

How to Set up a Network Connection for PTW Array Detectors with DHCP or Auto-IP

BeamAdjust

VeriSoft

MultiCheck

Detector Interface 4000

This technical note applies to the following PTW array detectors:

All OCTAVIUS detectors

All STARCHECK detectors

All STARCHECK^{maxi} detectors

NOTE

This technical note describes how to set up a network connection between PTW array detectors and a network using DHCP or Auto-IP.

DHCP is very common in the most clinical networks.

Auto-IP is normally used when you connect your measurement PC and the PTW Array Detector directly with a single network cable without connecting to a network. In the following, the term “private connection” is used for this direct connection.

If you want to learn how to set up a network connection for PTW array detectors in a network with fixed (static) IP-addresses, please refer to technical note D252.200.02.

The screenshots in this document are from VeriSoft 8.1.1, BeamAdjust 2.3.2, MultiCheck 3.7.1 and Windows 10. They may differ slightly in other versions.

1 Prerequisites

To establish a network connection to a network with DHCP or via a “private connection”, you require...

1. A measurement PC that is in DHCP/Auto-IP configuration. It may be necessary to deactivate your PC's internal firewall. If you want to learn how to check your IP configuration, please compare Appendix A.
2. A Detector Interface 4000 in default mode (delivery status) which is configured for DHCP and Auto-IP. If you want to learn how to check the configuration of your Detector Interface, please compare Appendix B.
3. If your Detector Interface 4000 is not in default mode (DHCP/Auto-IP), you will need the PTW-SetIP software tool to configure it. You will find it in the **Tools** folder on your PTW software installation disc (e.g. the VeriSoft, BeamAdjust or MultiCheck installation disc).

2 Establishing a Network Connection to a PTW array detector

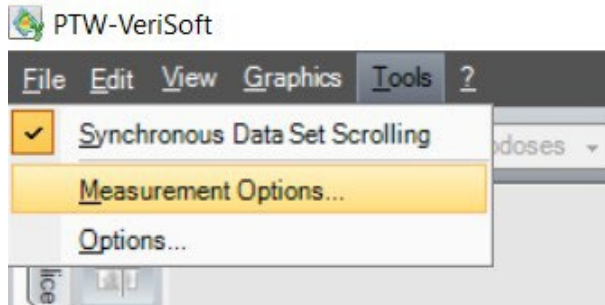
1. Once the PTW array detector hardware has been connected according to the instructions and the above requirements have been met, you can integrate the PTW array detector into your network.
2. Use a LAN cable to connect the Detector Interface 4000 to your network or privately to your measurement PC.
3. Switch on the Detector Interface 4000 after (!) you have connected the network cable.

Note: Detector Interface 4000 devices manage their IP addresses after being switched on. When a Detector Interface 4000 that is in DHCP/Auto-IP mode is switched on, it asks via the network whether a DHCP server is available. If yes, it receives its IP address from this DHCP server. If not, it sets itself a random IP address in the private IP range of 169.254.uvw.xyz. The Detector Interface 4000 will not follow a possible change, i.e. if you only plug in the network cable after the Detector Interface has already been switched on, it will remain in the private IP range of 169.254.uvw.xyz - even if a DHCP server is available.

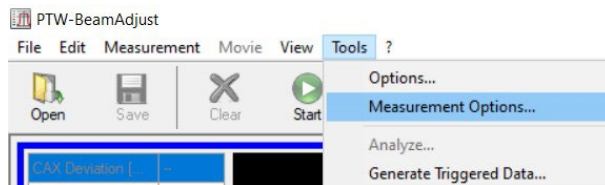
Therefore, always plug the network cables into all partners involved first (computer or network socket and Detector Interface 4000) and only then switch on the Detector Interface 4000.

4. Install the desired software application like VeriSoft, BeamAdjust or MultiCheck on your measurement PC and start it.
5. In the application software, select **Tools** → **Measurement Options** from the menu bar.

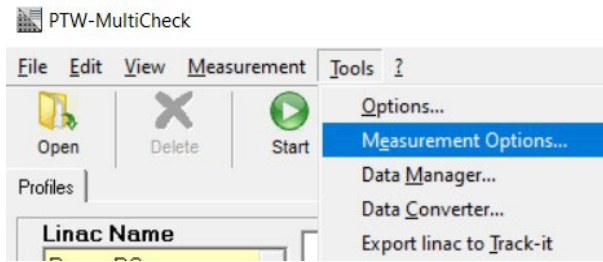
VeriSoft:



