

Troubleshooting PixCon16 Networking issues

Most issues with the PixCon16 occur because of networking problems between the board and the computer being used. If you are still unable to get your PixCon16 to work by understanding and following Page 8 of the 'E1.31 and DMX' document, the following steps will diagnose if your computer, your network, or the PixCon16 is the issue.

If you are having issues with your PixCon16 other than being able to communicate with it (for example, pixels that are not behaving correctly or are stuck on, etc.) this document *is not for you*. This document only deals with issues pertaining to connecting a computer to the PixCon16 for configuration and testing.

Before you go further with this document, please ensure that you actually have a Pix**CON**16 and not a Pix**IE**16. Those are 2 very different boards and people tend to confuse them. A Pix**IE** will only have TWO RJ45 jacks, both plastic. A Pix**CON** has **multiple plastic RJ45 jacks and a single metal RJ45**. You can always consult your manual or our website to determine which you have.

Please note: *What we are going to ask you to do is very invasive*. You should keep plenty of notes on exactly what you have changed and what the previous settings were. You will need these notes to restore those settings when done. Restoring your settings is not something we can help you with since each computer is different. If you fail to restore your settings, the computer may no longer connect to your home network, the internet, or may cause other issues with your network in general. These are beyond our control.

The screenshots in this document are from Windows 10. Other versions of Windows should be similar enough that you can use them, **HOWEVER** you may need to use Google to search for some of these settings if you are not running Windows 10.

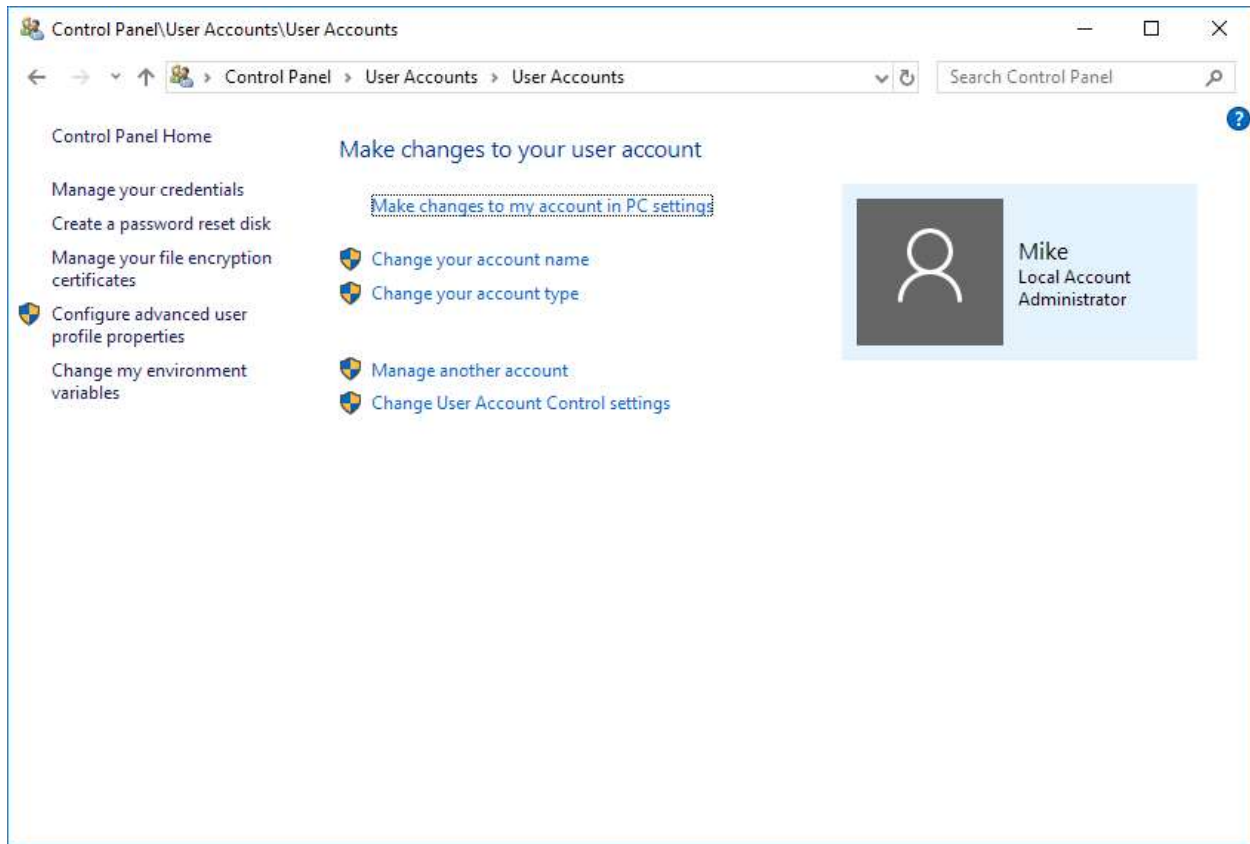
You should print or otherwise have these instructions handy as you will **NOT** have access to the internet while you are performing the steps. We are also unable to perform these steps for you via a remote session because of this.

