Bridge PC Requirements

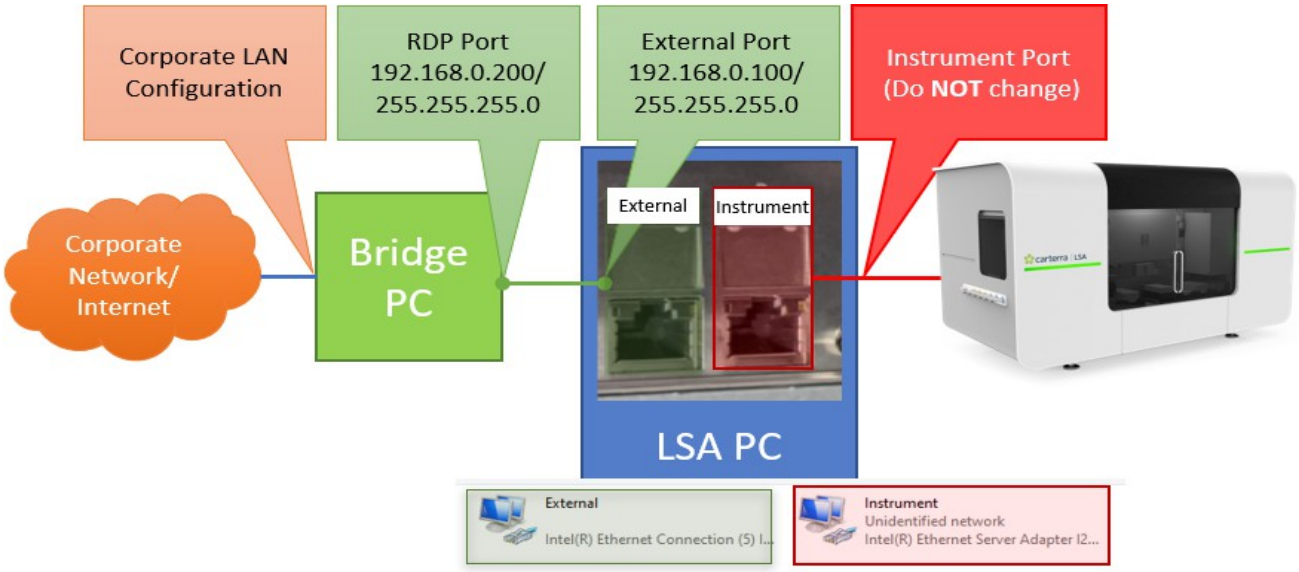
As of March of 2025, Carterra is requiring that all instruments be installed with what we are calling a "Bridge PC." The purpose of this PC unit, whose details are laid out below, is to provide a buffer for the instrument controller PC to prevent data loss induced by third-party software, Windows updates and an over-tasked CPU due to background processes or applications. This allows the instrument controller PC to remain unmodified and dedicated to data collection, as is intended. This route also allows the platform to exist under any company-wide software or security requirements via the Bridge PC, without any interruption to the function of the instrument controller PC.

The customer is required to supply the "Bridge PC" but we are happy to answer any questions or assist with the implementation. We are certain the solution below provides the best protection from any unwanted interruptions.

