

eXact 2

Wi-Fi Connection Guide

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Overview

The eXact 2 includes connectivity options of USB-C and Wi-Fi.

Wi-Fi allows for better range between the workstation and the instrument and allows for more sophisticated fleet management controls over X-Rite Link.

The eXact 2 uses a 2.4GHZ Wi-Fi connection to connect wirelessly on local networks.

Security

As of eXact 2 firmware v. 1.3.170, WEP and TKIP are no longer supported due to security vulnerabilities. To ensure proper device operation and network security, please switch to WPA2 or WPA3 encryption.

Ports used in Wireless Connectivity on eXact 2

- Port 5355 is for Link-Local Multicast Name Resolution. This port lets X-Rite software and third-party software using the SDK attempt to find X-Rite devices on the network.
- Port 8080 is for all HTTP requests to/from the eXact 2 device, including X-Rite Link and PantoneLIVE.
- Port 60001 is for SCP Protocol communication to the device. This is the port through which any X-Rite software product will send and receive data.

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Using a Windows PC Generated Hotspot

If the user's Windows PC generates a hotspot, the user can choose to share their PC's internet connection with the device. If the user chooses to disable this option, then the eXact 2 **will not** be able to communicate with X-Rite Link or PantoneLIVE.

Generating a hotspot on a Windows PC is easy and is built into Windows 10 and Windows 11 natively.

For the most up-to-date explanation of this feature, X-Rite refers you directly to Microsoft, at support.microsoft.com

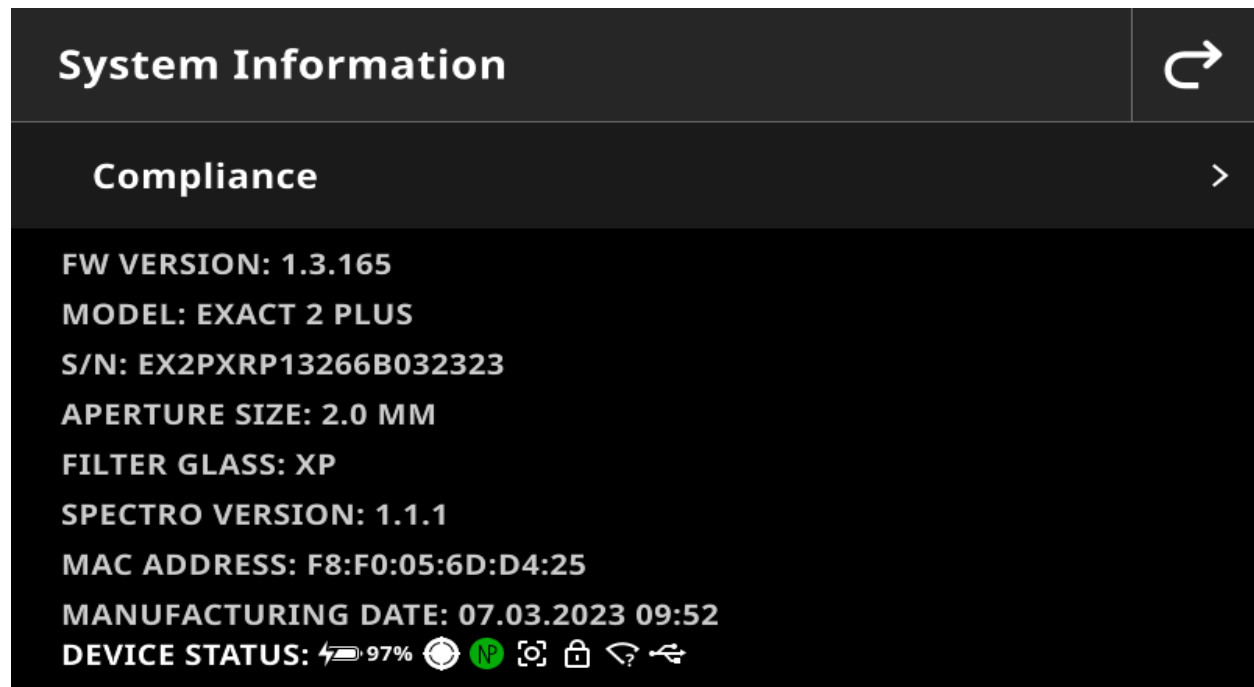
[“Use your Windows PC as a mobile hotspot”](#)

Identifying a connected eXact 2 within a Network

Each eXact 2 device has a unique MAC address. The MAC address is assigned during the manufacturing process and is the default DHCPv4 client identifier. When this device requests an IP address via DHCP the server will identify it using its MAC address.

The MAC address is static, and independent of the network; ensuring it is always uniquely identifiable over Wi-Fi network connections.

You can identify the MAC address on the eXact 2 device under the “System Information” button in the Device Settings menu:



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Workstation Configuration

Assuming access to the Wi-Fi network has been granted by your IT department, you must be sure the following is properly configured on your PC:

- Read/Write/Modify Privileges for C:\ProgramData\X-Rite
- Successful creation of eXact2Wi-FiConfigs.ini and eXact2.ini files in C:\ProgramData\X-Rite

Note that these files are found in MacintoshHD/Users/shared/X-Rite on MacOS.

In addition, note that the TCP/IP address assigned to the eXact 2 device must be static. If the DHCP server allows the IP lease to expire, assigning a new IP address to the instrument, connection to software will be lost. This should just be a matter of asking the Router's DHCP functionality to assign the same IP address to that instrument whenever it appears on the network.

Note that if you are using a VPN, you will not be able to see local network devices. This includes the eXact 2. A VPN is a means of joining a remote network and local devices such as the eXact 2 and Wi-Fi connected printers will not be seen if the VPN is enabled. If you must remain connected to a VPN, you will be required to connect via USB.

Wi-Fi can be configured two different ways:

1. Wi-Fi Setup on the instrument
 - a. Enables ability to download PantoneLIVE libraries within the instrument.
 - b. Enables fleet management via X-Rite Link.
2. Wi-Fi Setup via eXact 2 Suite
 - a. Ensures the creation of eXact 2Wi-FiConfigs.ini and eXact 2.ini which are prerequisite to the successful connection of the instrument to software.

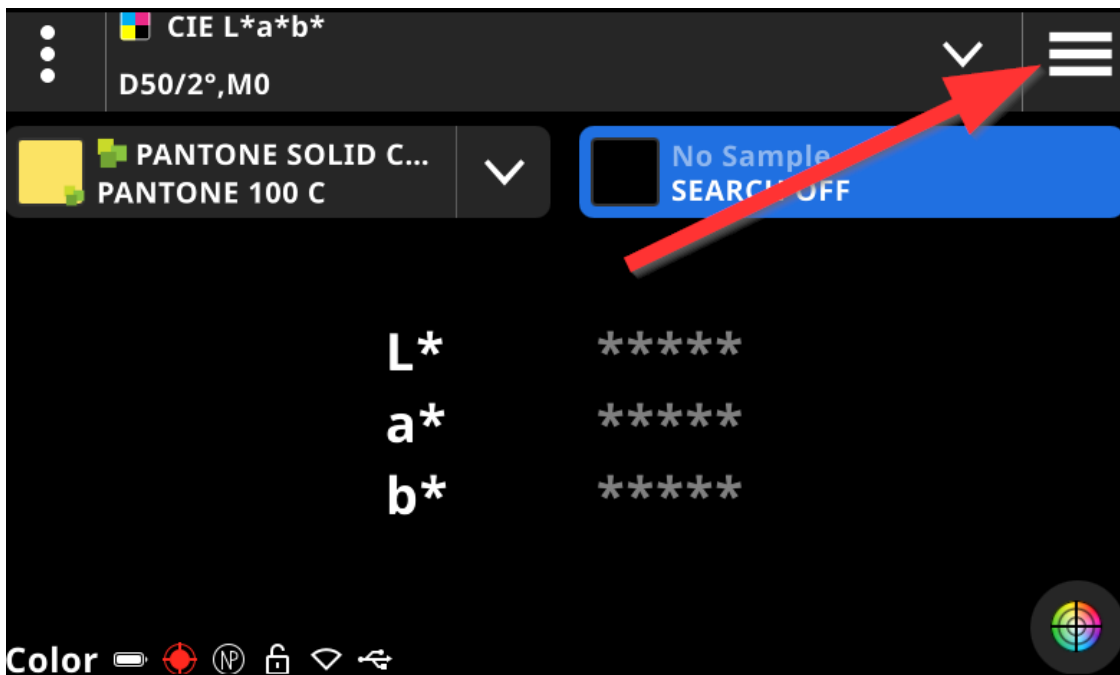
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Setting Up Wi-Fi on the eXact 2 Instrument