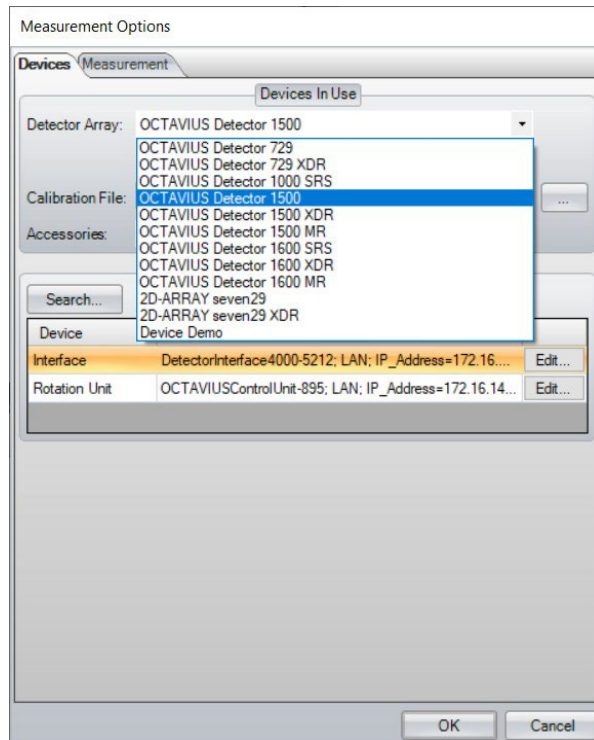
BeamAdjust:



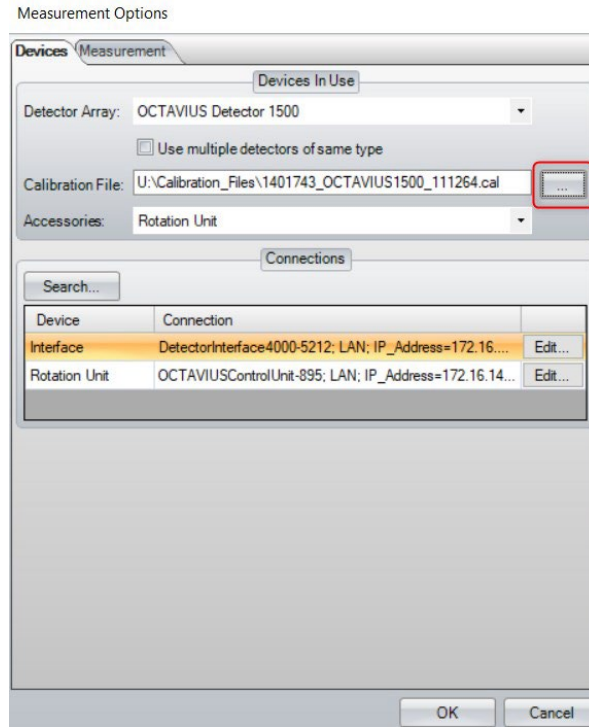
MultiCheck:



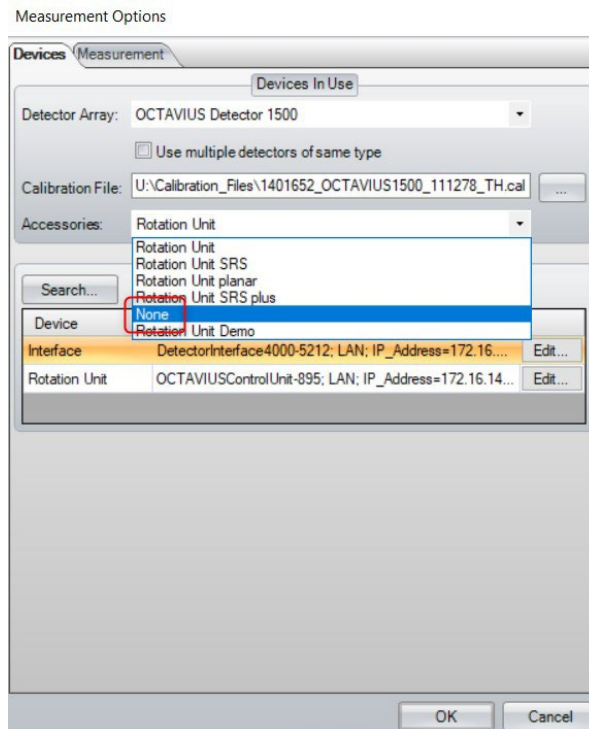
6. The **Measurement Options** window opens. Select the correct array detector from the drop-down menu (screenshots are taken from VeriSoft, BeamAdjust and MultiCheck are very similar):



