Quick Start – IP Connection

In this section, we discuss IP connectivity between Spider and PC.

Network configuration

		PC	PC – Spider	Spider 1 (master)	Spider 2 (slave)
			IP address **172.0.0.50** **Subnet mask** **255.255.255.0**	**IP address** **172.0.0.100** **Subnet mask** **255.255.255.0**	**IP address** **172.0.0.101** **Subnet mask** **255.255.255.0**

The Spider modules and PC need to be on the same subnet to detect each other:

- **First three numbers of IP address must match**
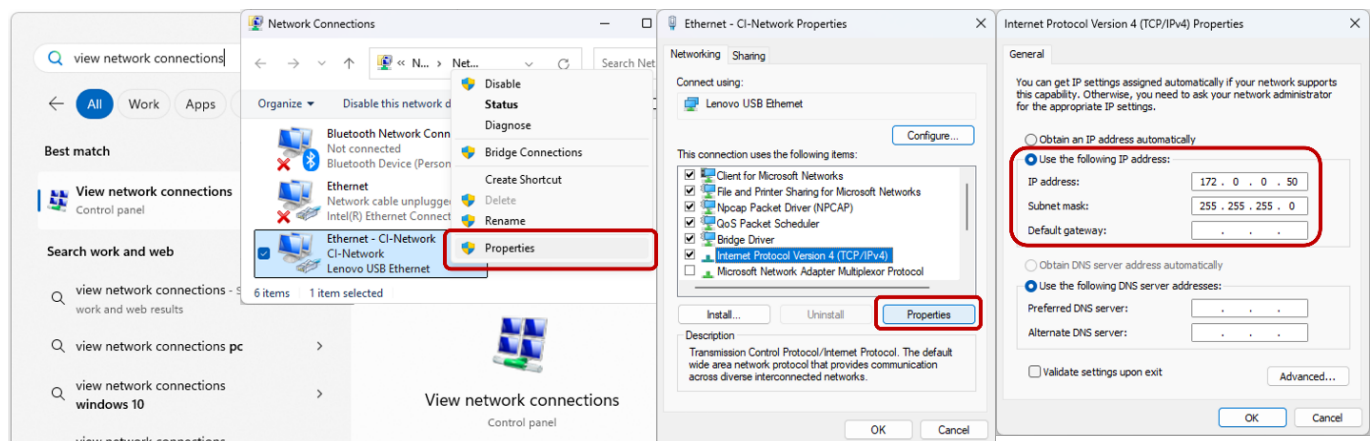- **Fourth number must be unique** for each device.

By default, the Spider modules are configured on the 172.0.0.x subnet:

- **Spider(s) IP address start:** 172.0.0.100
- **Spider(s) subnet mask:** 255.255.255.0

Set your PC IP address to another static IP address on 172.0.0.x:

- **PC IP address:** 172.0.0.50 or similar
- **PC subnet mask:** 255.255.255.0
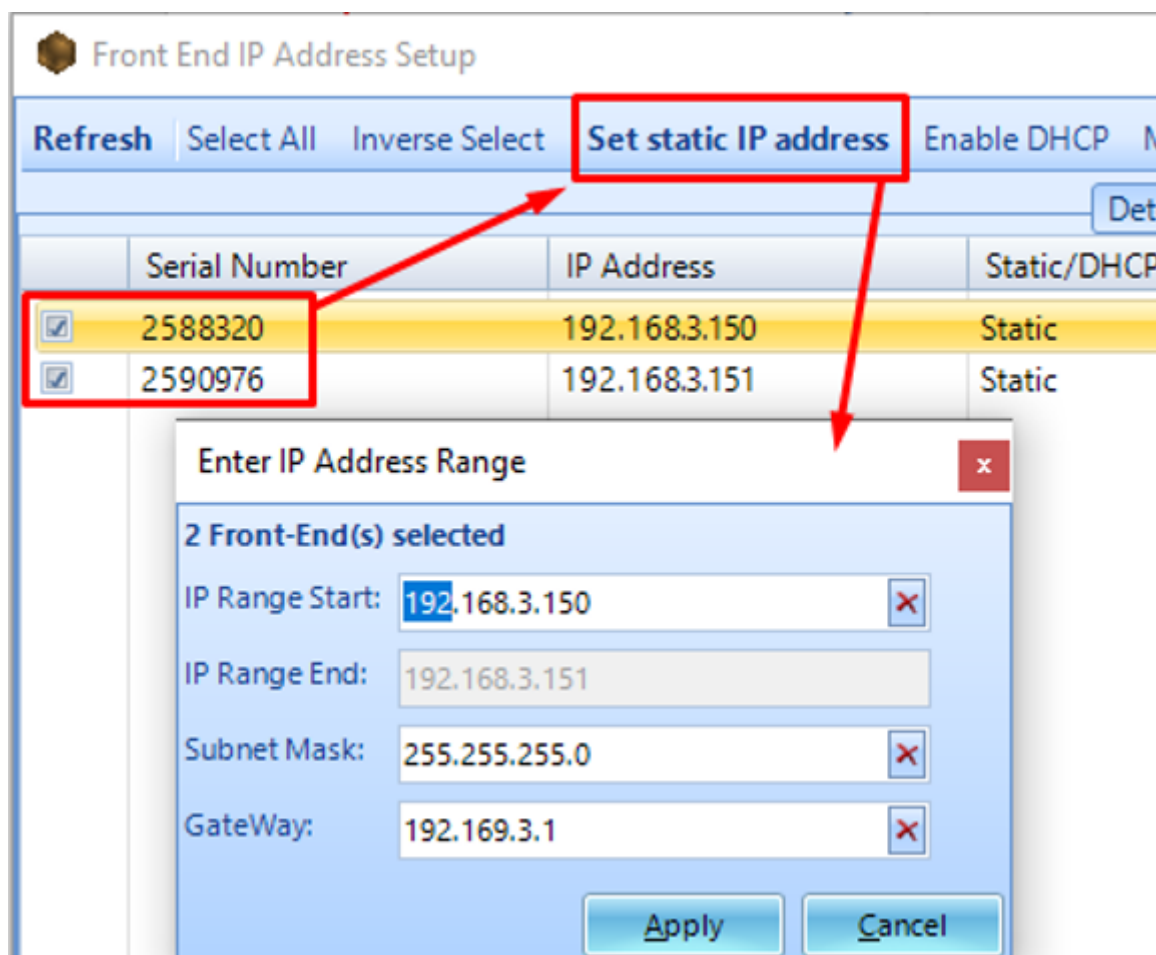- **PC default gateway:** none

How to set PC IP address

1. Search for **"View Network Connections"** in the **Start menu**
2. Right-click on the network adapter

3. Click **Properties**
4. Select **"Internet Protocol Version 4 (TCP/IPv4)"** and click **"Properties"**
5. Select **"Use the following IP address:"**
6. Enter IP settings (e.g., 172.0.0.50 / 255.255.255.0)

How to set Spider IP address

Open **Front-End IP Address Setup Tool** (use the Windows search menu).
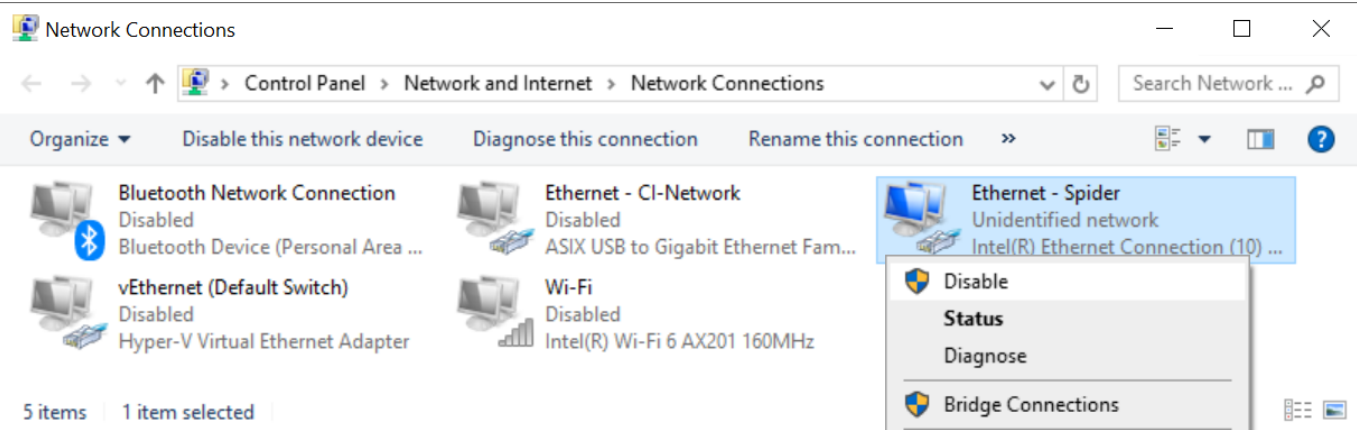