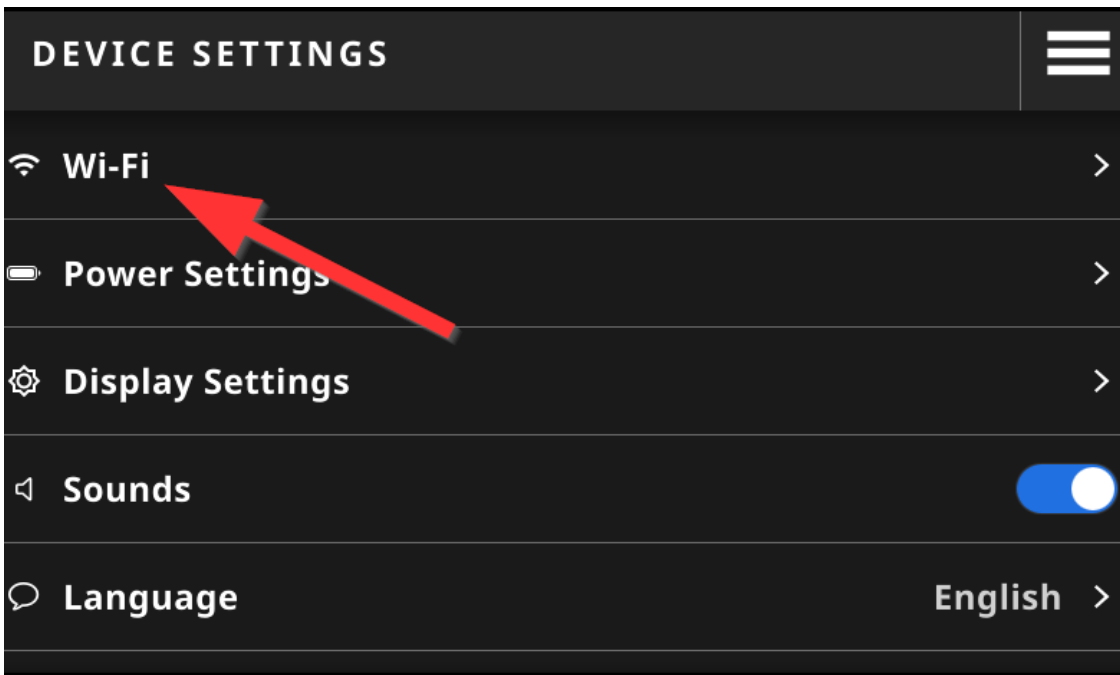
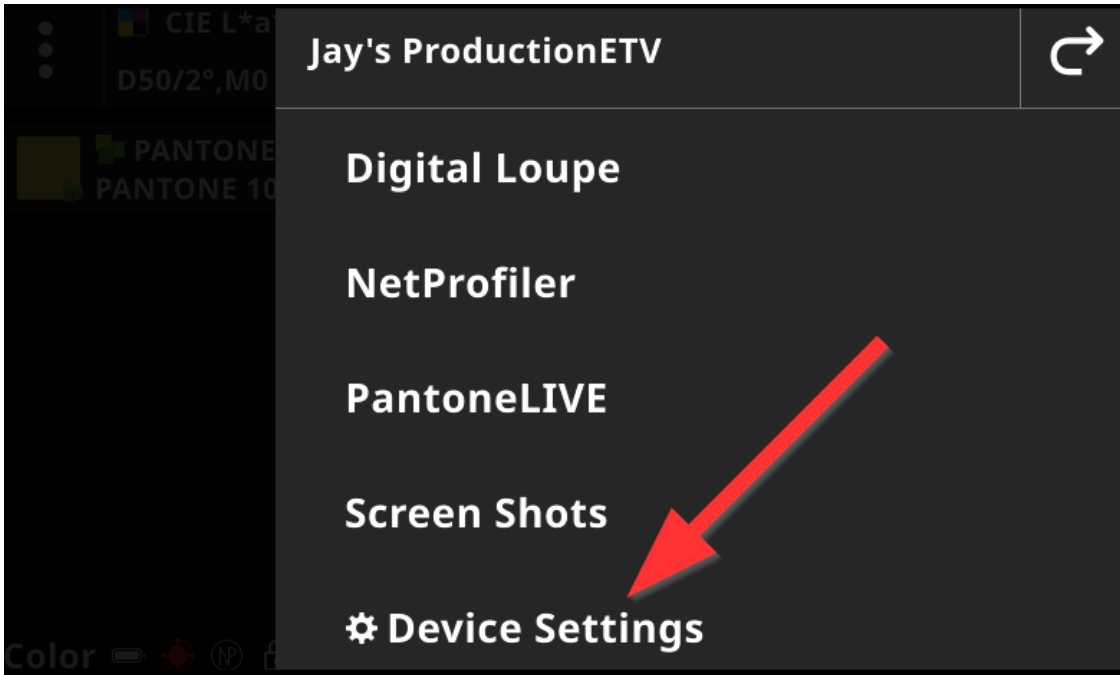
Setting up Wi-Fi on the instrument allows you to select the Wi-Fi network and enter the Wi-Fi password. Setting up Wi-Fi on the instrument will allow the instrument to contact PantoneLIVE servers and keep updated PantoneLIVE libraries resident on the device. Access to X-Rite services URLs (<https://ws.pantone.live.com> in the case of PantoneLIVE) must be open through your network security (firewall and a ZScaler whitelisting) to function properly.

Setting up Wi-Fi on the instrument should be straightforward, though if you need to choose a specific Wi-Fi security protocol, skip to **Setting Up Wi-Fi using eXact 2 Suite** below.

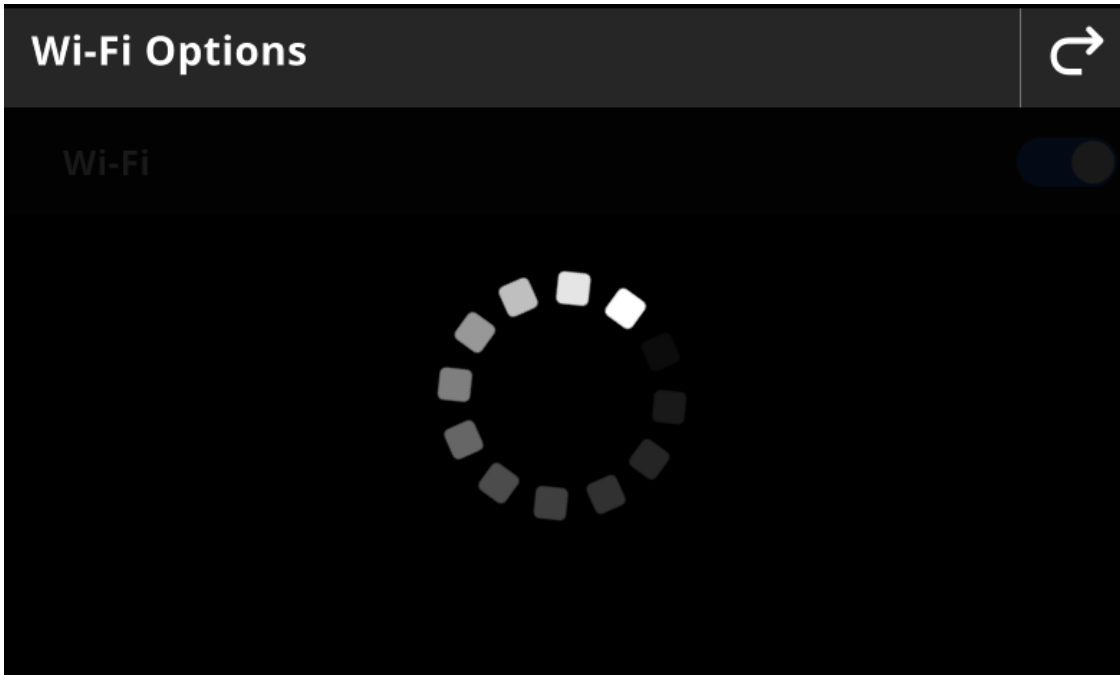
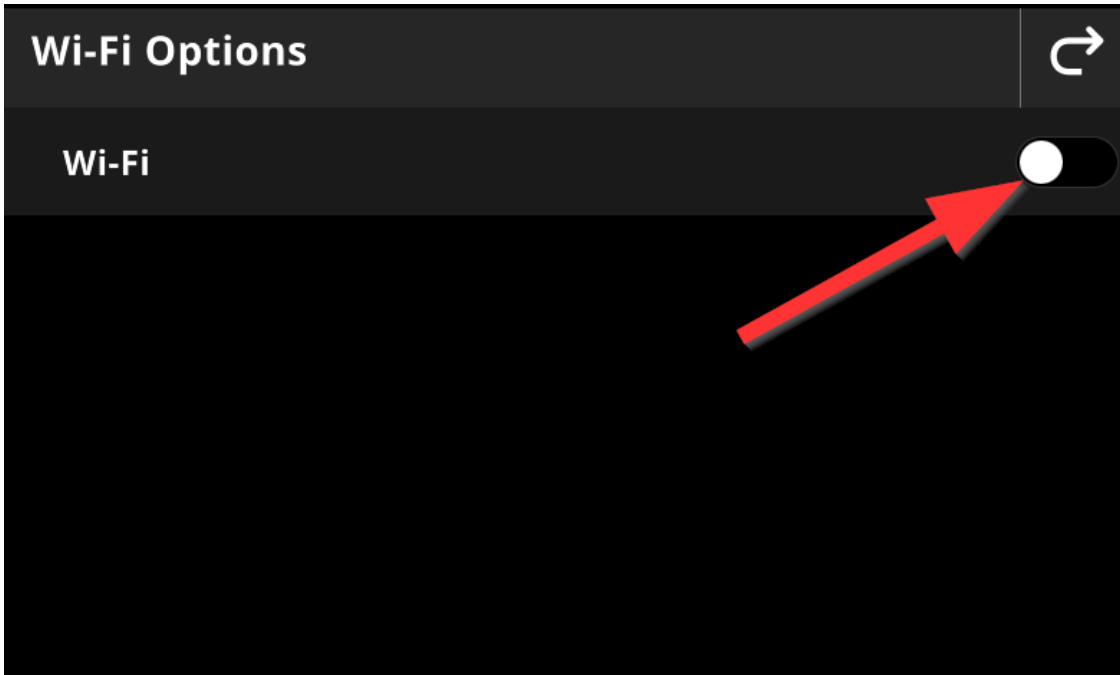
In device settings, access the Wi-Fi menu, activate Wi-Fi, and then pick the name of the Wi-Fi connection you wish to connect to. If prompted, enter the password for that Wi-Fi.



