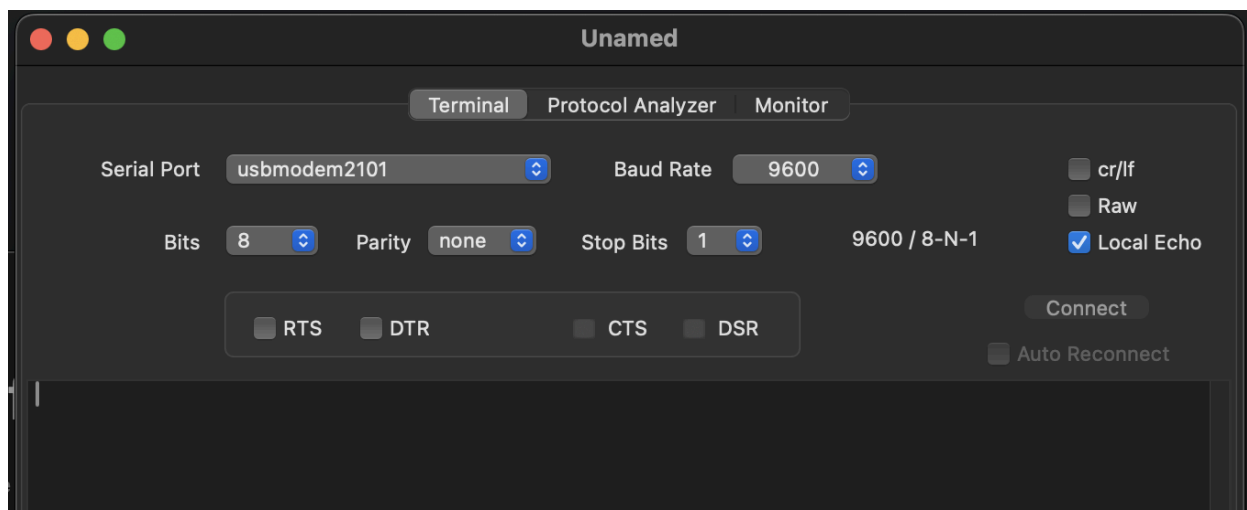
3. Connect one VEET temple arm to your computer. To avoid device conflicts, connect **only one** temple arm at a time.
4. Download SerialTools from the Mac App Store.
5. Open SerialTools.
6. From the **Serial Port** drop-down menu, select **usbmodemXXXX**, where XXXX could be any number.

NOTE: If there are multiple “usbmodem” connections to your computer, you may need to disconnect and reconnect the VEET temple arm to determine the correct one. However, keep in mind that Mac may assign the VEET a new COM-port number.