Select the module(s) and click **Set static IP address**. Fill in the IP address(es), subnet mask, and gateway as needed.

Troubleshooting

Consider the following troubleshooting steps if the Spiders cannot be detected

Disable other networks

Temporarily disable all other network adapters and only connect one Spider to the PC.
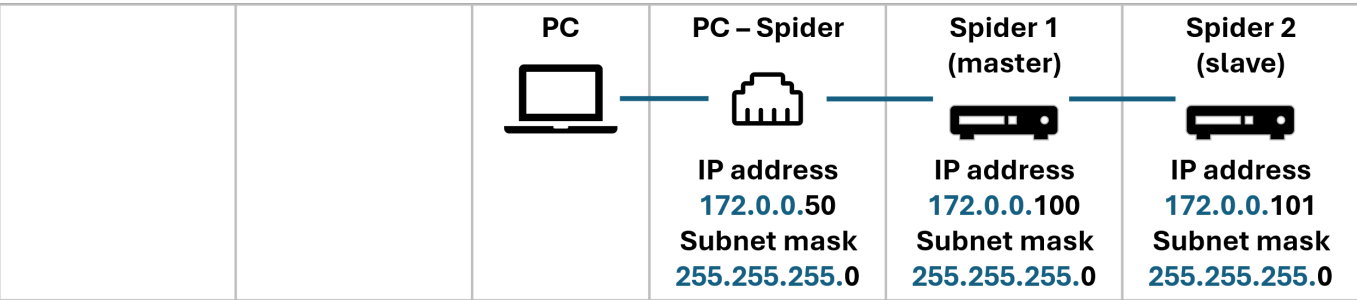
Search for **"View Network Connections"** in the **Start menu** and then right-click on all other network adapters to disable them.

If you wish to operate with the other networks turned on, see the below section "Dealing with multiple networks".

Set network priority

If disabling other adapters is not an option, you can also raise the priority of the Spider network adapter.

		PC	PC – Spider	Spider 1 (master)	Spider 2 (slave)
			IP address **172.0.0.50** Subnet mask **255.255.255.0**	IP address **172.0.0.100** Subnet mask **255.255.255.0**	IP address **172.0.0.101** Subnet mask **255.255.255.0**

Right-click on the Spider network adapter, go to **Properties > select "Internet Protocol Version 4 (TCP/IPv4)" > Properties > Advanced**, uncheck **Automatic metric** and set **Interface metric** to 1 (lower is higher priority)

Power adapters

Check the power adapter of the Spiders. Devices with inadequate power can seem turned on while not functioning properly

Check Ethernet ports

Try using a different Ethernet port or a separate USB-to-Ethernet adapter. Check the Ethernet connector lights are blinking to indicate a live connection.

Reset DNS cache

Reset the DNS cache (open **Command Prompt** and type in "`ipconfig /flushdns`" and press **Enter**

```
> ipconfig /flushdns
```

```
Windows IP Configuration
```

```
Successfully flushed the DNS Resolver Cache.
```

Resetting the Spider

If all else fails, individual Spider modules can be reset to:

- **IP address:** 192.168.1.153
- **Subnet mask:** 255.255.255.0
- **Default gateway:** 192.168.1.5

How to reset IP address:

1. Press and hold the **Reset** pin (you'll need a paper clip or similar) at the back of the unit for **4-10 seconds** until the internal relays click
2. Turn off the Spider and turn it back on.