Hardware Required

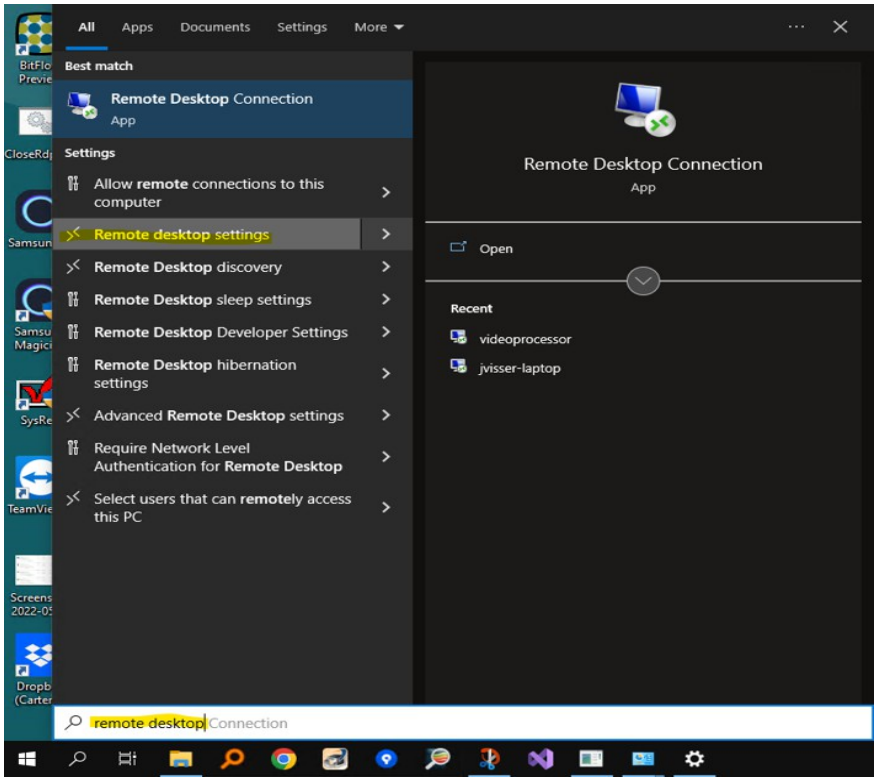
- **Bridge PC running Windows with Remote Desktop installed**
  - **i7 or i9 or equivalent processor, 32GB RAM**
  - 2 network connections
    - One GbE Ethernet for connection to the instrument PC.
    - Another network connection for the connection to your corporate LAN.
  - For a full screen experience, we recommend graphics capable of 3840 x 2160 resolution. The display provided with the Instrument Controller can be used if the Instrument Controller **also** remains connected to that display.
- **Ethernet (CAT5/CAT6) cable.**

Connection Diagram

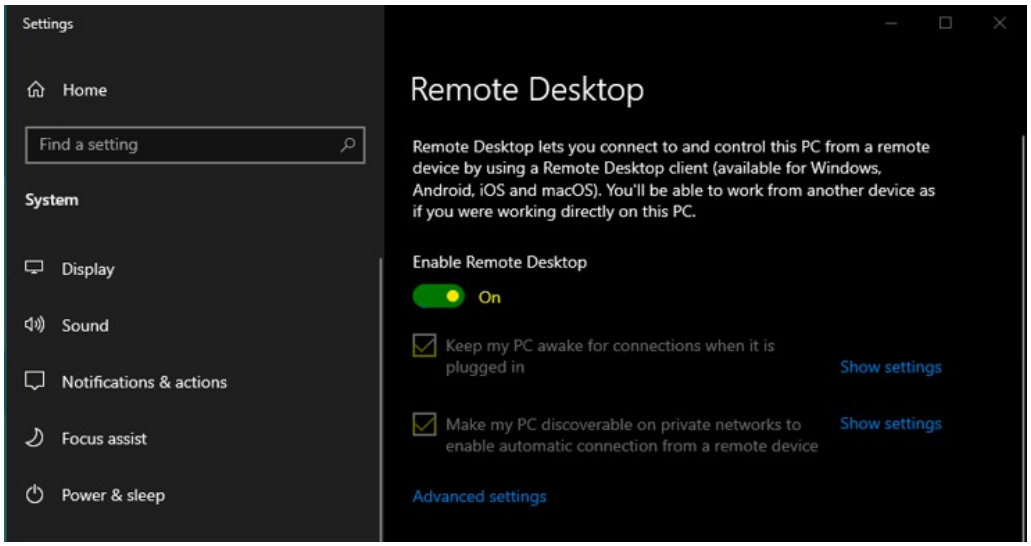


Setup Steps:

1. On the **Instrument Controller**, make sure that Remote Desktop is enabled.
   - Click the **Start** button.
   - Type “Remote Desktop”.
   - Click **Remote desktop settings** in the search results.

