

## Setup Your TurboLink



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**Caution:** To ensure correct and safe use of the products, make sure that you also read the Operating Instructions carefully prior to operation.

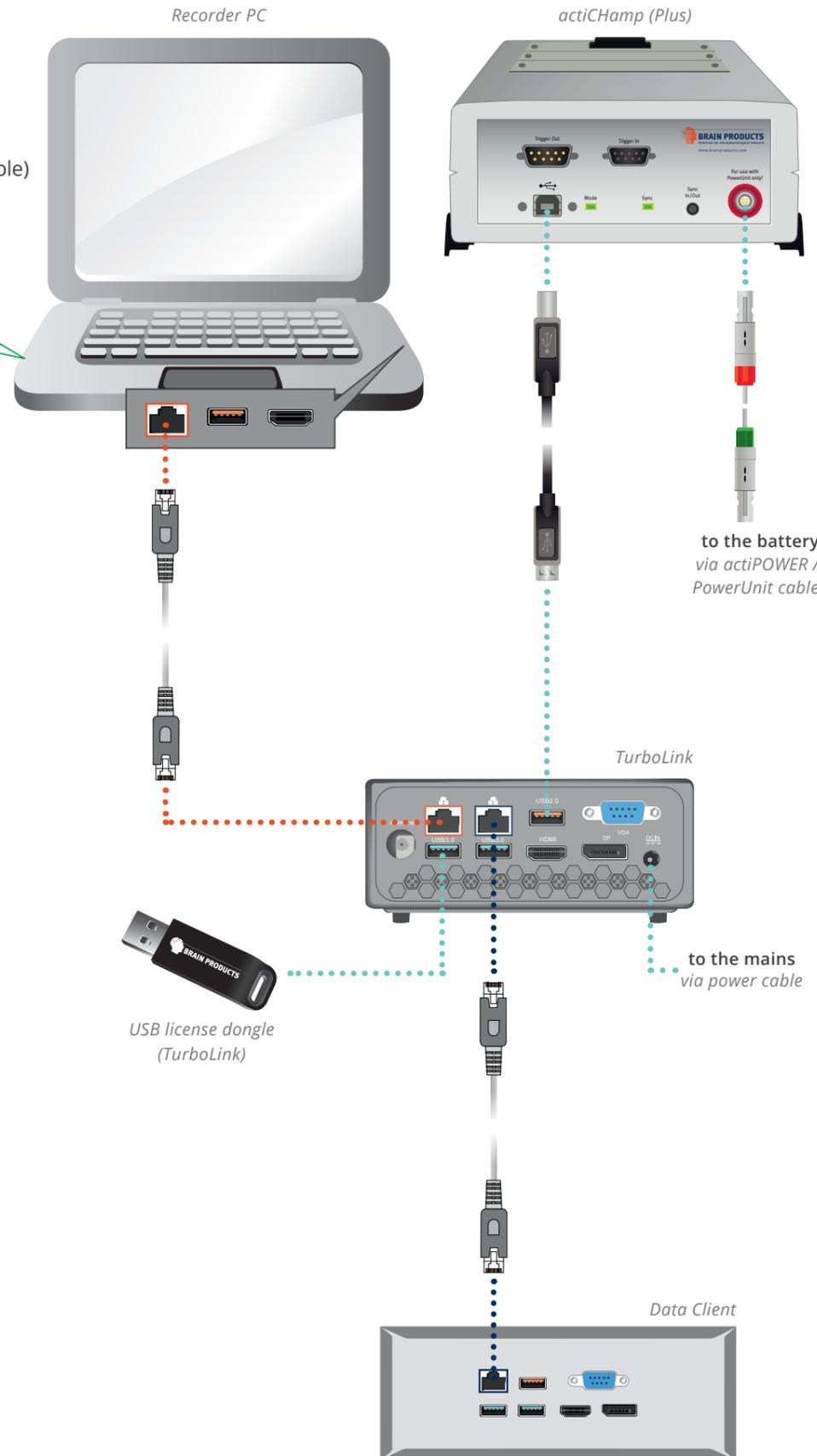


# TurboLink Setup

## 1 Connect all the components

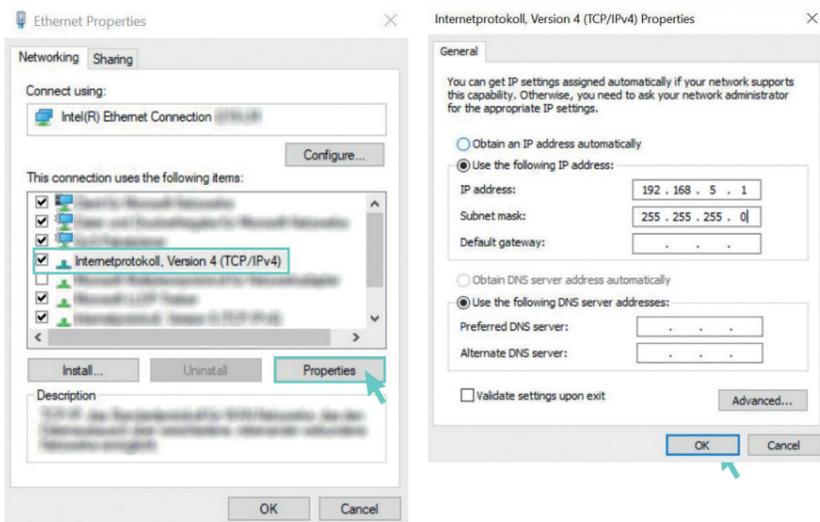
- ✓ TurboLink to the mains (via power cable)
- ✓ actiCHamp (Plus) with battery to the TurboLink (via USB cable)
- ✓ Recorder PC with plugged in BrainVision Recorder USB license dongle to the **left** Ethernet port of the TurboLink (via network cable)
- ✓ Data Client to the **right** Ethernet port of the TurboLink (via network cable)
- ✓ Plug the TurboLink USB license dongle in the TurboLink

Note: BrainVision Recorder 1.23.0001 or higher must be installed on the Recorder PC.



## 2 Setup a fixed IP address for the TurboLink

- ✓ On the Recorder PC, press **Win+R**, enter `ncpa.cpl` in the Run Window and hit [Enter]
- ✓ Right-click on "Ethernet", click on "Properties" and set the fixed IP address to 192.168.5.1 as shown below



## 3 Switch on the TurboLink using the Power Button at the front.

After a first set of beeps wait additional 20 seconds. Power LED should be solid green and license dongle solid red.

## 4 Optional: Check and set TurboLink connection properties

- ✓ On the Recorder PC, open a browser and go to 192.168.5.21:8000
- ✓ Check if all connections are established
- ✓ Set a dedicated sampling rate for the data client output (one sample per packet). Default is 1000 Hz.