How to reset firmware and IP address: if the above reset fails, there is a more aggressive reset function for both IP and DSP settings:
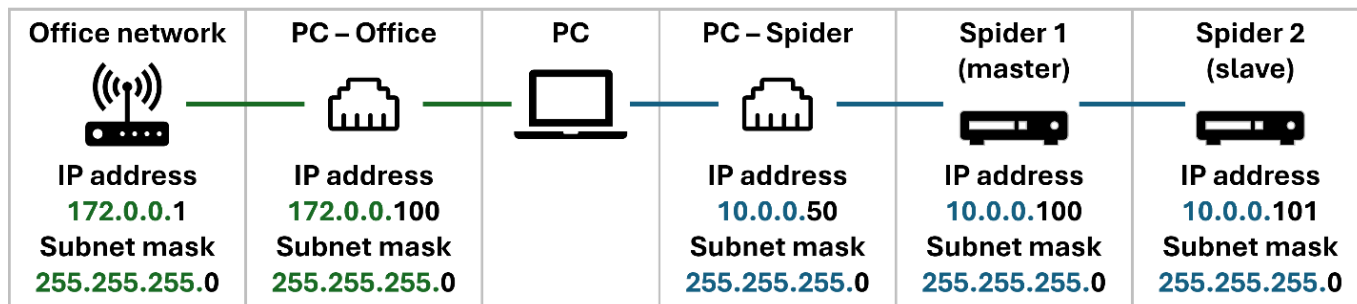
1. Turn off Spider
2. Press and hold the **Reset** pin
3. Then press and hold the **Power** button, while the **Reset** pin is still pressed
4. Keep holding both buttons for about 10 seconds
5. The **Play** and **Stop** button LEDs will alternating blink if the reset was successful

Dealing with multiple networks

If your PC is connected to multiple networks (i.e., Internet, office network), it will have multiple IP addresses.

These multiple networks should not have overlapping IP ranges. Otherwise, our software may look on the wrong network for your Spider.

In the below example, the office network already uses the 172.0.0.x subnet, so the Spiders should be configured to another subnet, such as 10.0.0.x

Office network	PC – Office	PC	PC – Spider	Spider 1 (master)	Spider 2 (slave)
IP address 172.0.0.1 **Subnet mask** 255.255.255.0	**IP address** 172.0.0.100 **Subnet mask** 255.255.255.0		**IP address** 10.0.0.50 **Subnet mask** 255.255.255.0	**IP address** 10.0.0.100 **Subnet mask** 255.255.255.0	**IP address** 10.0.0.101 **Subnet mask** 255.255.255.0

What are my other office subnets?

Open the **Command Prompt** by typing **cmd** in your **Windows start menu**.

Type `ipconfig`

This will print out a list of all existing office subnets for your PC. The format should look like:

```
Wireless LAN adapter Wi-Fi:

   IPv4 Address. . . . . . . . . . . : 172.0.0.100
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 172.0.0.1
```

Alternative subnets to consider

For a private network when using the Spider, any combination of IP values between 0.0.0.0 and 255.255.255.255 can be used. Below are some popular IP schemas that are popular in the IT practice:

172.0.0.x subnet

By default, all Spider devices are sent out with static IP addresses starting at 172.0.0.100. We recommend setting your PC to an IP address like 172.0.0.50 for the quickest setup.

- **PC IP address:** 172.0.0.50
- **Spider IP addresses:** 172.0.0.100, 172.0.0.101, …
- **Subnet mask:** 255.255.255.0
- **Default gateway:** (blank)

10.0.0.x subnet

If your PC is already connected to another network (e.g., office Internet) that uses the 172.0.0.x subnet, consider the 10.0.0.x network.

- **PC IP address:** 10.0.0.50
- **Spider IP addresses:** 10.0.0.100, 10.0.0.101, …
- **Subnet mask:** 255.255.255.0
- **Default gateway:** (blank)

192.168.1.x subnet

- **PC IP address:** 192.168.1.50
- **Spider IP addresses:** 192.168.1.100, 192.168.1.101, …
- **Subnet mask:** 255.255.255.0
- **Default gateway:** (blank)

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