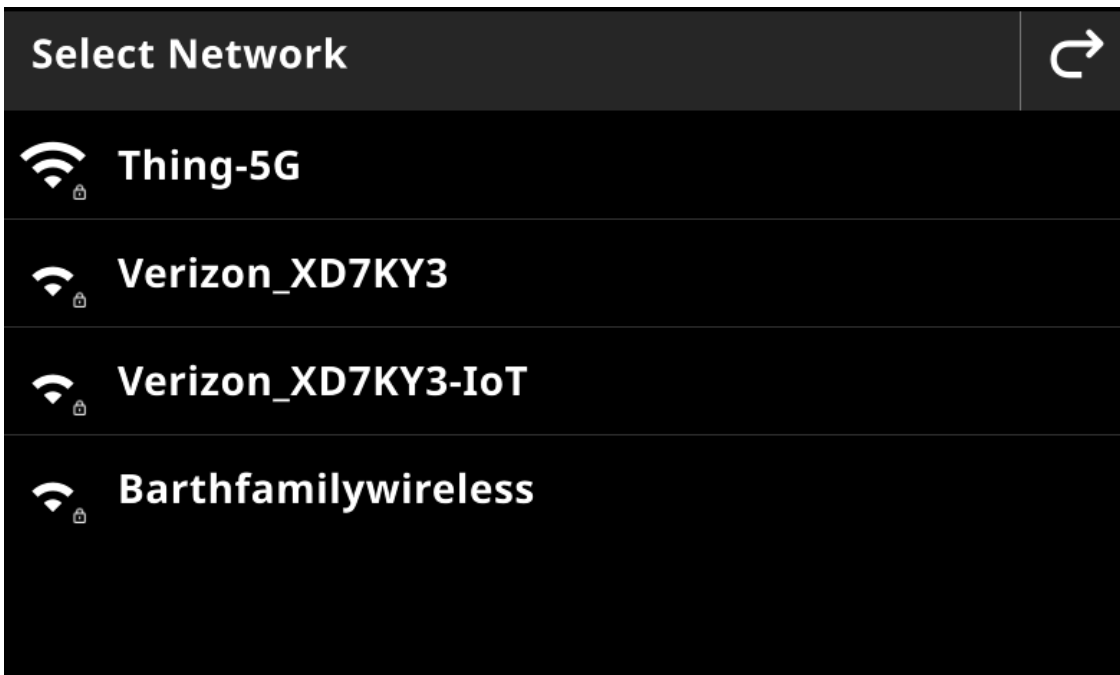
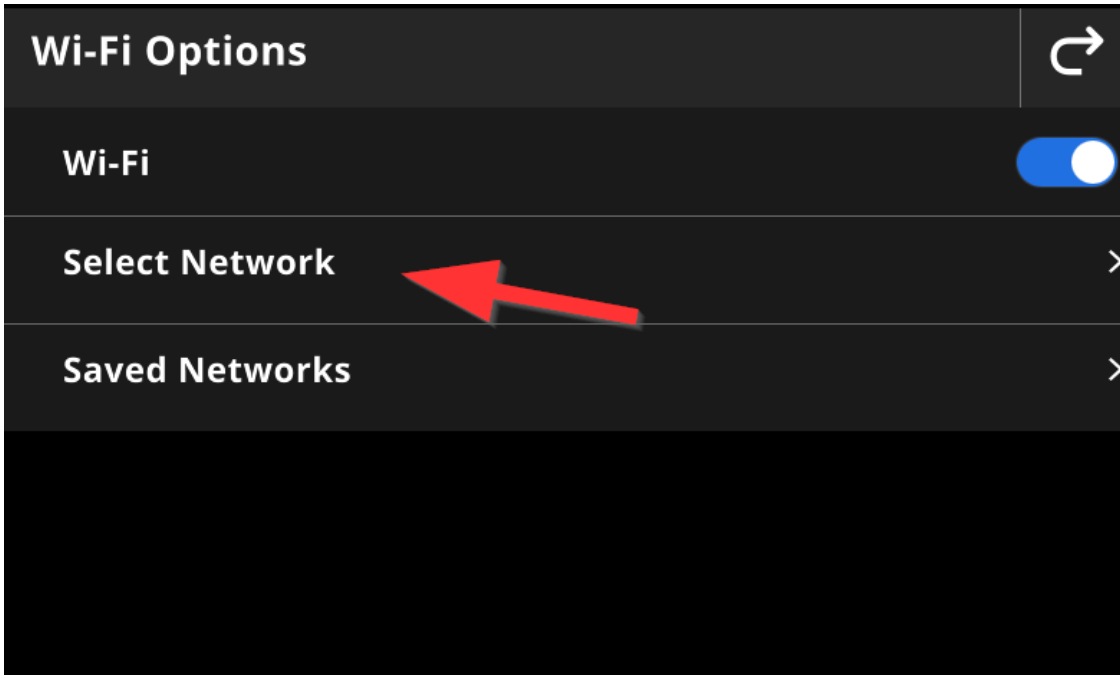
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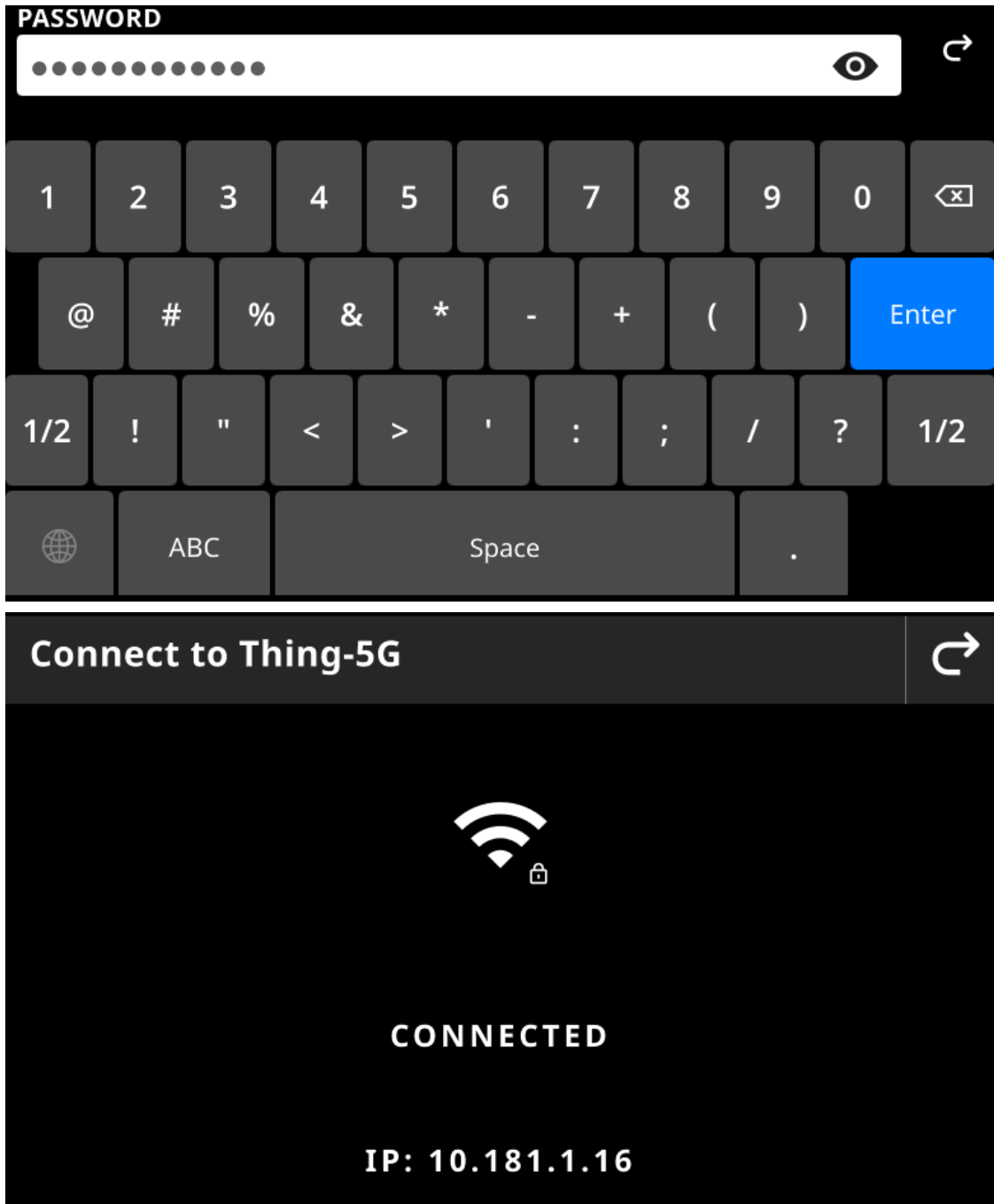


