Setting up the series ports for Landt Battery Testers

Landt Battery Testing Systems use serial ports (RS232/RS422) to connect to the computer. The following picture is the rear view of the battery tester. There are two serial ports, one connecting to the computer, the other connecting to the next battery tester unit. Up to 20 tester units can be controlled with one computer in this way.

Figure 1: Rear view of the battery testing system

(⑥ is for power plug-in, while ⑦and⑧ are RS422/RS232 ports which connect to the computer)

Nowadays most of the computers don't have 9-pin serial ports in the standard configuration. A PCI-E to serial card adaptor needs to be installed. We recommend StarTech 2 Port Native PCI Express RS232 Serial Adapter Card with 16550 UART[1]. To accommodate the serial adaptor, the computer needs at least one PCI Express X1 adapter slot on the motherboard[2]. Check on the manufacture's website if a desktop has X1 slots or not before making a purchase.
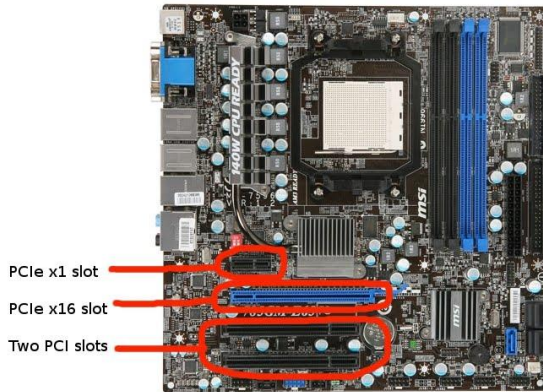
Minimum computer requirement:

- Windows system. (Windows XP, Vista, 7, 8 or 10)
- Intel or AMD processor
- Memory: 2 GB or more
- Hard drive: 20 GB or more

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[1] http://www.amazon.com/StarTech-com-Native-Express-Adapter-PEX2S553/dp/B0041UJREA

[2] Not all desktop computers have the PCI-E X1 slots. The following desktop models have been confirmed to have at least one PCI-E X1 slot: Lenovo H505, H520, H530, H535, H515,H515S, H30-50 and H30-05. Avoid H30-00 and H500. For HP and Dell desktops, check with the manufacturers' website if the desktop has a PCI-E X1 slot.

- At least one PCI express X1 slot on the motherboard.

Once all the hardware is ready, follow the instructions to install the PCI Express RS232 Adapter Card on the computer. You may also need to install the driver. If the serial ports are ready to use, you can install the software of the battery testers and make connections. The battery testing software is able to detect the tester automatically.

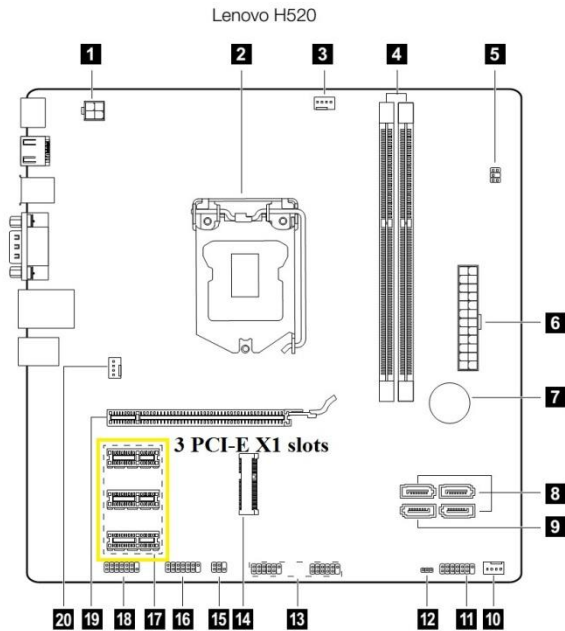**Pictures showing the PCI-E X1 slots on the motherboard**

Figure 3 and Figure 4 show the connections for the battery testers with RS422/ RS232 ports. (Testers with RS232 ports were discontinued from 2019 due to lack of reliability for multi-unit communications.)
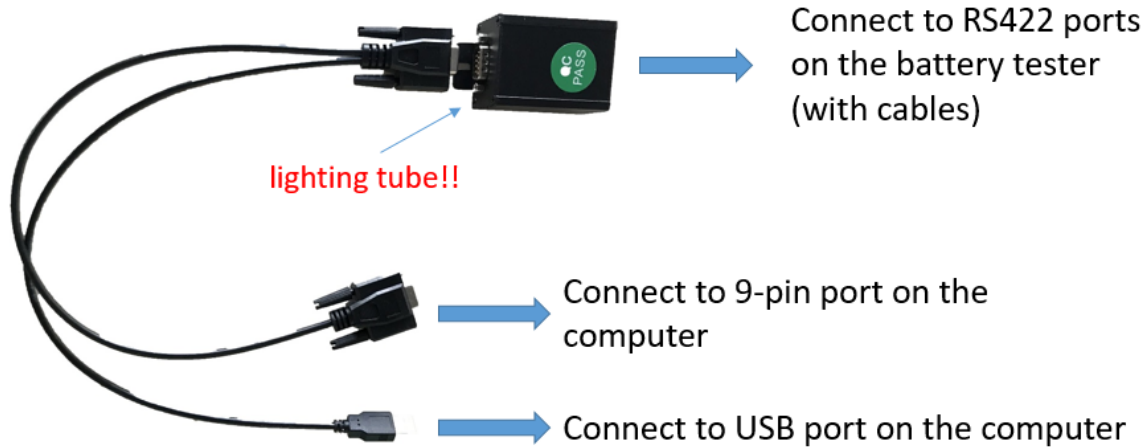

Connect to RS422 ports on the battery tester (with cables)

lighting tube!!

Connect to 9-pin port on the computer

Connect to USB port on the computer

Figure 2. RS 422 port connection.

Connect to RS232 ports on the battery tester

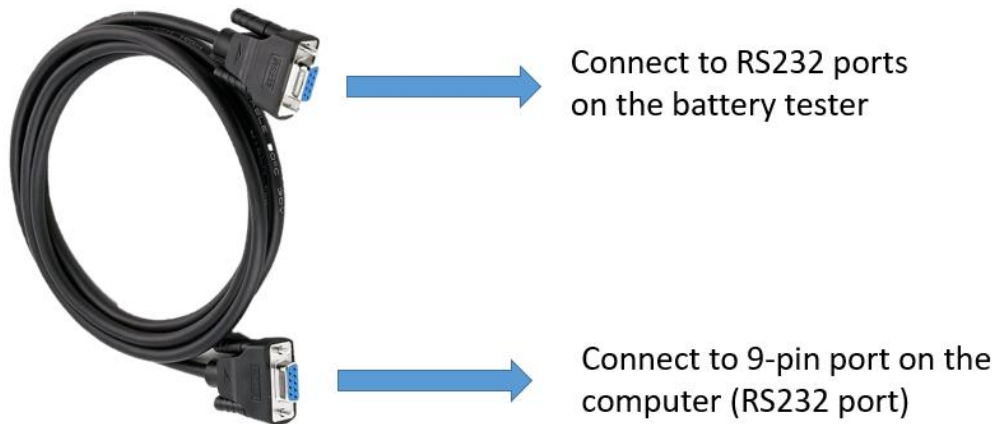Connect to 9-pin port on the computer (RS232 port)

Figure 4. RS 232 port connection.

Note:

- **Testers with RS422 ports can be connected with each other, but cannot be connected in series with battery testers with RS232 ports.**

- **Testers with RS422/232 can share the same computer as long as they connect to different 9-pin serial ports on the computer.**