You will need 4 things to complete this troubleshooting document: 1 - A computer that is **NOT** otherwise connected to a LAN that has a wired Ethernet port. 2 – The **LATEST S4 or S5** version of the LOR software installed on that computer and successfully run at least once. 3- Your PixCon16. 4- A new straight through CAT 5 or CAT 6 cable.

You will **NOT NEED** an LOR USB adapter. A PixCon16 can **NEVER** be configured using an LOR USB adapter. A USB adapter **CAN** be used to control the PixCon16 in a show, but configuration **DOES NOT USE A USB ADAPTER**.

When connecting to the PixCon16, you will be using the Ethernet Jack (that is the **METAL** jack) for this document. You will **NOT** be using any other jack. The pictures of the PixCon in the manual may look slightly different due to hardware improvements – but the metal jack is **ALWAYS** the Ethernet jack.

This troubleshooting guide **REQUIRES** that you have administrator access to the computer. Ensure that you are logged in as an **ADMINISTRATOR**.



Each and every one of these steps is important. **DO NOT SKIP** any step. If you are not successful when you get to the end of these steps, there are suggestions on what to check. Before contacting us please follow those suggestions.

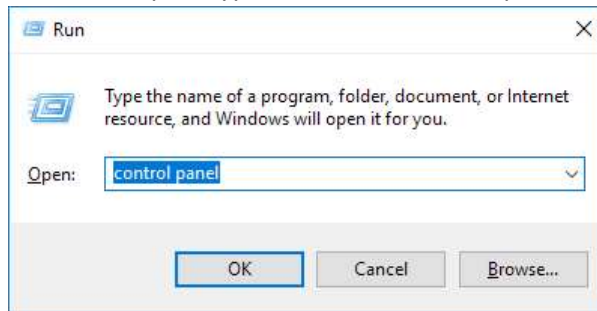
1. Reboot the computer. Ensure you are selecting 'Restart' from the Windows Start/Power menu. A power off/on is NOT a reboot.



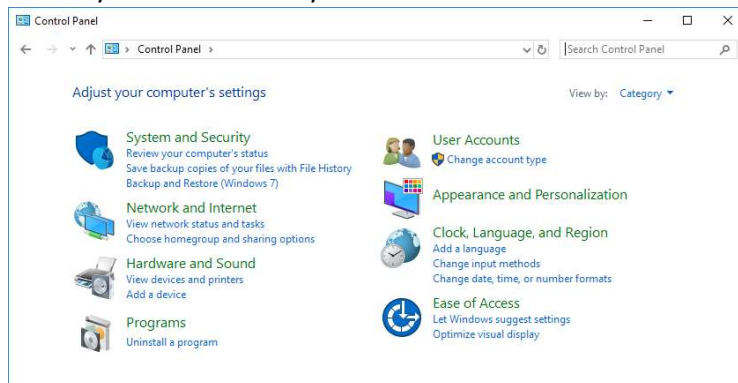
2. Ensure you are running Light-O-Rama S4 V4.3.34 or higher. This version (or higher) is required to work with the newest PixCon16s available. Using lower versions may not work correctly.
3. You must disable any firewall or internet security software you may have running on your computer. If you are not using Windows Firewall, please consult with the mfg. on how to disable it.

Next you need to ensure that you did not accidentally BLOCK the LOR S4 software. Everyone should perform these steps. **If** at some point you are told that Windows Firewall is NOT enabled/running then move on to step 4.

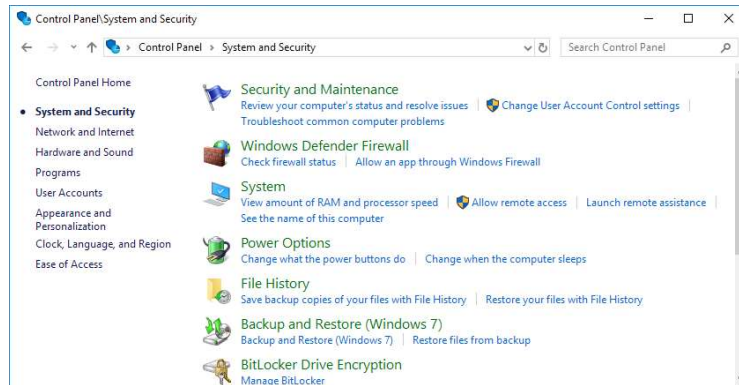
- a. Press the Windows Key and R at the same time to open the Run Command window. When it is open, type 'Control Panel' and press enter