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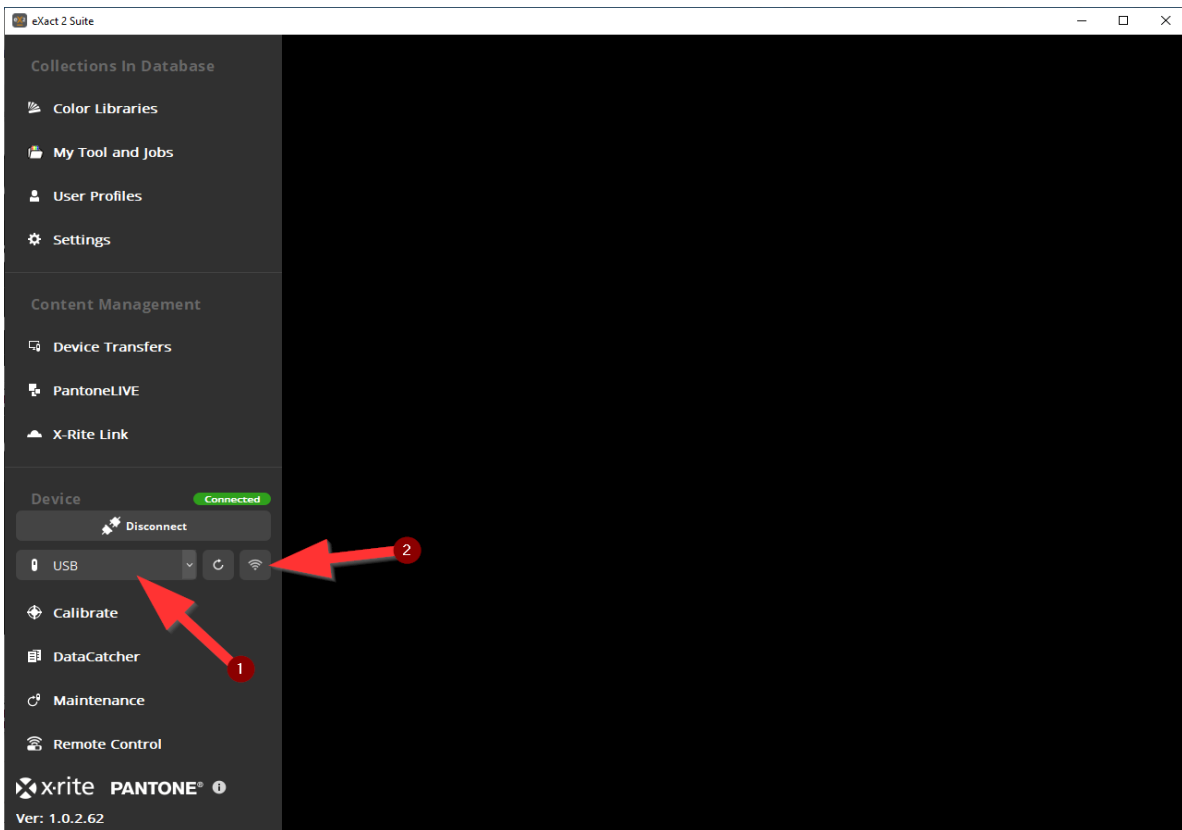
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Setting up Wi-Fi using eXact 2 Suite

eXact 2 Suite allows for the selection of a few different security protocols for enhanced compatibility with your network environment. Setting up Wi-Fi via suite also causes the creation of the C:\ProgramData\X-Rite\eXact2Wi-FiConfigs.ini file. This file is referenced by connected software, like iQC/iMatch, Ink Formulation Software 6, and ColorCert to determine the instrument's IP address when connecting those products to an eXact 2 instrument over Wi-Fi.

Note that ColorCert is capable of connecting to an instrument over Wi-Fi without the eXact 2Wi-FiConfigs.ini file as a prerequisite. If you select a Wi-Fi connection, enter the IP address of the eXact 2 and an arbitrary instrument name into the ColorCert Preferences>Devices tab, ColorCert will connect to the instrument and create the eXact 2Wi-FiConfigs.ini file itself. ColorCert is the only application that creates the eXact 2Wi-FiConfigs.ini file as of this writing.

Setting up Wi-Fi using eXact 2 Suite requires an initial eXact 2 connection to the PC via USB. Launch eXact 2 Suite, then select USB as the connection type (1) and then click the Wi-Fi options button (2).