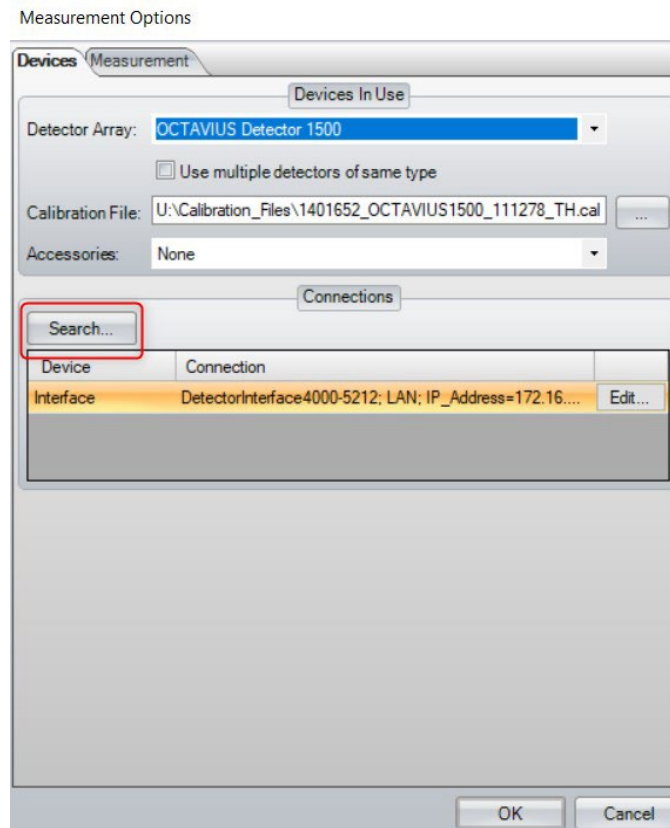
- 7. Click the button next to the Calibration file panel and select the calibration file corresponding to your detector.



- 8. If applicable, select **None** in the **Accessories** panel:

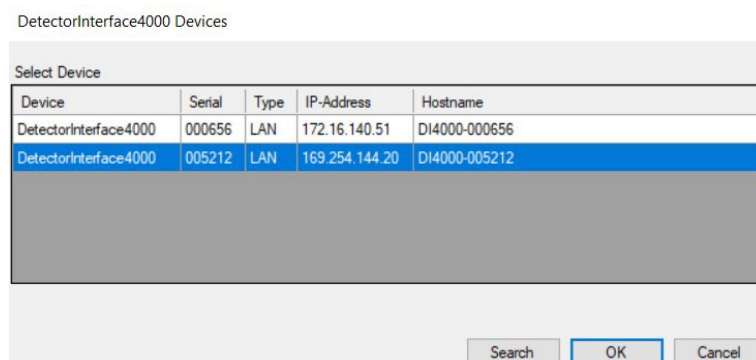


9. Click the **Search...** button.



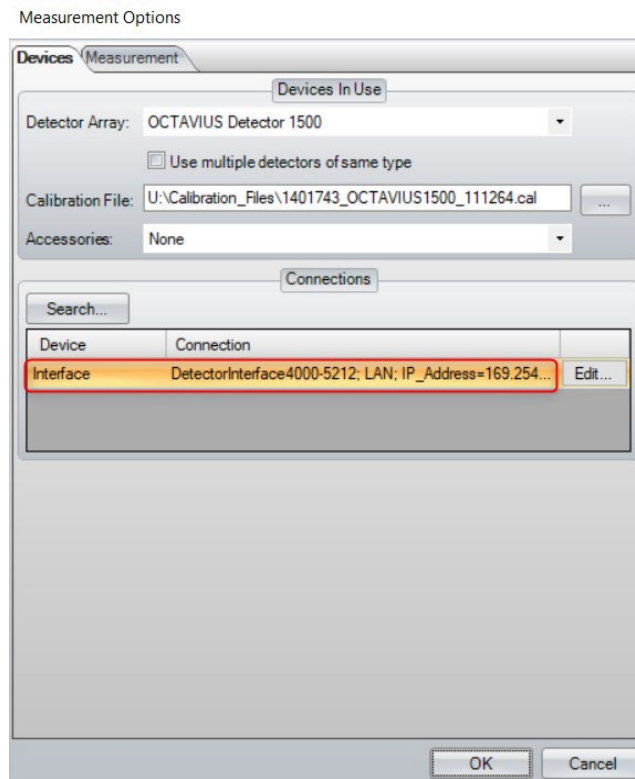
Please note: It is possible that this global search will be blocked by your firewall. In this case, please refer to technical note D928.200.00.

10. The **Detector Interfaces 4000 Devices** window is displayed, in which all detector interfaces found in the network are listed. Select the Detector Interface 4000 for which you want to set up the connection (you can identify it by its serial number) and click **OK**.