- b. Go to System and Security



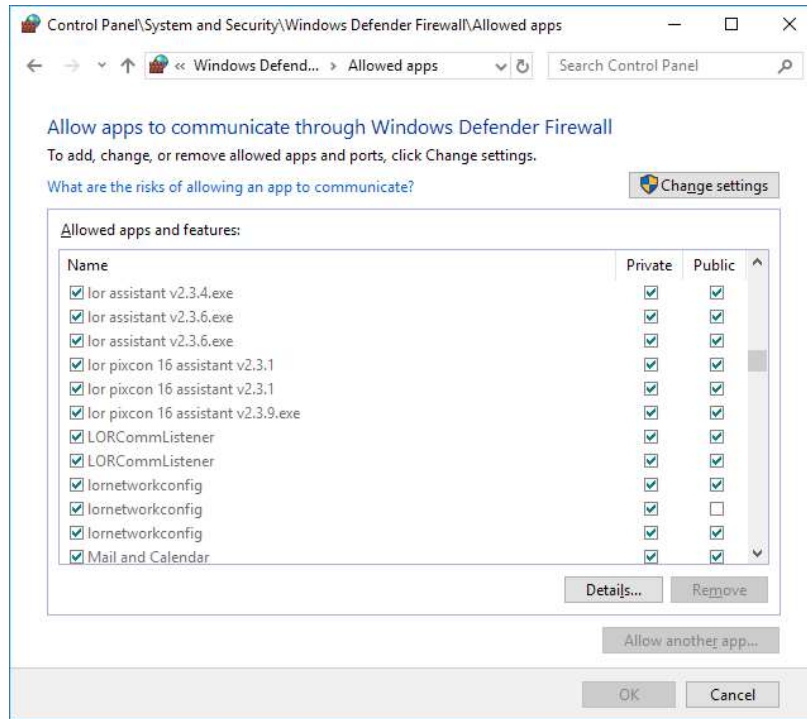
c. Go to Windows Defender Firewall



d. Click Allow an app or feature through Windows Defender Firewall

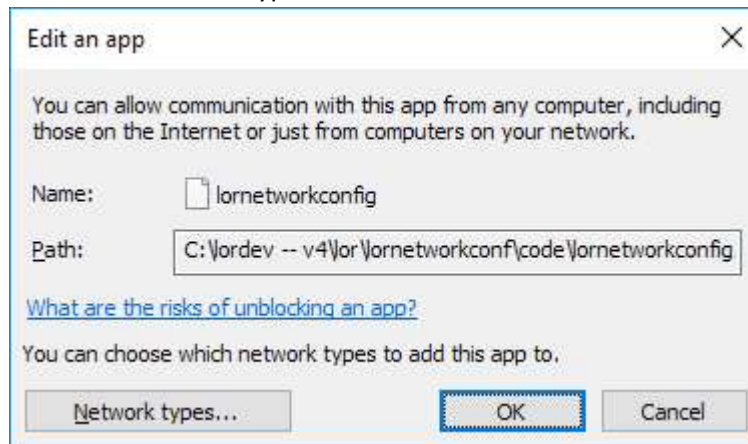


e. Look through the list. ANY program that starts LOR should have a check mark in BOTH the Private and Public columns.

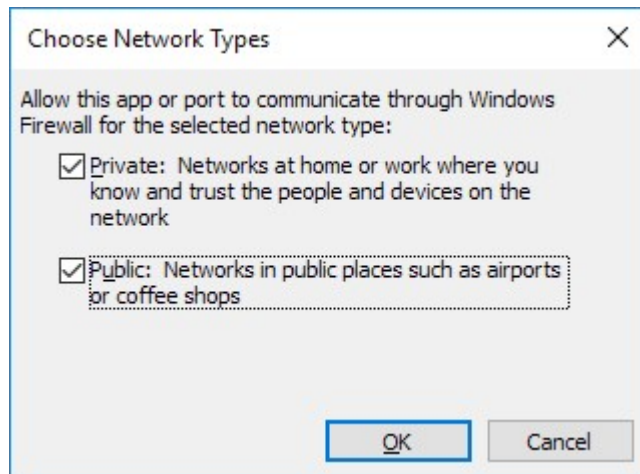


- f. For any that do not, highlight them, and press the Details button [NOTE! You may first need to press the 'Change Settings' button near the top before you will be able to update your settings].