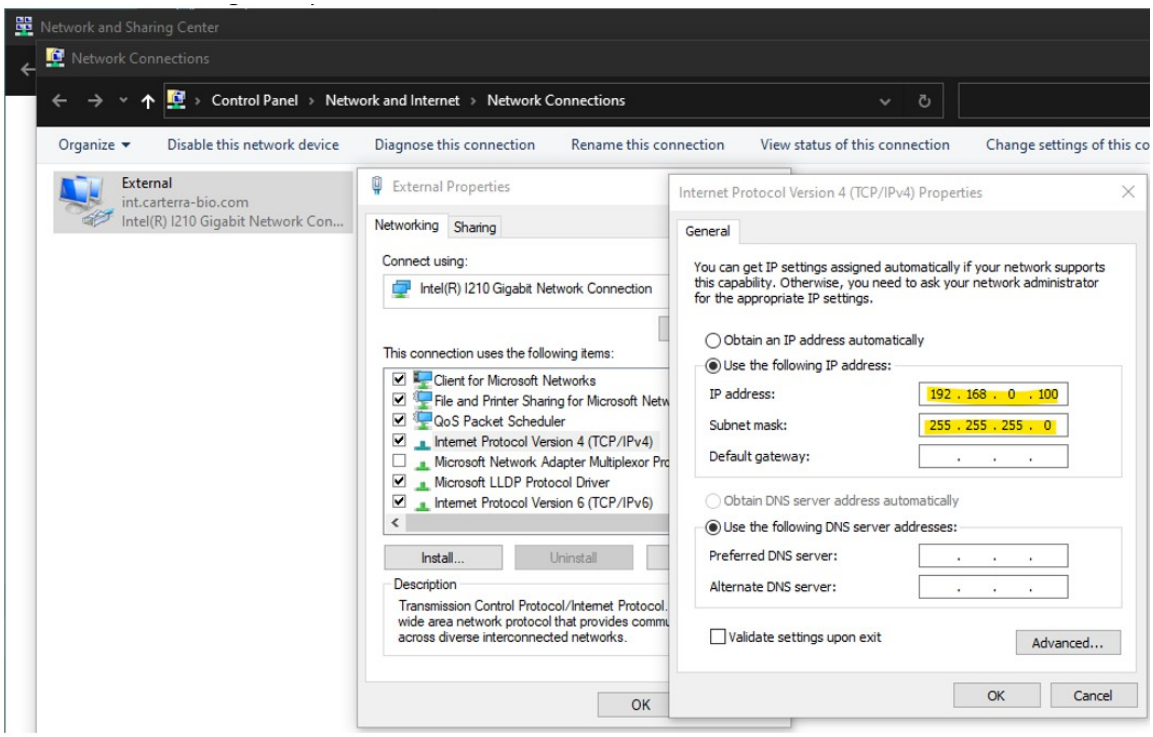


2. Check “Enable Remote Desktop”

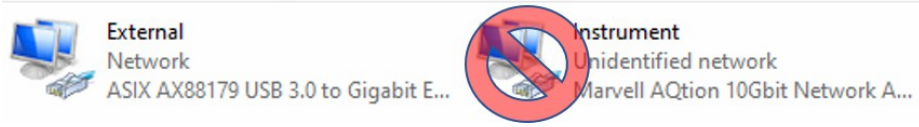


3. On the **Instrument Controller**, change the IP Address of the **External** connection to a private IP address/subnet not used in your organization. (Example: 192.168.0.100/255.255.255.0)

4. Be sure that the Default gateway and DNS servers are **blank.**



WARNING: Do NOT modify the **Instrument** connection.

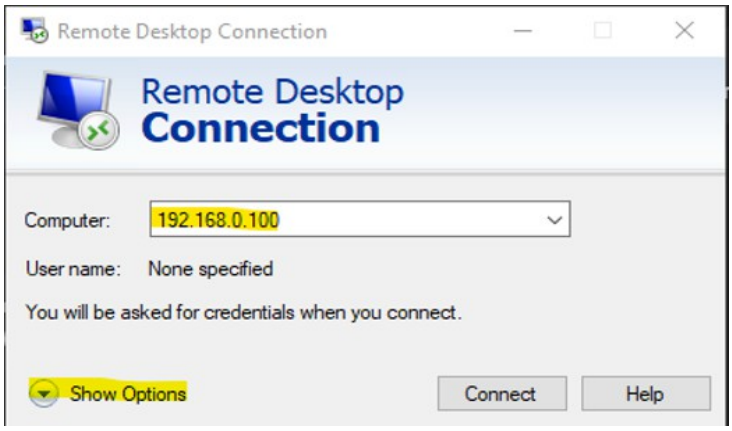


5. Connect the Bridge PC Ethernet to the External connection on the Instrument Controller using an ethernet cable. This connection will be labeled **External** on the back of the Instrument Controller.

