# **Connecting Your PC to the Spider Front-End**

# **IP Config Introduction**

You can connect the Spider modules to your PC either through a LAN (Local Area Network) or directly using an Ethernet cable. There is an Ethernet port on the rear of the Spider modules for connection.

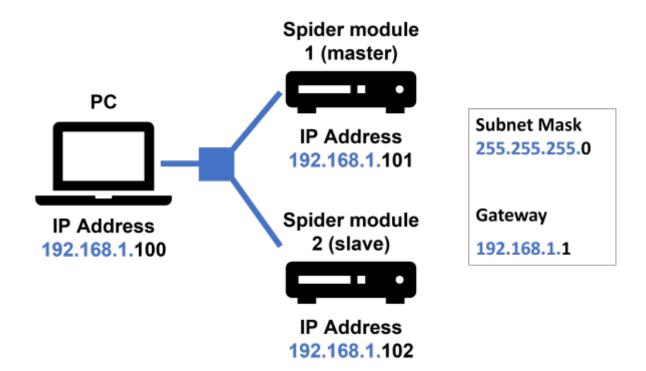


Each Spider module supports up to 8 input channels. Multiple Spider modules can be "daisy-chained" in a network configuration to support applications requiring more than 8 channels.

To detect the Spider module, the PC must be on the same network as the Spider(s). Two IP addresses are "compatible", or on the same network, if the **first three numbers are matching but the fourth number is different**. We strongly recommend our users to set compatible static IP addresses for both their PC and Spider units.

The **Subnet Mask** should be **255.255.255.0**, and the **Gateway** should be either empty for all devices, or another shared compatible IP address for all devices.

Below is a sample configuration for a PC connecting to two Spider modules:



# **Configuring the Hardware**

### **Master or Slave Mode**

The M/S switch on the back of each unit is used to control whether it is configured as a Master or a Slave.

For a system with multiple units, exactly one unit should configured as a **master**. All units must be set as **slave**.



### **Powering On**

After the Ethernet cable and power adapter are connected to the Spider, press the Power button on the front of the unit. The LAN LED will illuminate.



Warning: Never press this button to turn the power off while the controller is running. In the case of emergency, press the Stop button on the front, or use the Abort contact switch connected to the back.

# IP Setup (Spider)

To connect to the Spider, we need to set the PC and Spider to compatible static IP addresses.

To configure the Spider static IP address, open the **Front-End IP Address Setup Tool** that was installed with EDM. This tool is located in the EDM installation folder. Alternatively, it can be searched using the Windows search feature.

Each connected hardware module will be listed by serial number. To change settings, select a module, enter the desired IP address, subnet mask, and default gateway, and click **Set IP Address**.

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Subnet Mask:	255.255.255	5.0	[	×		
GateWay:	100 100 0 1		[			
Gateway.	192.169.3.1			×		

#### **Resetting the Spider**

Sometimes, the Spider device cannot be detected, and we need to reset the Spider back to factory IP conditions.

#### **Reset the IP address**

To reset to the factory default IP address of **192.168.1.153** (subnet mask will be **255.255.255.0**, and gateway will be **192.168.1.5**, the mask and gateway need to match for the PC) for the Spider-80X:

- 1. Press and hold the **Reset** button on the back of the unit for 4-10 seconds until the internal relays click
- 2. Power cycle the Spider (turn it off, then turn it back on)

For the Spider-81, it is recommended to use the front panel LCD and menu buttons to make changes to the IP settings.

#### **Reset the Firmware and IP address**

If the above reset fails, there is a more aggressive reset function that resets both the IP and DSP settings:

- 1. Turn off the Spider
- 2. Press and hold the reset key
- 3. Then, press and hold the power key, while the reset key is still pressed
- 4. Press and hold both the buttons for about 10 seconds
- 5. The **Play** and **Stop** button LEDs will blink alternatively if the reset was successful

# **IP Setup (PC)**

For Windows 10 or Windows 11, type in the Windows search bar "View Network Connections"

Best match		
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Right-click on the Ethernet connection to the Spider, click "Properties". Then, select "Internet Protocol Version 4 (TCP/IPv4)" and click "Properties". Then, select "Use the following IP address:" and enter in the desired static IP address values.

