Applications Note – Using the V&V Systems 100C with a PC

The V&V Systems 100C Knowledge Bowl Timer now includes a USB port for power and communications. This applications note provides information on how to use the communications capability for both display and control.

The USB communications is accomplished using USB serial port emulation and uses a driver that is included in Windows 7 and Linux (kernel > 3.4). If your laptop does not have the drivers included, you can download the drivers for Windows, Mac and Linux from the FTDI website.
http://www.ftdichip.com/Drivers/VCP.htm

The 100C interface can be accessed via a "dumb terminal."

- Windows – Since Windows 7 and later no longer includes the HyperTerminal, you'll need to install a third party application. One solution we've tested is the open source software TeraTerm, http://ttssh2.sourceforge.jp/index.html.en
- MacOS – Use the included program `screen`
- Linux – Use minicom or seyon

For any of these programs, you'll need to identify the Virtual COM port that the USB interface is connected to. Use the following settings:

- Bit Rate: 2400
- Data Bits: 8
- Stop Bits: 1
- Parity: None

When you have set up your terminal and connected to the 100C, there are several commands that will control the 100C and display useful information:

V	Version – displays the installed software version. Also useful as a "no-op" command to verify communications
d	Display front panel status – On (default)
D	Display front panel status – Off
M	Toggle Moderator/Audience View – in Moderator View, the teams are displayed as C B A while in Audience View, they are A B C
r	Reset time – acts the same as a single click of the moderator remote control switch.
R	Reset all – acts the same as a click and hold of the moderators remote control switch.
X	Toggle the Auto Clear feature (default – On). The auto clear feature will reset the time and advance to the next team for a response when the timer reaches 15 seconds.
l	Increase front panel LED brightness (lower case "L")
L	Decrease front panel LED brightness
a b c	Increment the score for team A, B, or C [1]

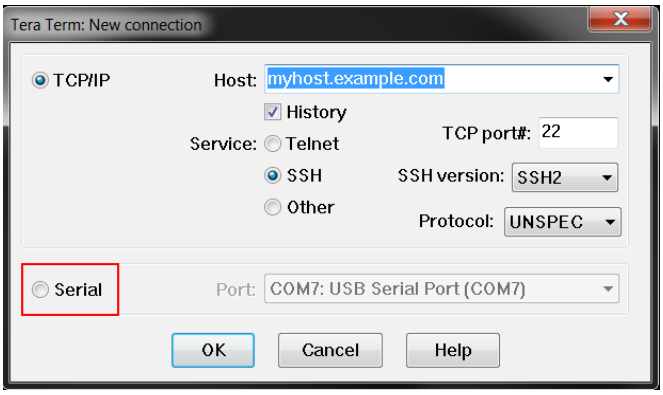
1 Score keeping functions included in Revision 50 and later

A B C	Decrement the score for team A, B, or C
Z	Set all scores to zero
Y	Toggle moderator score display

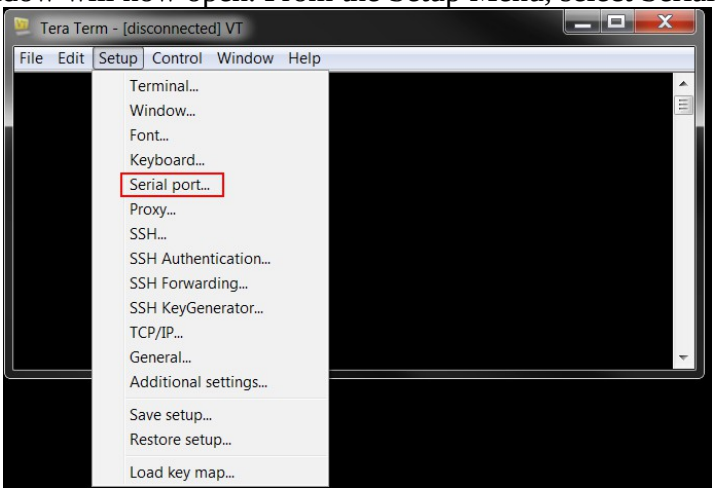
The following chart is an annotated version of what you'll see on your terminal.