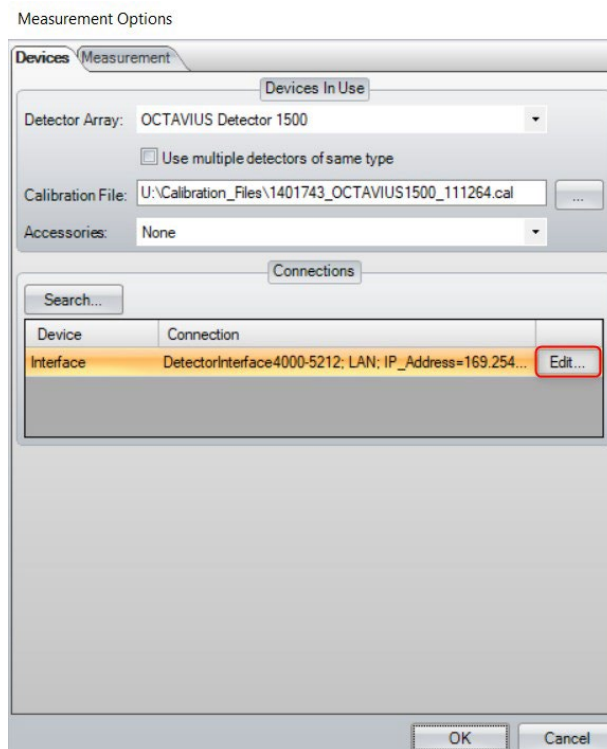


If your devices do not appear in the list, make sure that the devices are properly configured (DHCP/Auto-IP), connected and turned on. Disable the firewall. Repeat the search.

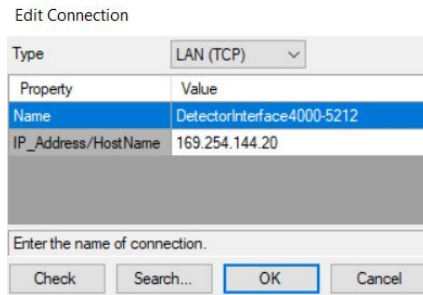
11. The established connections are now displayed in the **Measurement Options** window.



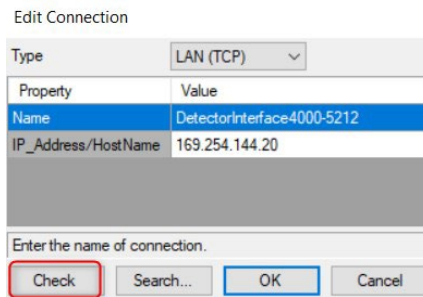
12. To check the connection of a device, click on the **Edit...** button next to its entry.



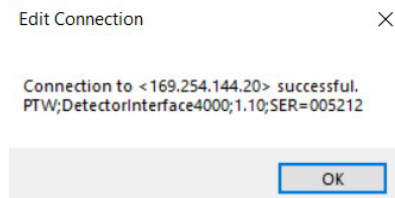
13. The **Edit Connection** window appears and displays the details of the respective connection.



14. Click on the **Check** button.



15. A message should appear stating that the connection was successful. Confirm with the **OK** button.



16. Exit the **Measurement Options** window by clicking **OK**. The network connection to the PTW array detector is now established.

Appendix A

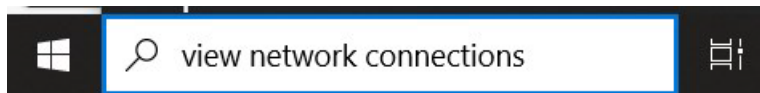
Configuring your PC for DHCP and Auto-IP

If you want to establish a “private connection” between the PTW array detector and your measurement PC, the network settings of your PC need to be set to **Obtain an IP address automatically/Automatic private IP address**. This is normally the default setting and is also required for DHCP. To check if your PC is set up for DHCP and Auto-IP, proceed as following.

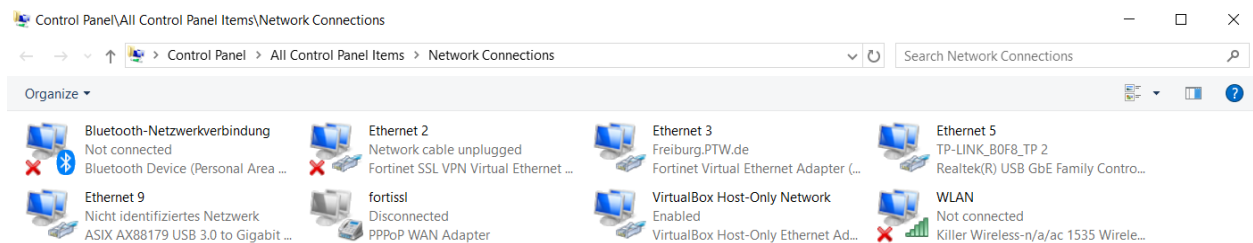
Warning: do not change the IP configuration in your clinical network without consulting your local IT!