6. On the Bridge PC, configure the port connected to the instrument to have an IP on the same subnet/mask that you used in step 3. (Example: 192.168.0.200/255.255.255.0)
   - 6.1. From the Bridge PC, you can ping the Instrument Controller's External IP from step 1 to ensure that the systems are connected.

7. Launch the Remote Desktop Connection application on the Bridge PC. This will open a dialog that is used to configure the connection to the Instrument Controller, and open that connection.

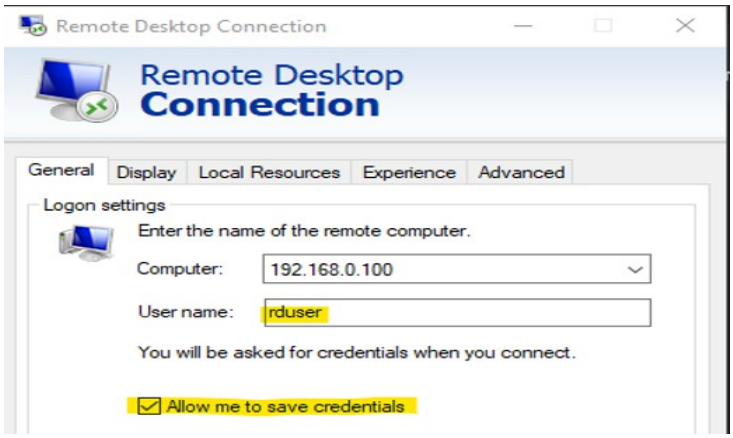
8. For **Computer**, enter the IP address of the Instrument Controller's External connection from step 3.