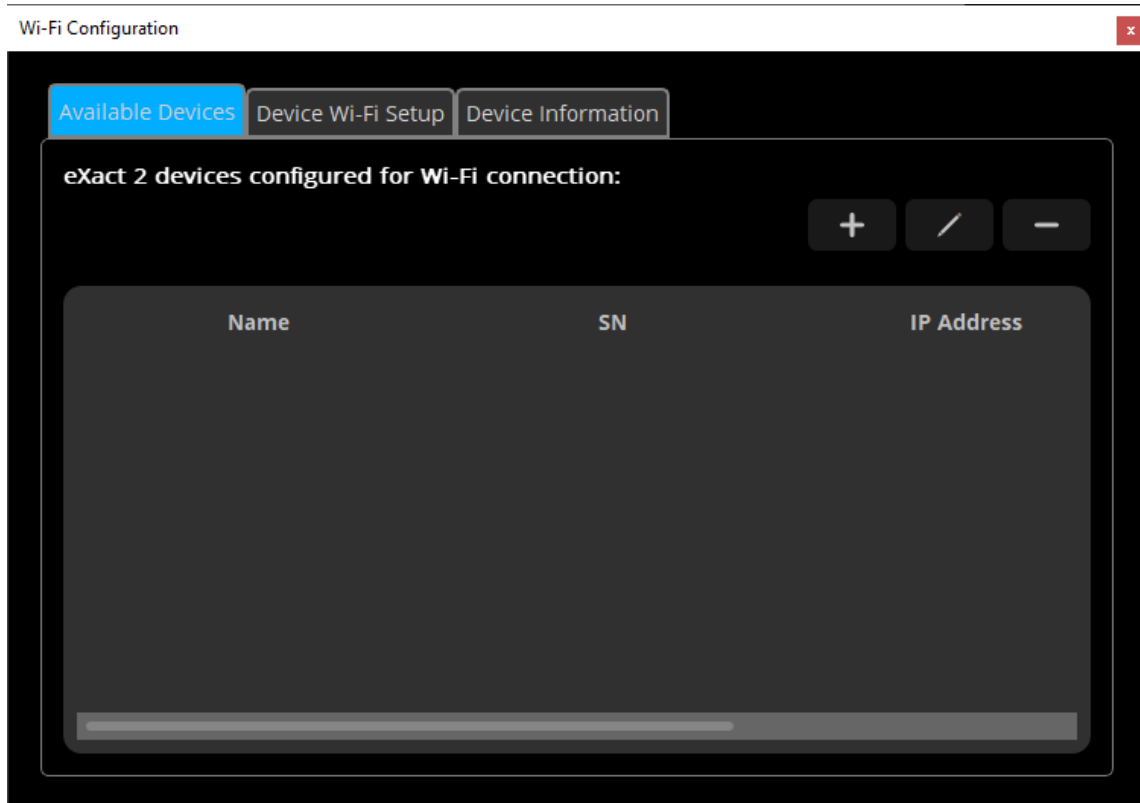


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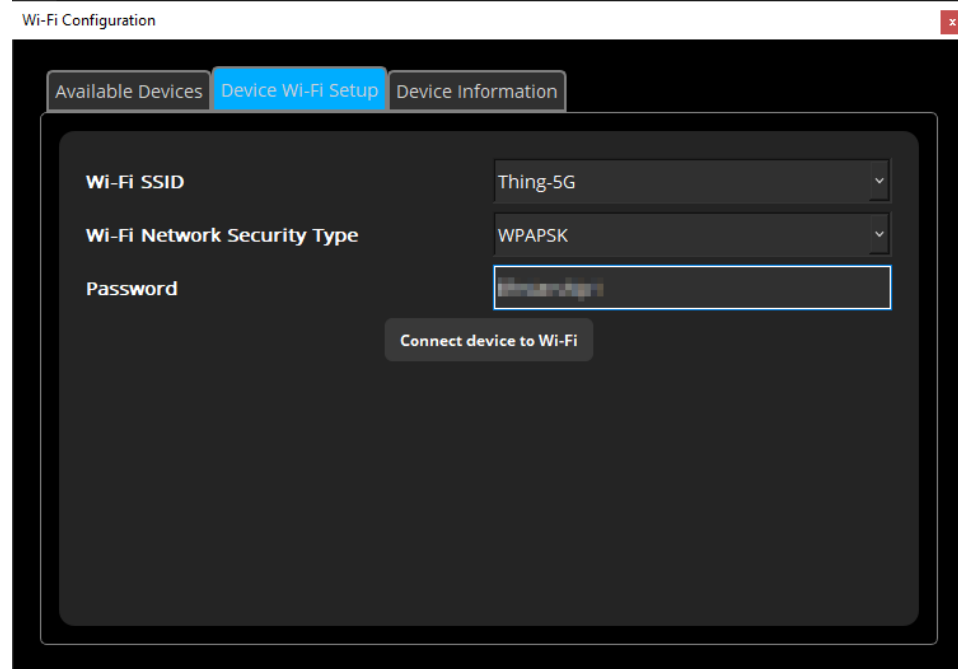
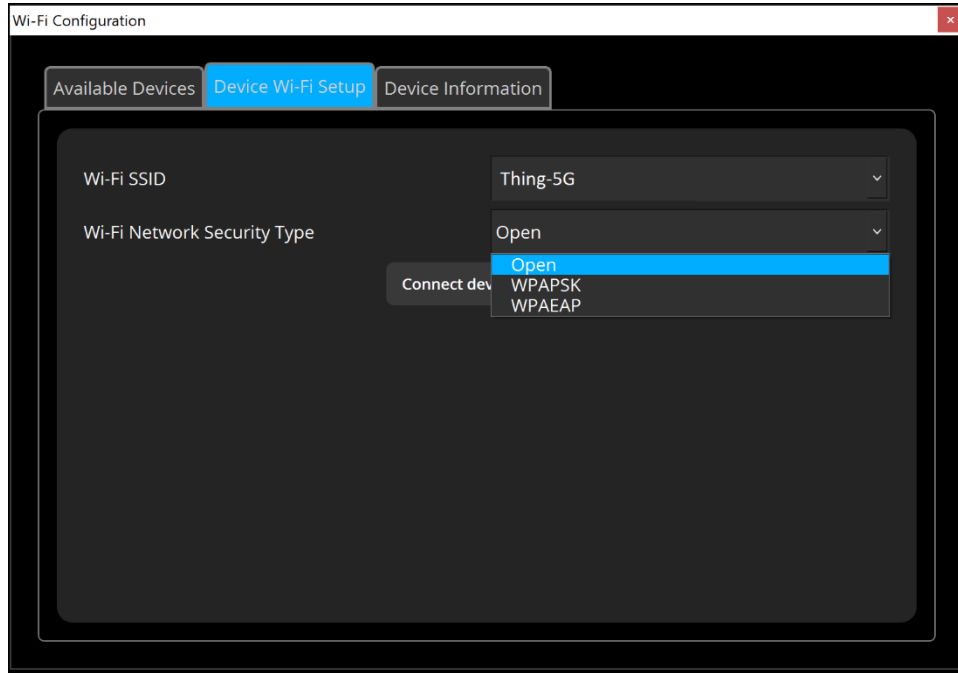
The Wi-Fi Configuration tab will show the devices, if any, that have already been set up on this PC.



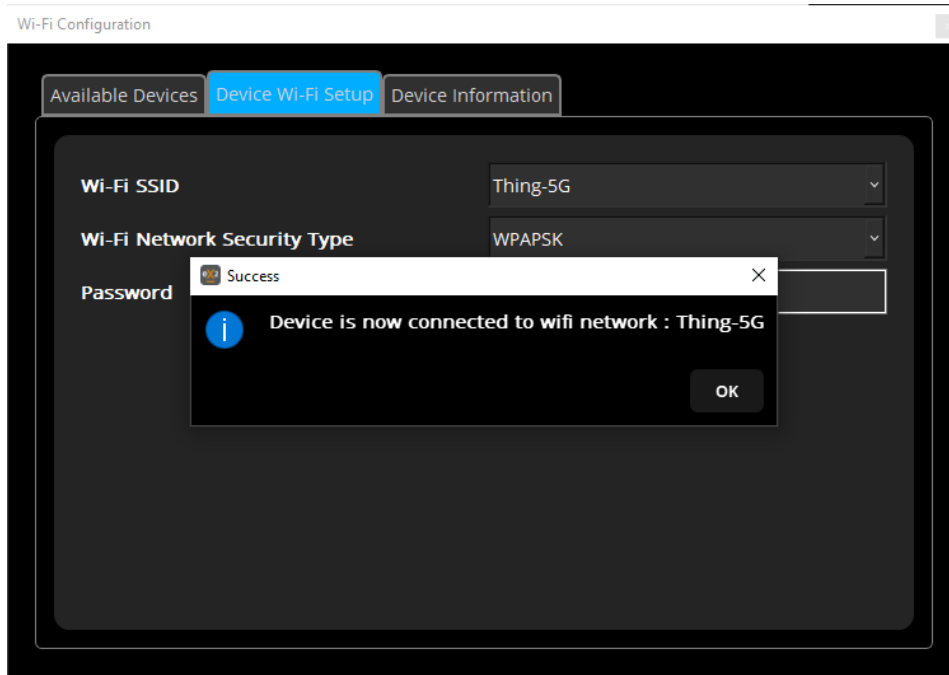
The Device Wi-Fi Setup tab will provide the tools to set up Wi-Fi on the connected device. Using this tool will offer the user more options for Wi-Fi security protocols that may be necessary to connect to your network. If your instrument was already successfully configured for Wi-Fi on the instrument itself, this tab will be unnecessary.