In Windows 10 or Windows 11 enter the phrase “view network connections” into the search area next to the windows logo.

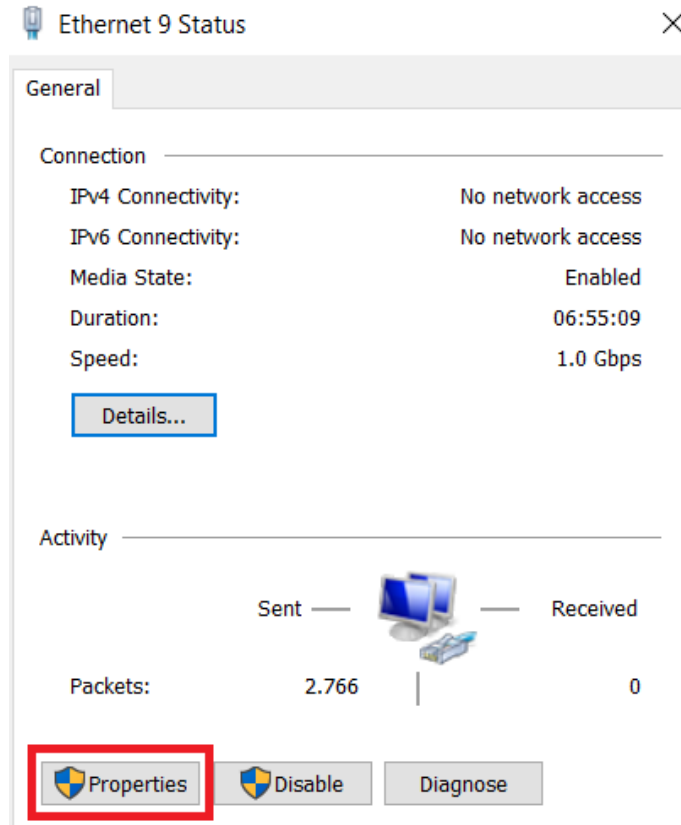
Hint: the phrase depends on the language of your computer, e.g. in German it would be “Netzwerkverbindungen anzeigen”.



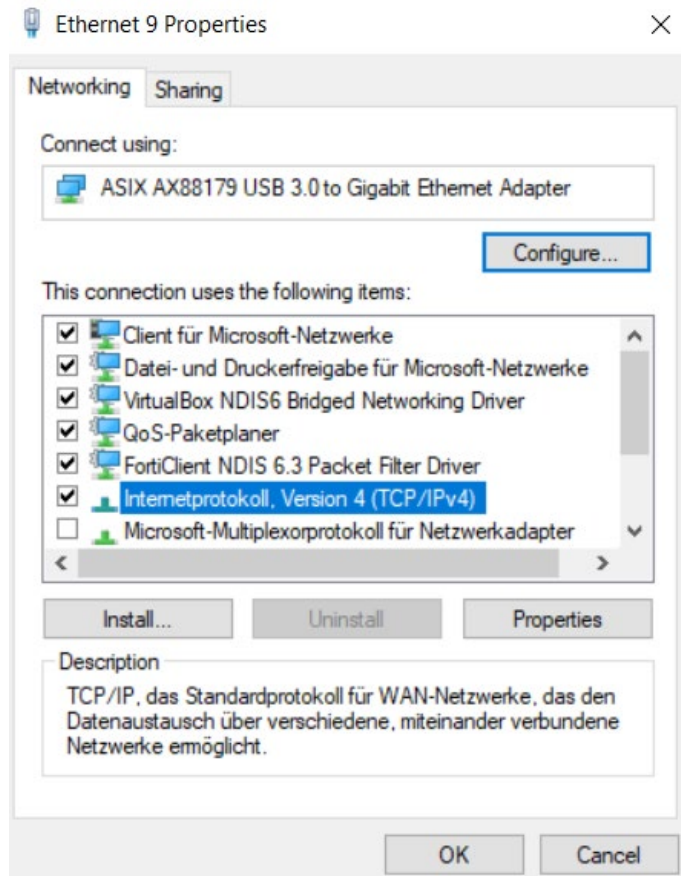
The network connection control panel pops up:



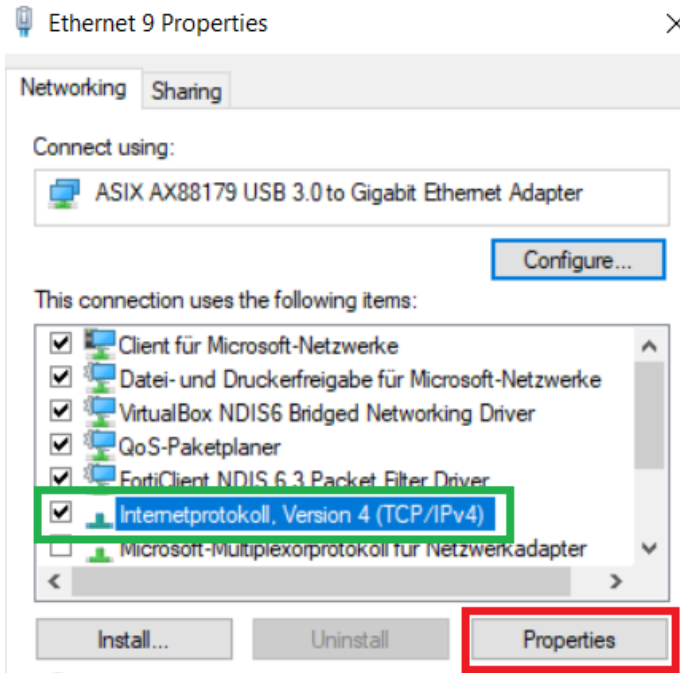
Double-click on the network adapter which is connected to the PTW array detector.



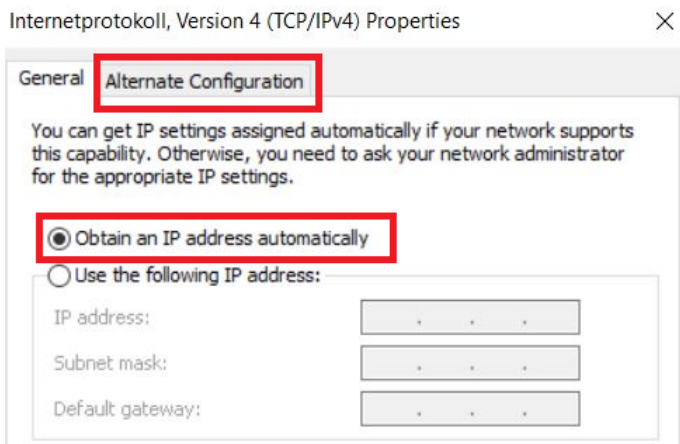
Click on **Properties**.



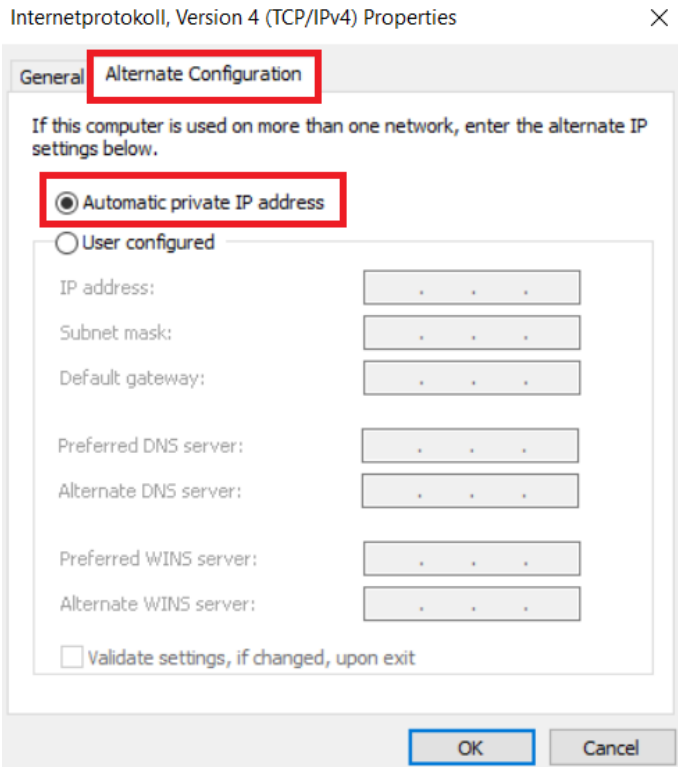
High-light the line "Internetprotocol, version 4 (TCP/IPv4) and click on **Properties**.



If DHCP is activated, the "Obtain IP address automatically" setting is active.