9. Click **Show Options.**

10. Under **User name**, enter **rduser.**

11. Check **Allow me to save credentials** to have the Bridge PC save the password for the r**duser** account.

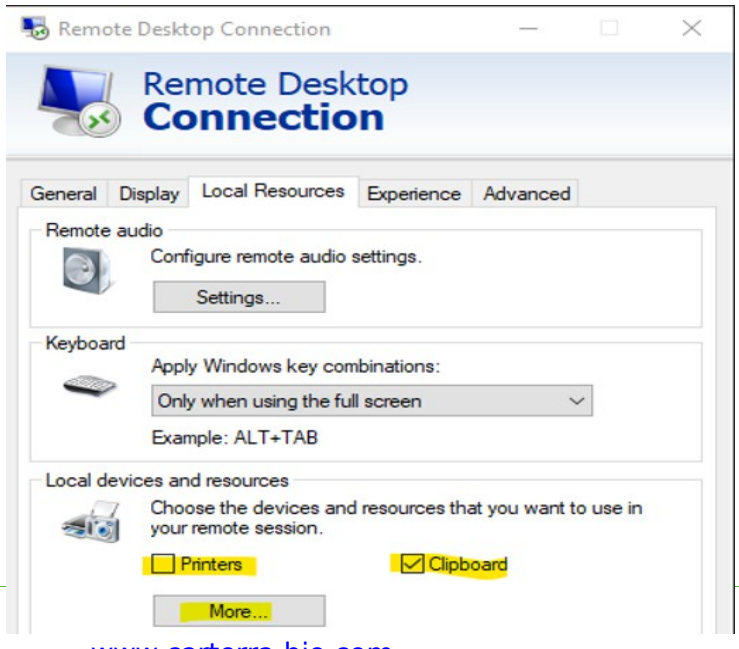


12. Switch to the **Local Resources** tab.

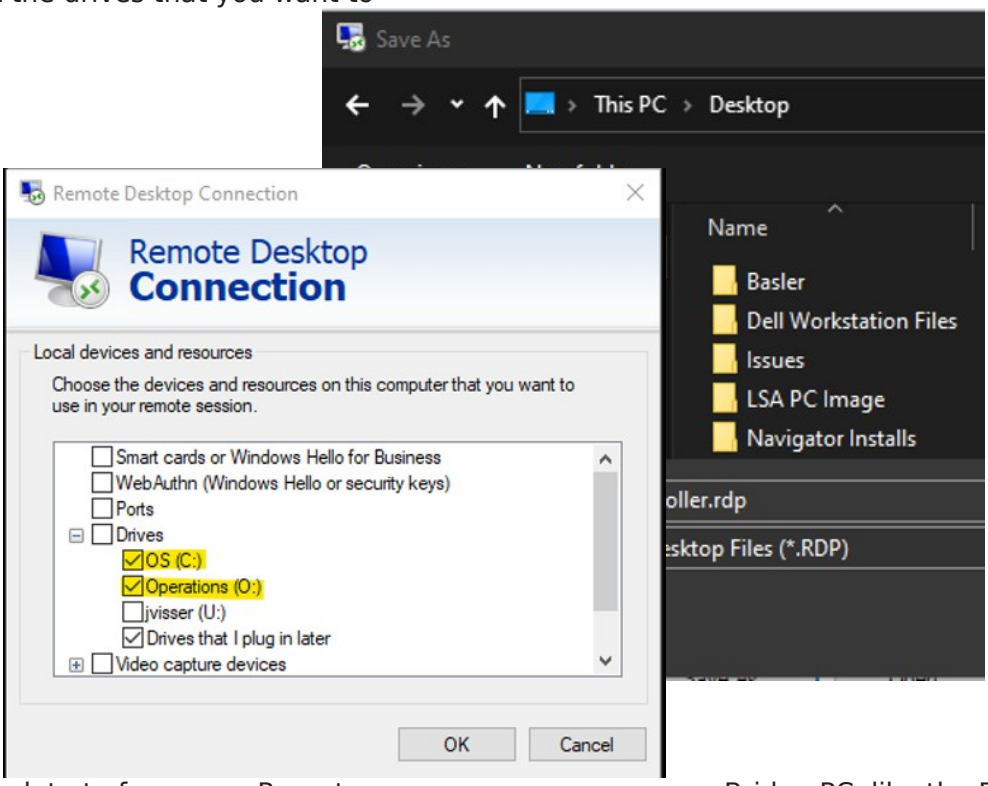
13. Check **Clipboard.**

14. Check **Printers** if you want to be able to print from the instrument PC during your Remote Desktop session.

15. Click the **More**... button to select drives and other devices you want to use while connected to the Instrument Controller.



16. In the **Local devices and resources** that appears, select the drives that you want to be able to copy data to from your Remote Desktop session. You can use these drives to transfer files between the Bridge PC and the Instrument Controller.