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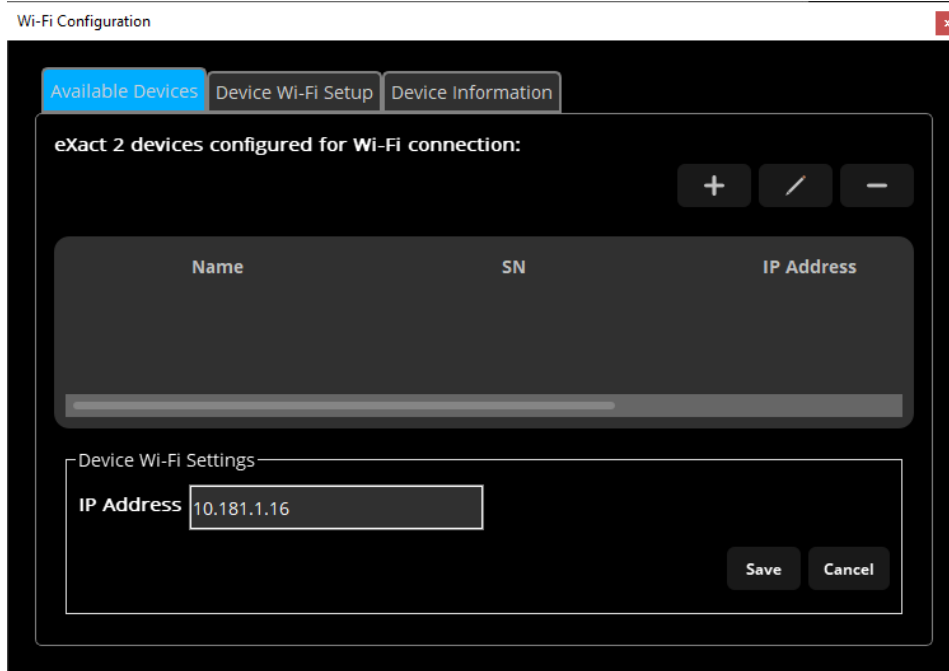
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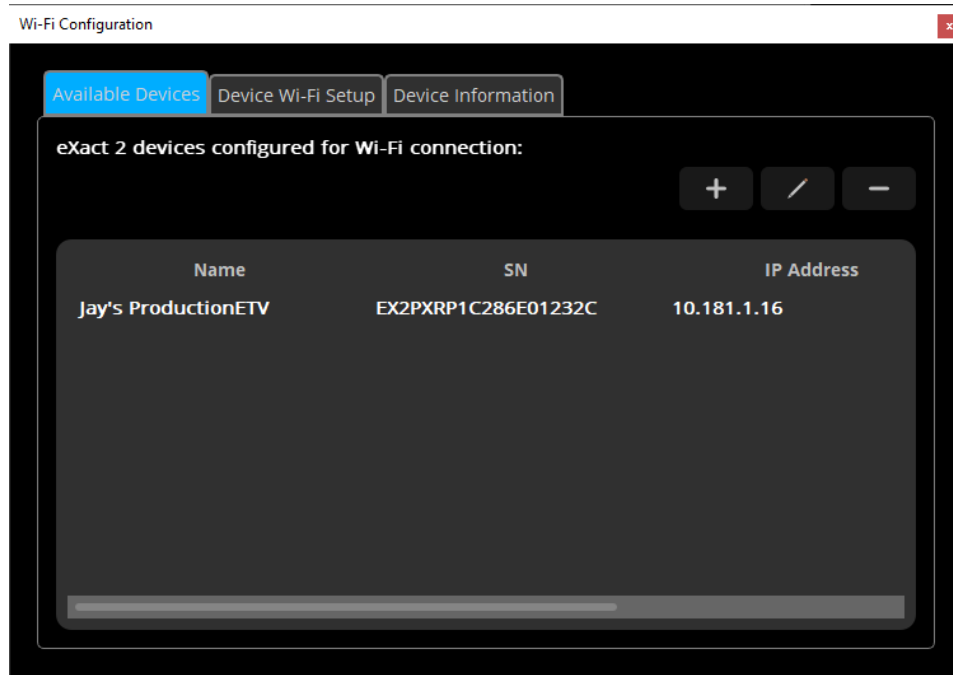


Once your device is successfully connected to the local Wi-Fi, click the Available Devices tab. Click the (+) button and the IP address of the USB connected device will auto-populate the IP Address field at the bottom of the window. Click 'Save'.

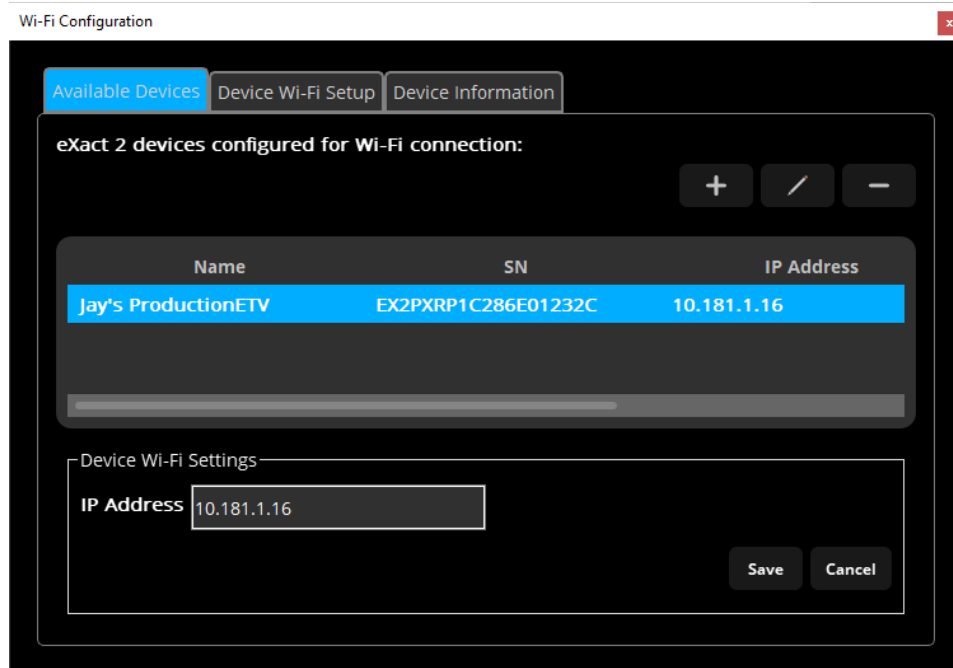


Your device will now appear in the Available Devices tab as a properly configured device.

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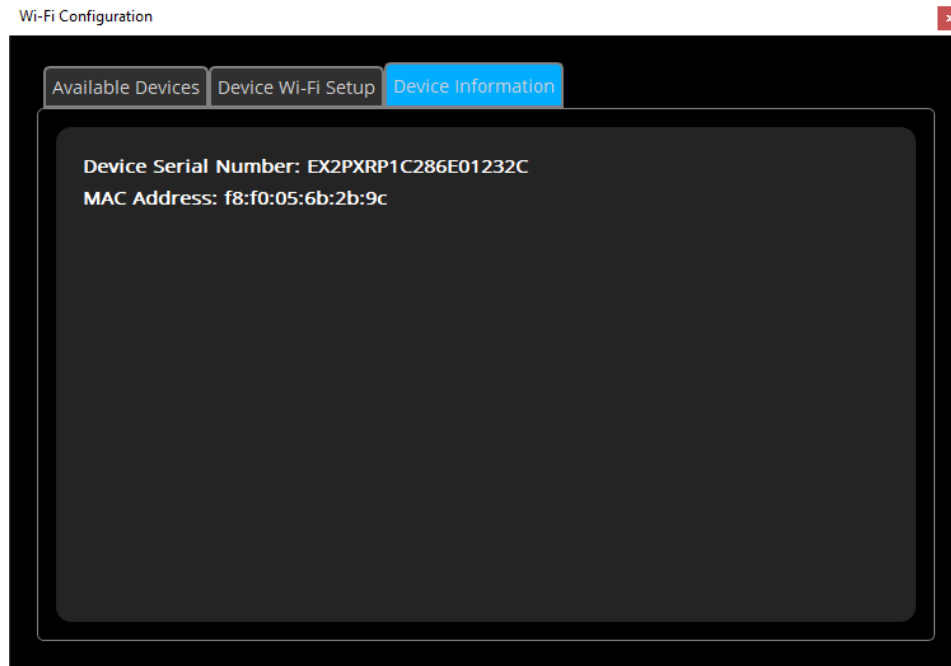


To edit the IP address of a device on the Available Devices tab, click the edit (pencil) icon to the right of the (+) button.