For Auto-IP, please check the tab "Alternate Configuration". Auto-IP requires the setting "Automatic private IP address" in the tab "Alternate Configuration".



Your PC is now set up for DHCP and/or Auto-IP.

Appendix B

Configuring your Detector Interface 4000 for DHCP/Auto-IP

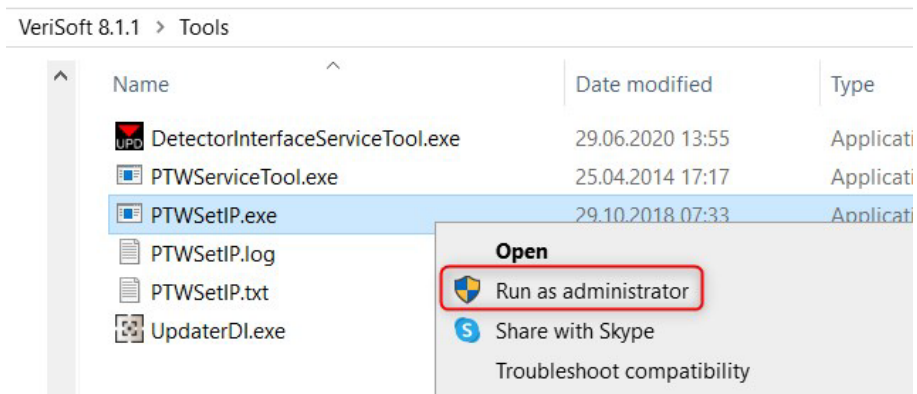
Connect the hardware of the PTW array detector according to the manual. Do not switch on the Detector Interface 4000.

Establish a direct “private connection” between your PC in DHCP/Auto-IP configuration and the Detector Interface 4000 using a LAN cable.

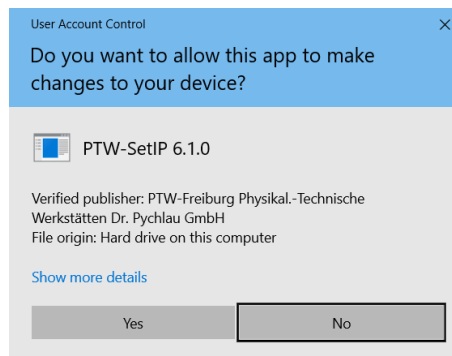
Turn on the Detector Interface 4000. Wait a minute.

Localize the PTW-SetIP software tool. You will find it in the **Tools** folder on your PTW software installation disc (e.g. the VeriSoft, BeamAdjust or MultiCheck installation disc).

Start the PTW-SetIP program on the PC via context menu: Right click on the file and select the “run as administrator” option.

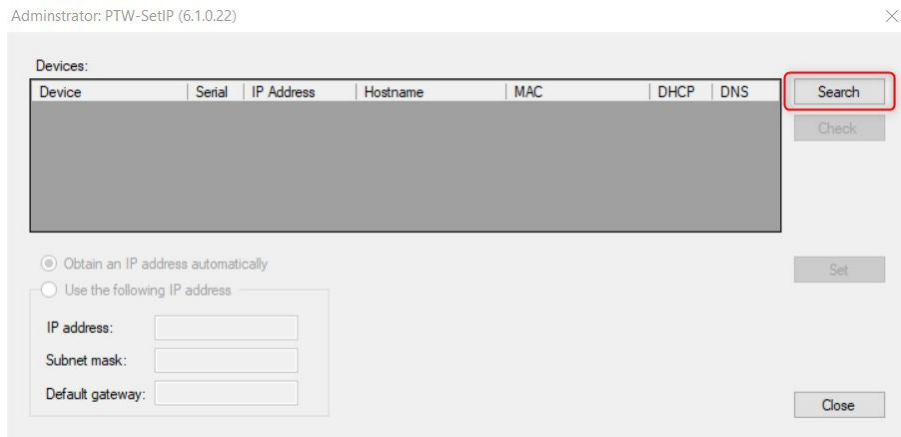


The PTW-SetIP software requires administrator rights, the operating system asks for permission.