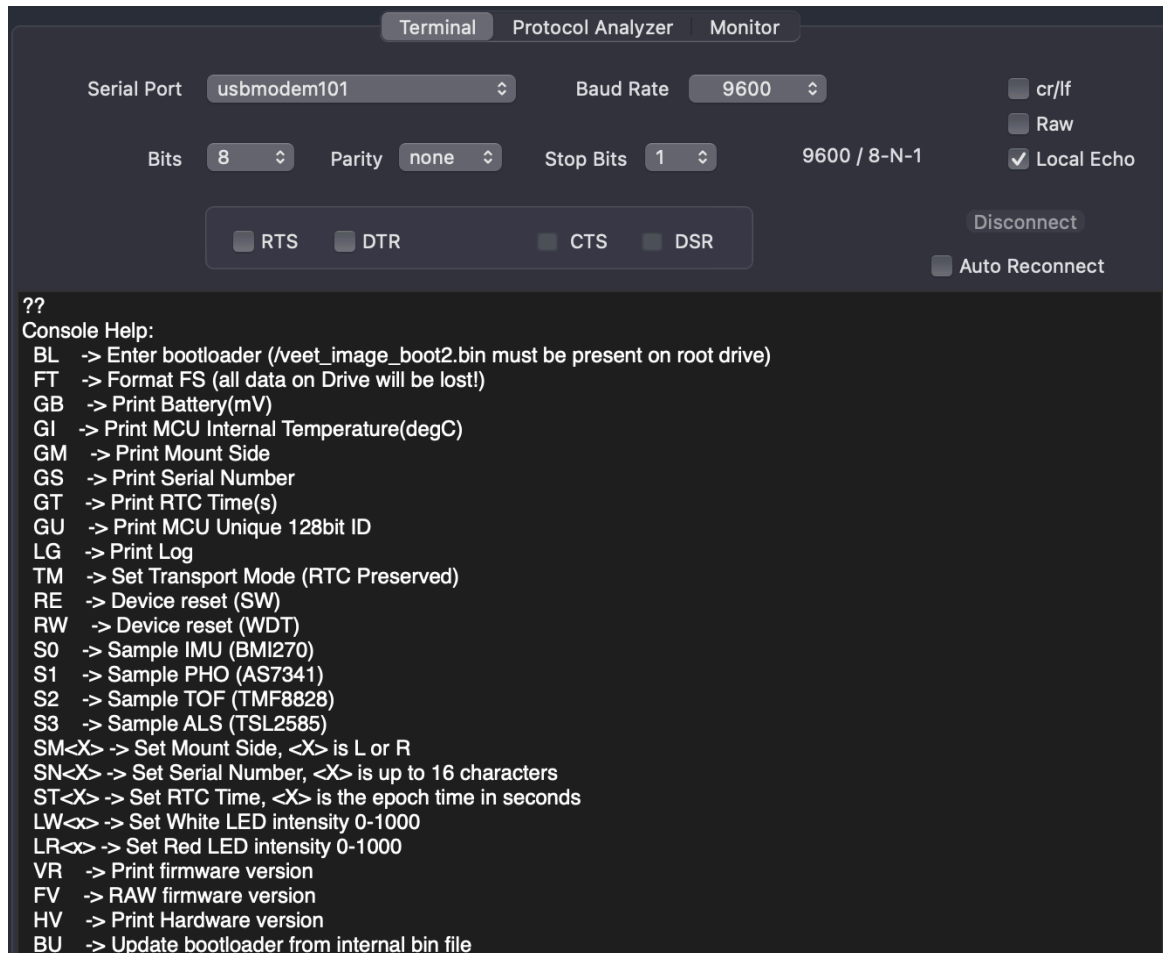
Selecting usbmodem on SerialTools

7. Enable (check) **Local Echo**, disable (uncheck) **cr/lf**, and then click **Connect**—the button does not light up. If the VEET is functioning properly, you can communicate with the device via virtual serial port at this point.



Terminal Settings on SerialTools

8. Verify the connection is active by typing **??** and hitting **return**. This Help command should display a list of available commands.



VEET Command List on SerialTools

VEET Serial Terminal Command Key

Depending on your VEET firmware, the exact list of commands may be different from the one below.

Command	Detail
??	Console Help. Display console command list.
BL	Enter the bootloader. (/veet_image_boot2.bin must be present on root drive) *This command updates the firmware; veet_image_boot2.bin file must be present in the top level of the VEET drive.
FT	Format FS (all data on Drive will be lost!).
GB	Print Battery in millivolts (mV).
GI	Print MCU Internal Temperature (degC).
GM	Print Mount Side.
GS	Print Serial Number.
GT	Print RTC Time(s) in seconds (s).
GU	Print MCU Unique 128bit ID.
LG	Print Log.

Command	Detail
TM	Set Transport Mode (RTC Preserved).
RE	Device reset (SW).
RW	Device reset (WDT).
S0	Sample IMU (BMI270).
S1	Sample PHO (AS7341).
S2	Sample TOF (TMF8828).
S3	Sample ALS (TSL2585).
SM<X>	Set Mount Side: <X> is L or R.
SN<X>	Set Serial Number: <X> is up to 16 characters.
ST<X>	Set RTC Time: <X> is the epoch time in seconds.
LW<X>	Set White LED intensity 0-1000.
LR<X>	Set Red LED intensity 0-1000.
VR	Print firmware version.
FV	RAW firmware version.
HV	Print Hardware version.
BU	Update bootloader from internal bin file. * WARNING : Internal developer feature. Avoid unless strictly necessary; this may render your VEET inoperable.

NOTE: When typing commands, keep in mind that the terminal is case and space sensitive. When replacing commands with <X>, such as SM<X>, make sure to replace the letter and greater than / less than symbols (see image below).

```
>
>SMR
BMI270 Axis Remapping to RIGHT Done with Result Code:0
|
```

Replacing R for <X> in command SM<X>