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With a particular device selected in the Available Devices tab, the Device Information tab will display the device serial number and MAC address. Note the MAC address may be useful for IT to statically assign the IP address to a device.



URLs used by eXact 2 Suite

These are all the PROD URLs eXact2Suite 1.0.6 uses for communicating with outside resources. They must be open for ports 8080 and 443.

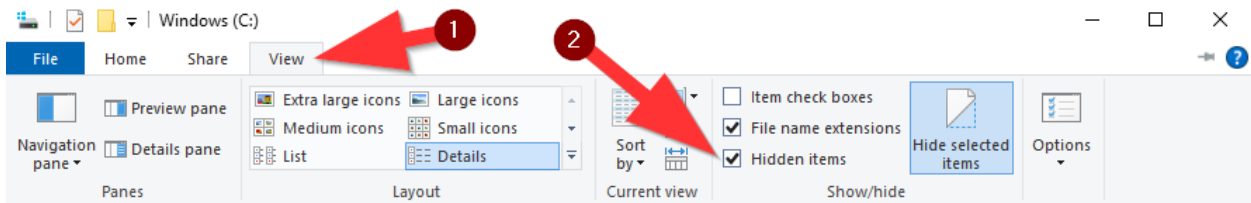
- **X-Rite Link:**
 - <https://fms.xrite.com/>
- **Google Analytics:**
 - <https://www.google-analytics.com/mp/collect>
- **Pantone LIVE:**
 - <https://www.pantonelive.com/>
 - <https://ws.pantonelive.com/>
- **Registration:**
 - <https://fms.xrite.com/>
- **Registration Dialogue URL:**
 - <https://my.xrite.com/devices#register>
- **Auto Updates:**
 - <https://project-autoupdate.s3.us-east-2.amazonaws.com/>

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Troubleshooting

Connection to the eXact 2 over Wi-Fi requires that the software you are using finds the connection information in the files eXact2Wi-FiConfigs.ini and eXact2.ini located in C:\ProgramData\X-Rite.

Note that C:\ProgramData\X-Rite is a hidden folder on Windows and you may have to enable hidden items under the Windows View menu.



The eXact 2.ini file will look like this when the instrument is connected to the PC via Wi-Fi:

```
eXact2.ini - Notepad
File Edit Format View Help
[Options]
Connection_Method=USB
device_ip_address=10.181.1.16
```

Of course, your IP address will differ.

The eXact2Wi-FiConfigs.ini file will look like this:

```
eXact2WifiConfigs.ini - Notepad
File Edit Format View Help
[%5BConfigurations%5D]
Wi-Fi%20Jay%27s%20ProductionETV%7C10.181.1.16=10.181.1.16
```

If you do not find these files, or the files do not reflect the settings you have picked for instrument connection (i.e. the eXact2.ini file indicates USB) then there is a possibility that your Windows account is not allowed to write to the C:\ProgramData folder. See your IT to have this changed to Read/Write/Modify permissions for ProgramData and all enclosed folders.

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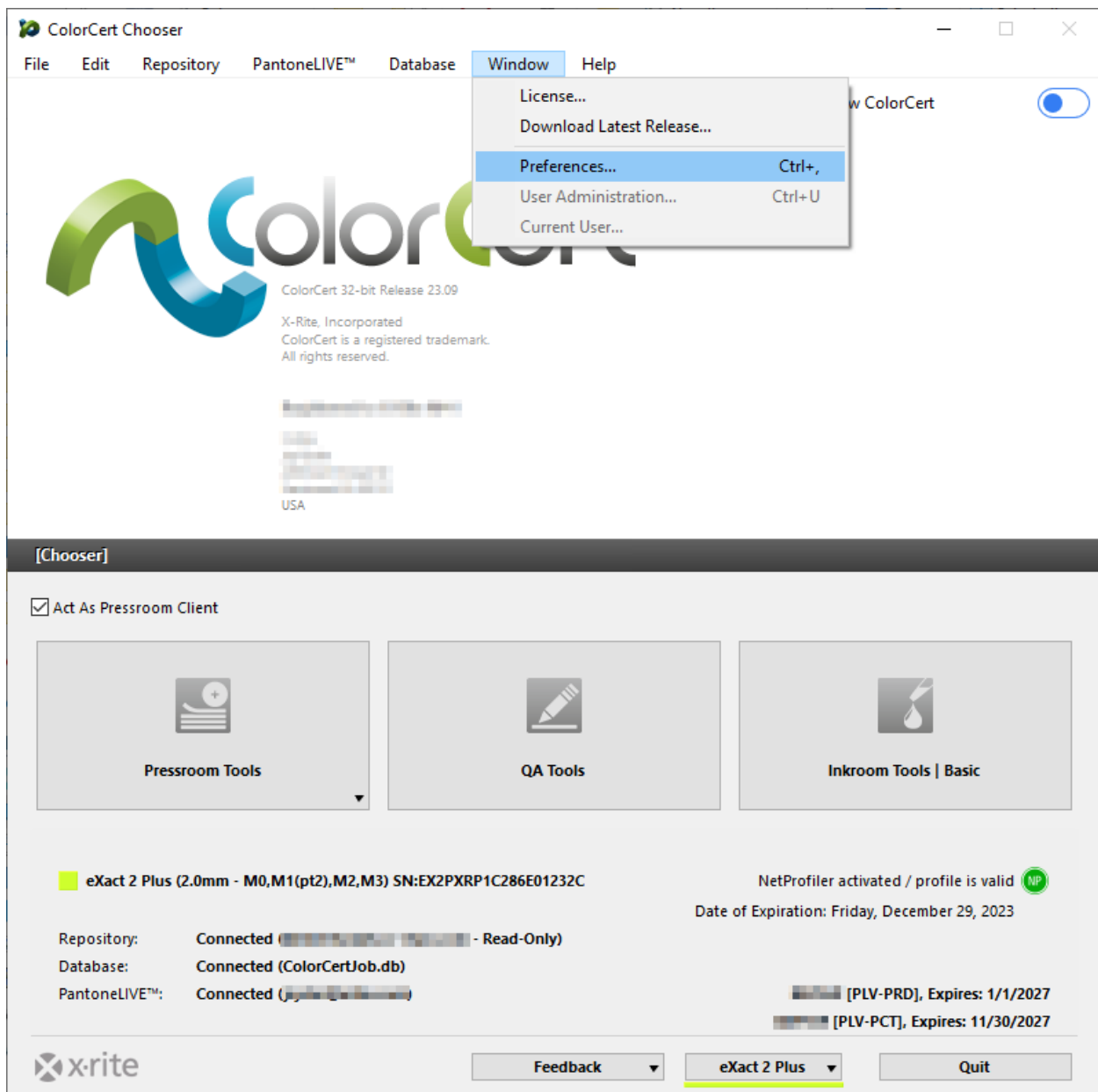
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Connecting via Wi-Fi in ColorCert

ColorCert can create the proper .ini files itself (if you have only configured Wi-Fi on the eXact 2 directly) or find the .ini files if Wi-Fi has been configured via eXact 2 Suite.

To connect the eXact 2 to ColorCert, be sure you have the latest version of ColorCert (and be sure you are not using a ‘perpetual’ license that cannot be upgraded beyond a certain point release).