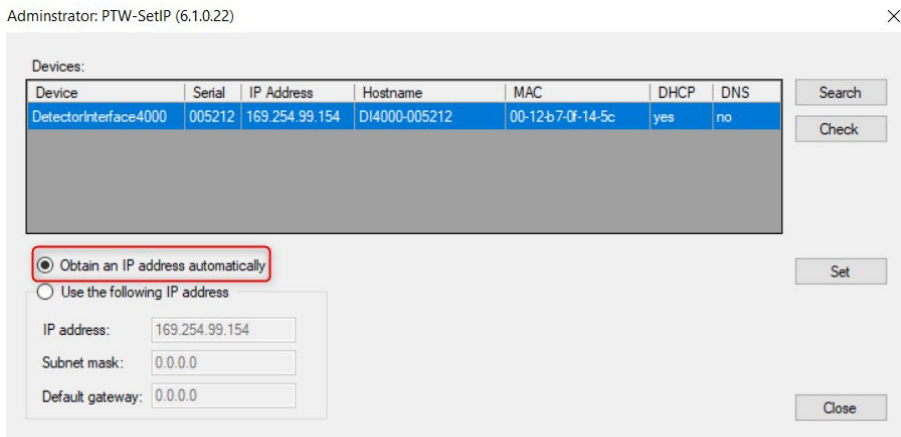
You need to continue by clicking on the **Yes** button. Enter the administrator password when prompted.

The PTW-SetIP dialog opens. Click on the **Search** button to find connected devices.



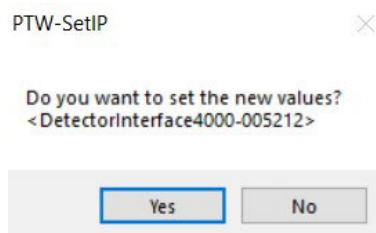
After a couple of seconds, the connected PTW array detectors will be displayed. Highlight the entry of one of the Detector Interfaces 4000 you want to configure.

To set it to DHCP/Auto-IP, click the radio button next to **Obtain an IP address automatically**.

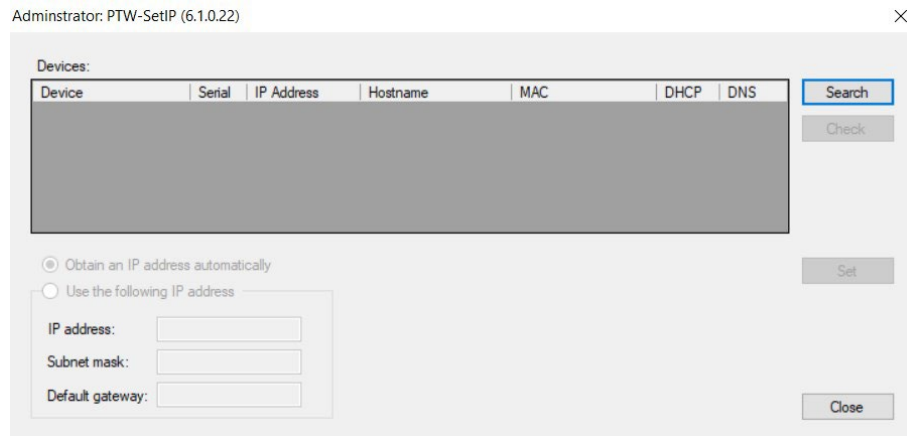


Make sure that you have entered the information correctly and click on **Set**.

A window appears, asking you if you really want to set the new values. Confirm by clicking on **Yes**.

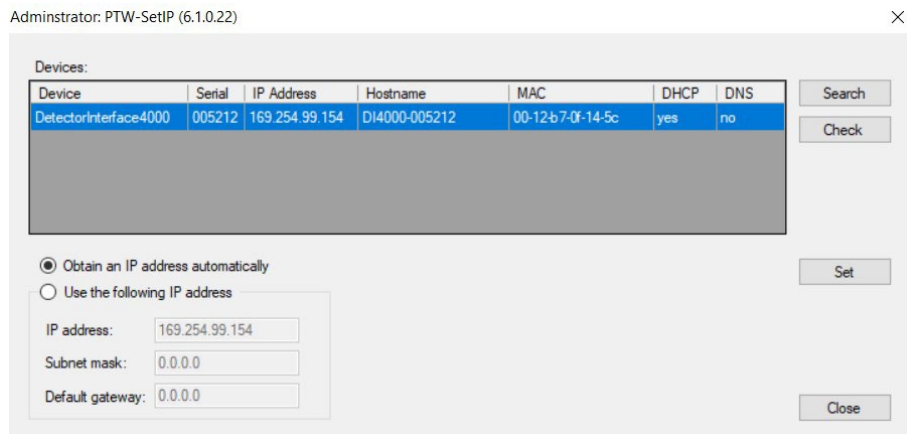


After a few seconds, click on **Search**. Depending on the local network configuration, the device that has just been configured may have disappeared, as in this example:



This can be normal, e.g. if your PC is still in an IP range, e.g. 172.16... but you configured your device to the private IP range 169.254....

Alternatively the new IP-address is displayed next to the entry of the device for which you have set the static IP.



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