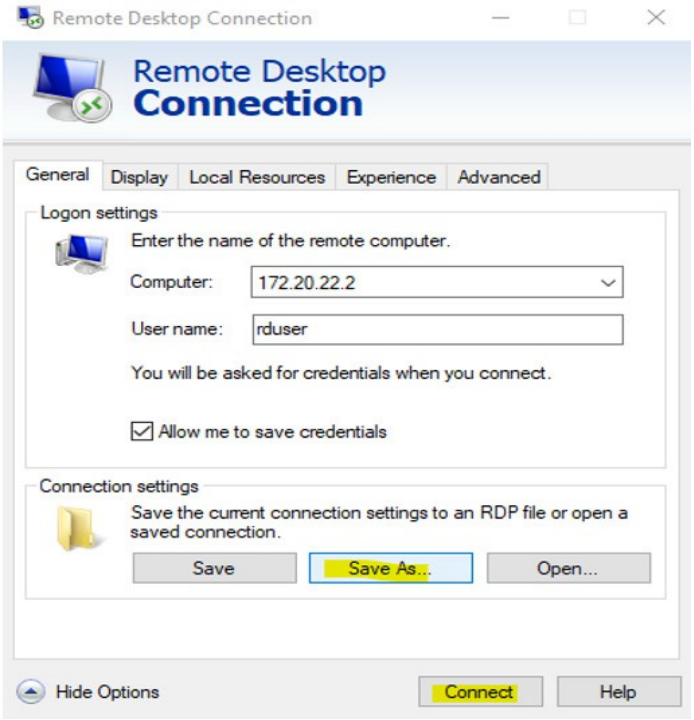


17. Return to the **General** tab.

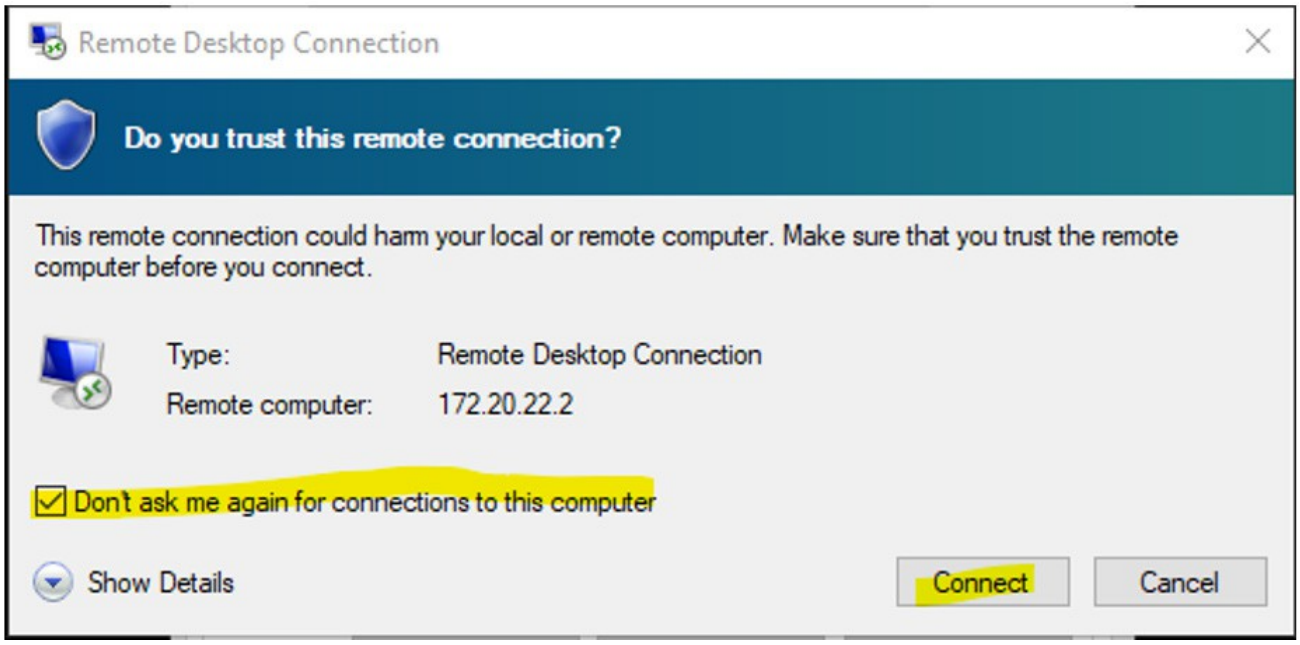
18. Under **Connection settings**, click the **Save As** button to save the connection configuration to a convenient location on the Bridge PC, like the Desktop.

computer and click Connect.

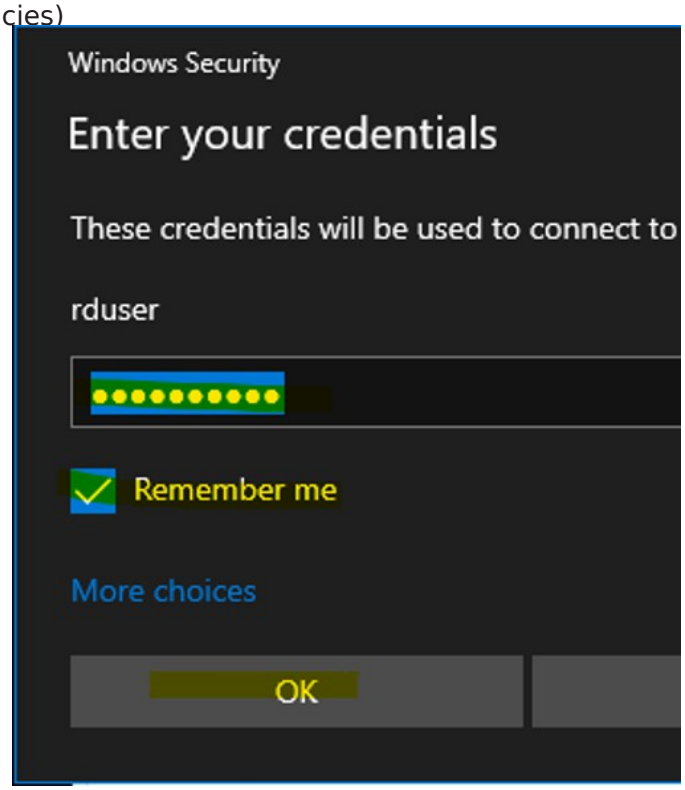
19. After saving the RDP file, click **Connect** to initiate the first Remote Desktop connection from the Bridge PC to the Instrument Controller.