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Bluetooth Network Connection Not connected Bluetooth Device (Personal Area	Ethernet Properties      Ketworking Sharing      Connect using:         Intel(R) Ethernet Connection (10) I219-LM          Configure      This connection uses the following items:          File and Printer Sharing for Microsoft Networks          Gos Packet Scheduler          Autoret Network Adapter Multiplexor Protocol          Microsoft Network Adapter Mu	Internet Protocol Version 4 (TCP/IPv4) Properties X General You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. Obtain an IP address automatically  Obtain an IP address:
4 items   1 item selected		(cc m)

The PC IP address, Spider IP address, and gateway should all share the first three numbers, while having a unique fourth number. The subnet mask should be "255.255.255.0".

To verify the network connection, use the PING command in the Command Prompt window on the PC. In the Windows Start Menu, select **Run**, type **ping 192.168.1.101** (or whatever the Spider IP address is), and press enter.

If it is correctly configured, the **ping** command will receive responses, as shown below.

```
C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\m k>ping 192.168.0.182
Pinging 192.168.0.182 with 32 bytes of data:
Reply from 192.168.0.182: bytes=32 time=83ms TTL=255
Reply from 192.168.0.182: bytes=32 time=1ms TTL=255
Reply from 192.168.0.182: bytes=32 time=1ms TTL=255
Reply from 192.168.0.182: bytes=32 time=1ms TTL=255
Ping statistics for 192.168.0.182:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 87ms, Average = 43ms
```

### **PC not Detecting Spider Devices**

If for some reason the PC does not detect the spider devices or one day the PC no longer detects spider devices despite it used to just yesterday or last week, then there are some initial checks or solutions to try below:

- Checking the PC's IPv4 config
- If another PC can detect the spider devices
- Changing to a different ethernet port or using a ethernet to usb adapter
- Changing ethernet cables

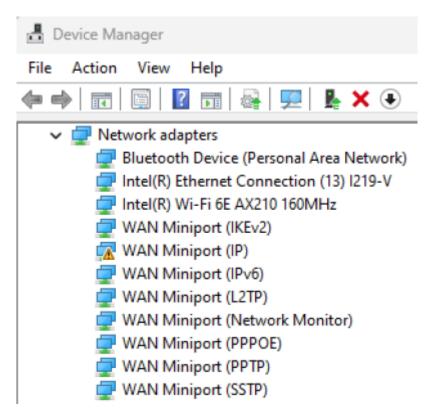
- Changing the network switch
- Turn off all other networks besides the active network with the Spider

## **Resetting the PC Ethernet adapter**

If all the above items failed and the PC still does not detect the spider devices, then the PC ethernet adapter needs to updated, its TCP/IP reseted and its DNS flushed.

To update the PC ethernet adapter:

- 1. Go to Device Manager
- 2. Drop down Network adapters
- 3. Find the name of the PC ethernet connection, such as Intel Ethernet Connection I219-V



- 1. Google search the name of the PC ethernet connection with driver, such as Intel Ethernet Connection I219-V driver or visit the manufacturer website and search for the PC ethernet connection model
- 2. Download the latest PC ethernet connection driver
- 3. Extract it if it is in a zip file
- 4. Go to Device Manager
- 5. Right click the PC ethernet connection
- 6. Select Update driver
- 7. Select Browse my computer for drivers
- 8. Select Browse...
- 9. Locate the PC ethernet connection latest driver folder
- 10. Select Next, wait and select Close

Then to reset the PC TCP/IP and flush the DNS:

- 1. Search Command Prompt and run as admin
- 2. Type in netsh int ip reset c:\resetlog.txt and press Enter
- 3. Type in **ipconfig /flushdns** and press **Enter**
- 4. Restart computer

Additional troubleshooting tips:

• Check the network adapter IPv4 > Advanced > Automatic metric settings and set the ethernet adapter with the spiders interface metric closer to 1 or check automatic.

If following the above does not work, send us an email at support@go-ci.com for further support.

# **Configure a Hardware System with Multiple Modules**

EDM supports hardware systems with multiple front-end modules, which can be configured under **Tools > Spider Configuration**. All modules must be on the same IP network, connected by a Spider-HUB or chassis.

From: https://help.go-ci.com/ - Crystal Instruments Help

Permanent link: https://help.go-ci.com/general:ip-connect?rev=1720828155

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