- ✓ Use the Packet rate option for a lower transmission rate (multiple samples per packet) to the data client. Recorder sampling rate is not affected.



Example: Recorder sampling rate is 5000 Hz. If "Data Client Transfer Rate" is 1000 Hz and "Packeting" is unchecked, the signal is down sampled to 1000 Hz. If "Data Client Transfer Rate" is 1000 Hz and "Packeting" is checked, packets of 5 samples are sent at a 1000 Hz rate.

## 5 Start BrainVision Recorder on the Recorder PC (in Admin-mode)

- ✓ Go to *Configuration > Select Amplifier* and select "actiCHamp-TurboLink"  
Note: Leave the default IP address that is set here unchanged (i.e. 192.168.5.21).
- ✓ Create a new (or edit an existing) workspace and "Scan for amplifier"
- ✓ Start monitoring or check impedances to ensure signal quality
- ✓ Optional: Start recording  
Note: To send data to the data client, it's sufficient to start monitoring.

## 6 After use

Make sure to shut down the TurboLink using the Power Button at the front. The TurboLink status LED turns red. Do not disconnect the power cable before TurboLink is switched off.

### Prerequisites for the Data Client:

- ✓ must be in the 192.168.200 subnet
- ✓ UDP data packets are broadcasted on port 25000
- ✓ UDP data format:

Byte position	Byte size	Data type	Content	Description
0	4	uint32	Token	0x0050
4	4	uint32	Sample counter	32-bit sample counter
8	4	uint32	Trigger bits	Bit 0..7: Trigger input lines, Bit 8..15: Trigger output lines
12	8 * 4	float	AUX channels	8 AUX channels, scaled to $\mu$ V
44	m * 32 * 4	float	EEG channels	m * 32 EEG channels, scaled to $\mu$ V (m = number of enabled EEG modules)