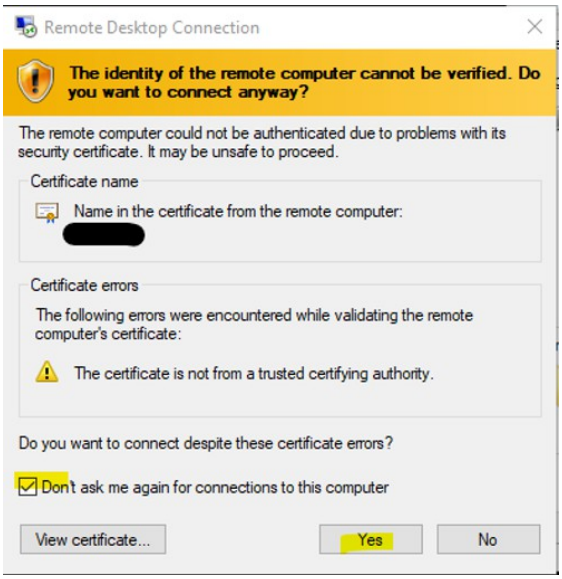
20. Remote Desktop Connection will ask if you trust the connection the Instrument Controller. Check **Don't ask me again for connections to this**



21. **Windows Security** will ask for the password to the **rduser** account on the Instrument Controller.
    - Enter “rdpassword” (without quotes.)
    - Check the box for **Remember me** (if permitted by your corporate policies)
    - Click **OK** to continue connection.

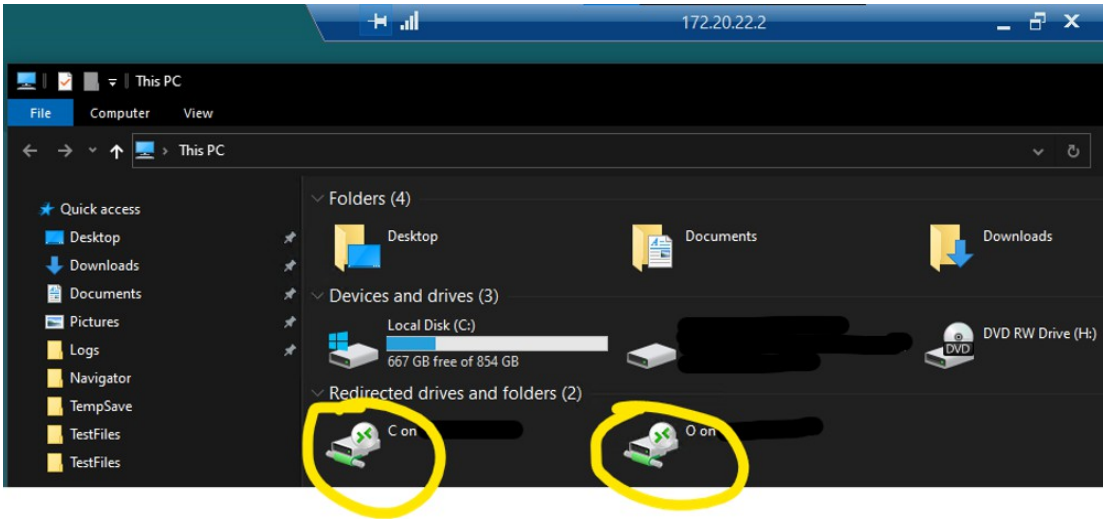


22. Remote Desktop Connection will then show a warning that the identify of the Instrument Controller cannot be identified. This is normal.
    - Check **Don’t ask me again for connections to this computer**
    - Click **Yes**



23. This will open a Remote Desktop Connection window showing the desktop on the Instrument Controller.

24. Open **This PC** on the through the Remote Desktop Connection, and you will see that the drives on the Bridge PC are available. You can copy the data from completed experiments to these drives for safekeeping and analysis.



25. For future connections to the instrument PC, the “Instrument Controller.rdp” file placed on the Desktop can be double-clicked to connect to the Instrument Controller without showing the Remote Dialog connection setup dialog.