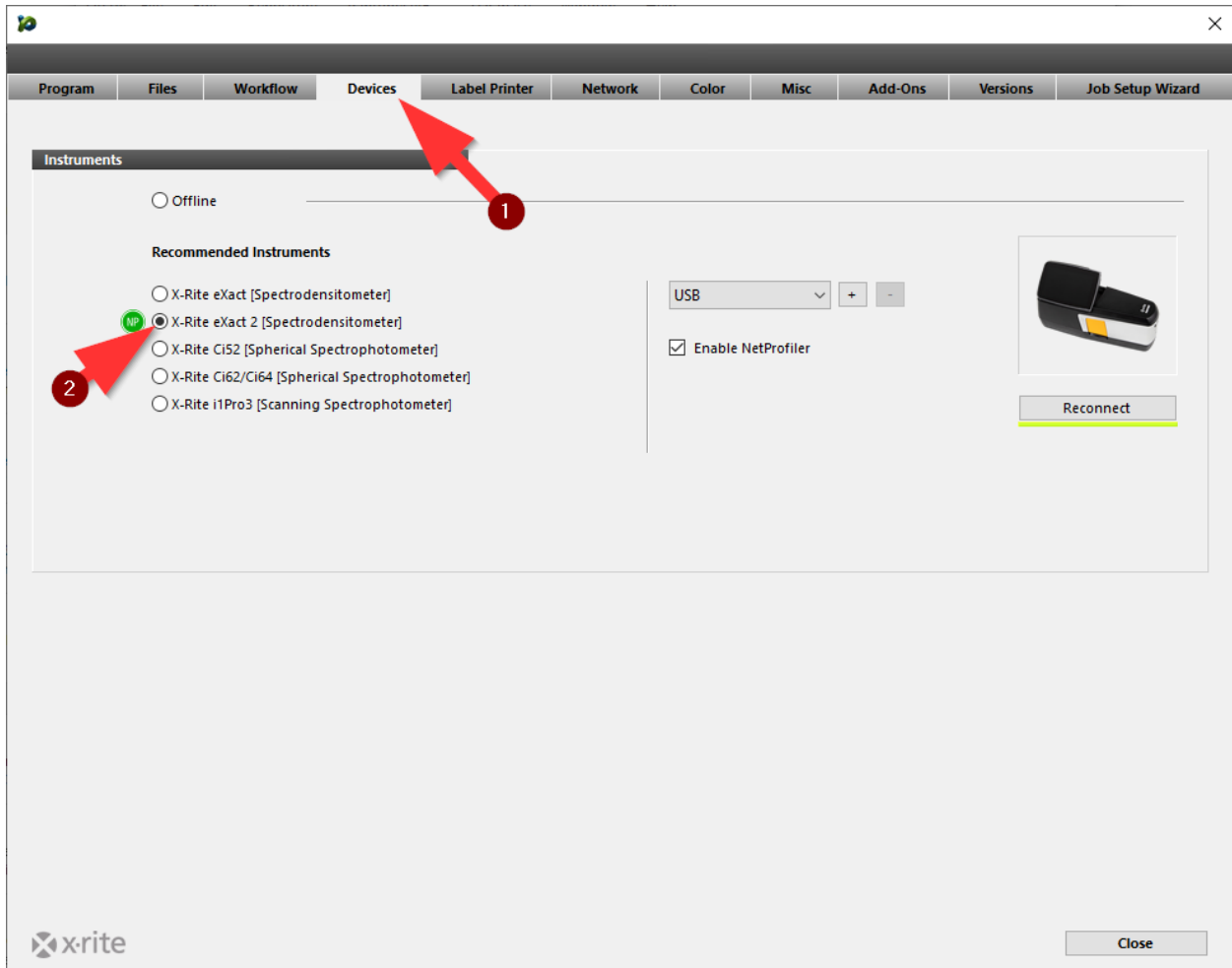
Open the ColorCert Preferences.



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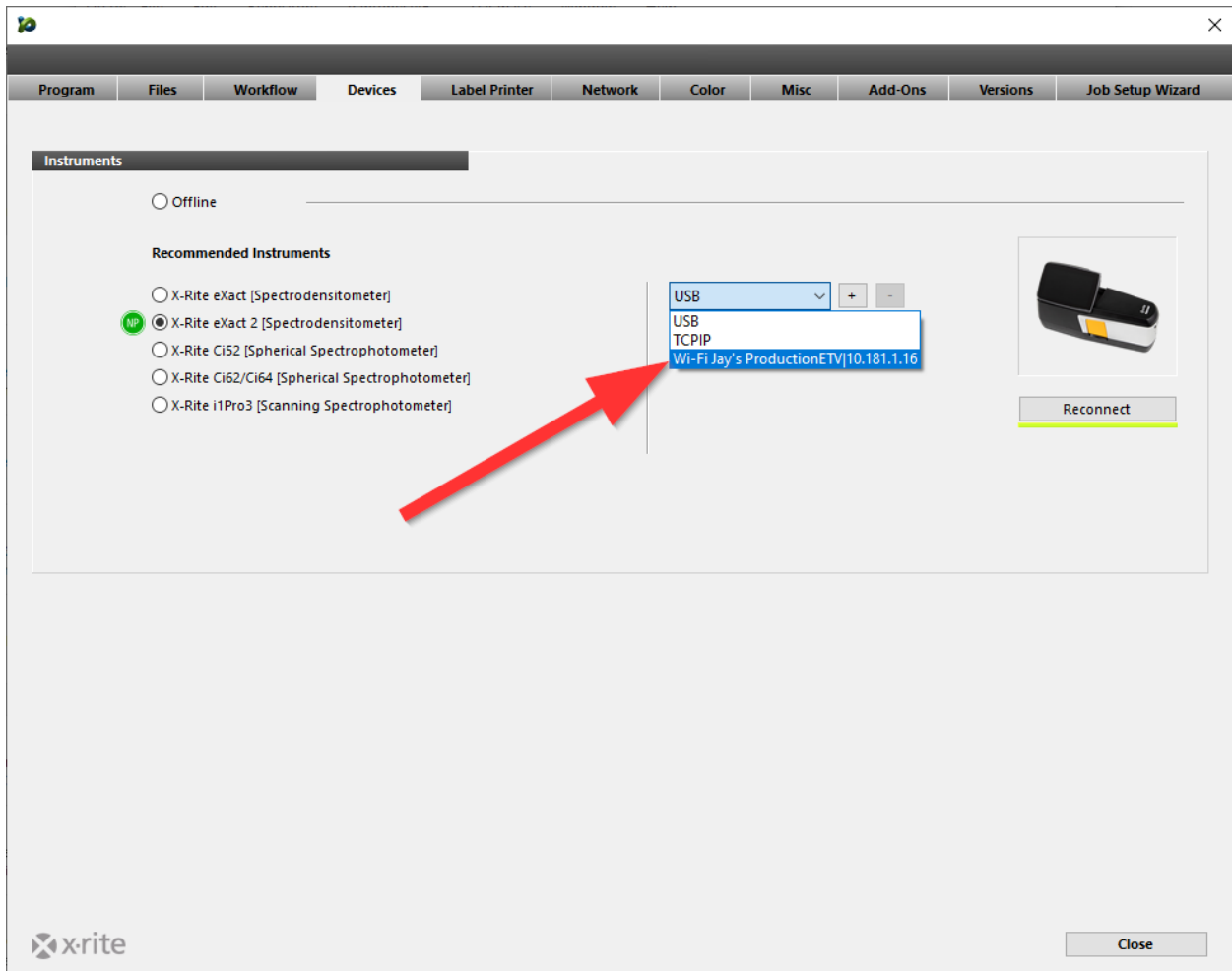
Click on the 'Devices' tab and then click the radio button for eXact 2.



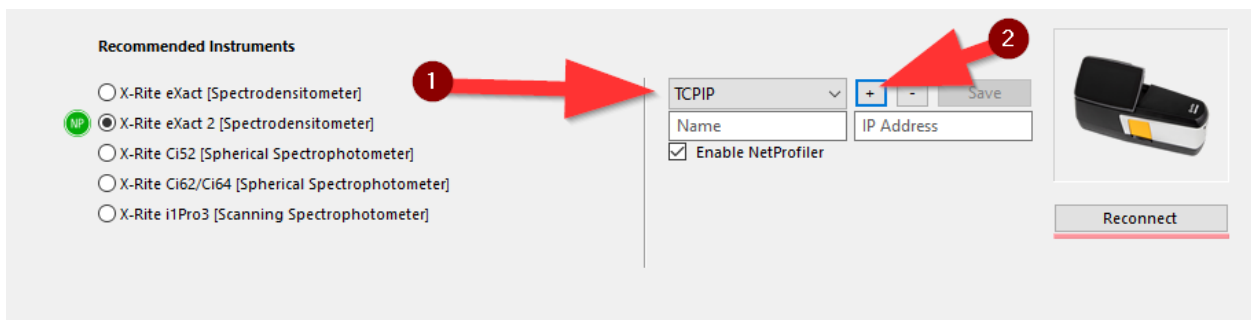
If the Wi-Fi has been setup via eXact 2 Suite or the connection is pre-existing, you can use the entry listed in the connection method pull down menu.

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If you do not see that entry, choose the option 'TCPIP' in the list and then press the '+' button.



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You can then enter a name of your choosing and the IP address of the instrument as assigned by your IT department/network environment. Click 'Save'.

Recommended Instruments

- X-Rite eXact [Spectrodensitometer]
- X-Rite eXact 2 [Spectrodensitometer]
- X-Rite Ci52 [Spherical Spectrophotometer]
- X-Rite Ci62/Ci64 [Spherical Spectrophotometer]
- X-Rite i1Pro3 [Scanning Spectrophotometer]

TCPIP

Press eXact2 10.10.1.16

Enable NetProfiler