Ready								Moderator click & hold or Command 'R'
1	C:1*	0 pts	B:.	0 pts	A:.	0 pts		Team C buzzes in. Asterisk indicates flashing.
2	C:1*	0 pts	B:.	0 pts	A:.	0 pts		
3	C:1*	0 pts	B:.	0 pts	A:.	0 pts		
4	C:1*	0 pts	B:2	0 pts	A:.	0 pts		Team B buzzes in second
5	C:1*	0 pts	B:2	0 pts	A:.	0 pts		
6	C:1*	0 pts	B:2	0 pts	A:.	0 pts		
7	C:1*	0 pts	B:2	0 pts	A:.	0 pts		
8	C:1*	0 pts	B:2	0 pts	A:.	0 pts		
9	C:1*	0 pts	B:2	0 pts	A:3	0 pts		Team A in third place
10	C:1*	0 pts	B:2	0 pts	A:3	0 pts		
11	C:1*	0 pts	B:2	0 pts	A:3	0 pts		
12	C:1*	0 pts	B:2	0 pts	A:3	0 pts		
13	C:1*	0 pts	B:2	0 pts	A:3	0 pts		
14	C:1*	0 pts	B:2	0 pts	A:3	0 pts		Time expires for team C
1	C:1	0 pts	B:2*	0 pts	A:3	0 pts		Team B begins flashing
2	C:1	0 pts	B:2*	0 pts	A:3	0 pts		
3	C:1	0 pts	B:2*	0 pts	A:3	0 pts		
4	C:1	0 pts	B:2*	0 pts	A:3	0 pts		
5	C:1	0 pts	B:2*	0 pts	A:3	0 pts		
6	C:1	0 pts	B:2*	0 pts	A:3	0 pts		
7	C:1	0 pts	B:2*	0 pts	A:3	0 pts		
8	C:1	0 pts	B:2*	0 pts	A:3	0 pts		Team B answers incorrectly. Moderator single click or Command 'r' to restart clock
1	C:1	0 pts	B:2	0 pts	A:3*	0 pts		Team A begins flashing
2	C:1	0 pts	B:2	0 pts	A:3*	0 pts		
3	C:1	0 pts	B:2	0 pts	A:3*	0 pts		
4	C:1	0 pts	B:2	0 pts	A:3*	0 pts		
5	C:1	0 pts	B:2	0 pts	A:3*	0 pts		
6	C:1	0 pts	B:2	0 pts	A:3*	0 pts		
7	C:1	0 pts	B:2	0 pts	A:3*	0 pts		
8	C:1	0 pts	B:2	0 pts	A:3*	0 pts		Team A answers
Ready								Moderator click & hold or Command 'R'

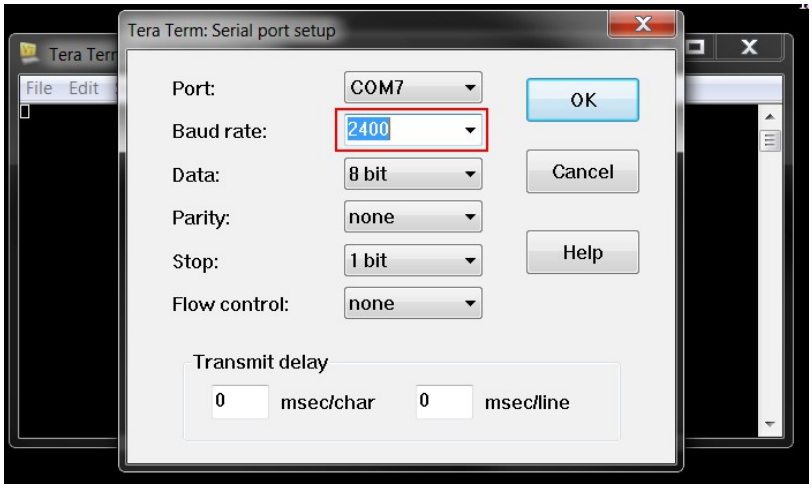
Windows TeraTerm notes:
Start up TeraTerm
From the New Connection Window, click the serial button. (your COM port number may be different) and click OK



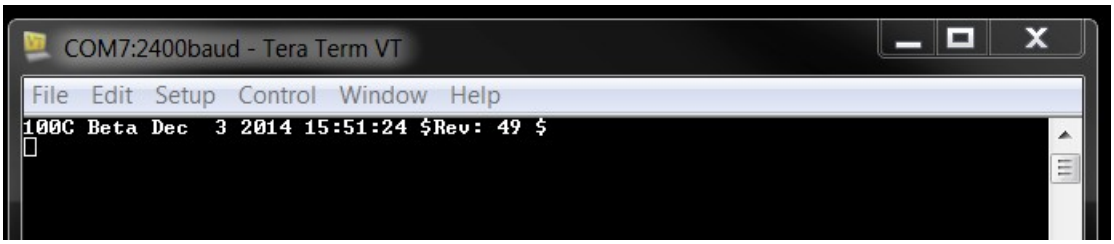
The TeraTerm main window will now open. From the Setup Menu, select Serial port...



and then set the bit rate to 2400 then click OK.



Type “V” into the terminal to check the Version and confirm communications



You may also want to use Settings → Font to pick a larger or more readable font.

The window can also be resized taller by dragging the top or bottom window edges.

MacOS notes:
- install drivers from FTDI website (not included in MacOS)
- Plug in the 100C
- Find the device at /dev/tty.usbserial*
- start the screen command: `screen /dev/tty.usbserial* 2400`