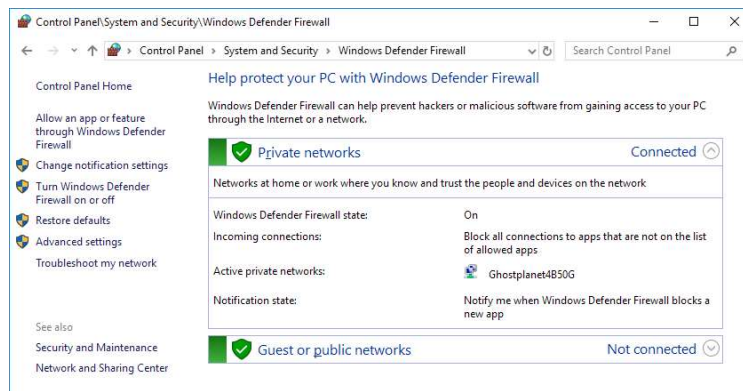
- g. Press the 'Network Types' button



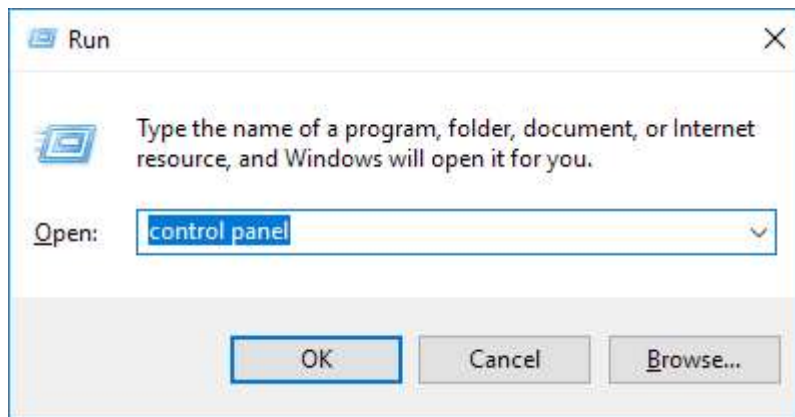
- h. Make sure both boxes have check marks



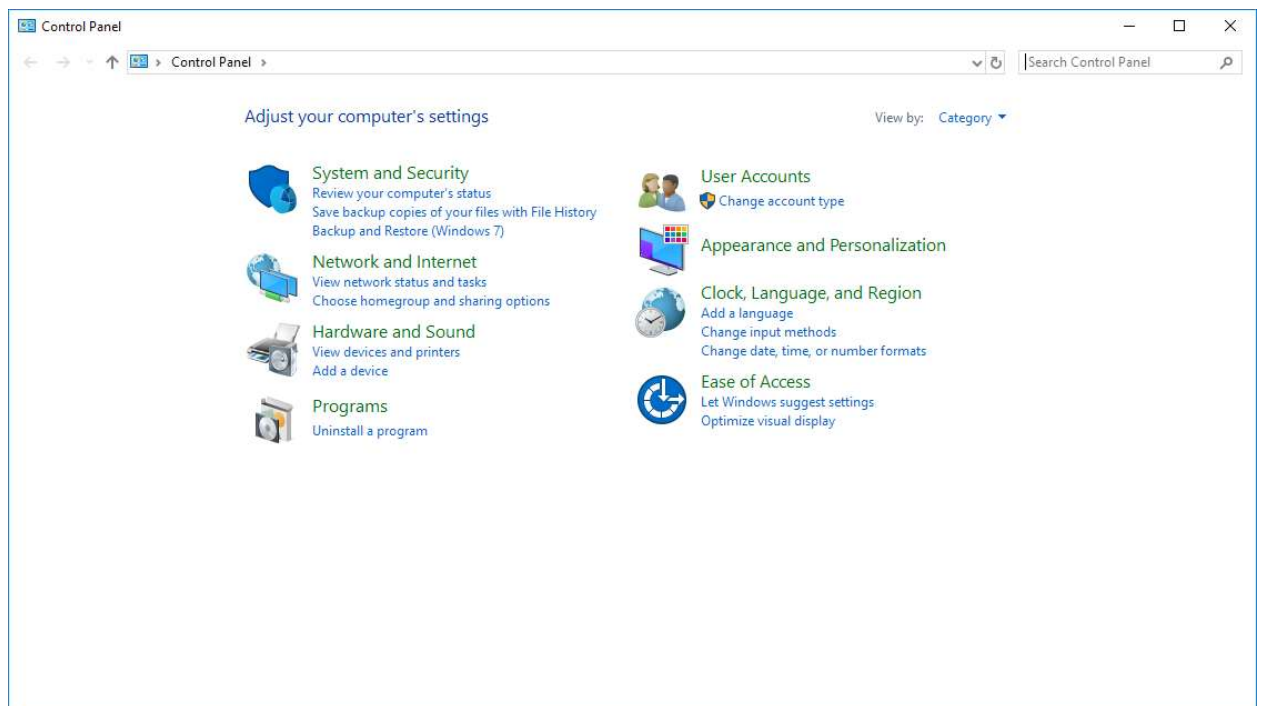
- i. Press OK and OK. Repeat these steps for all other LOR programs that do not have checks in both columns.
- j. When complete, press OK so you are back at the Windows Defender Firewall window, then close the window.



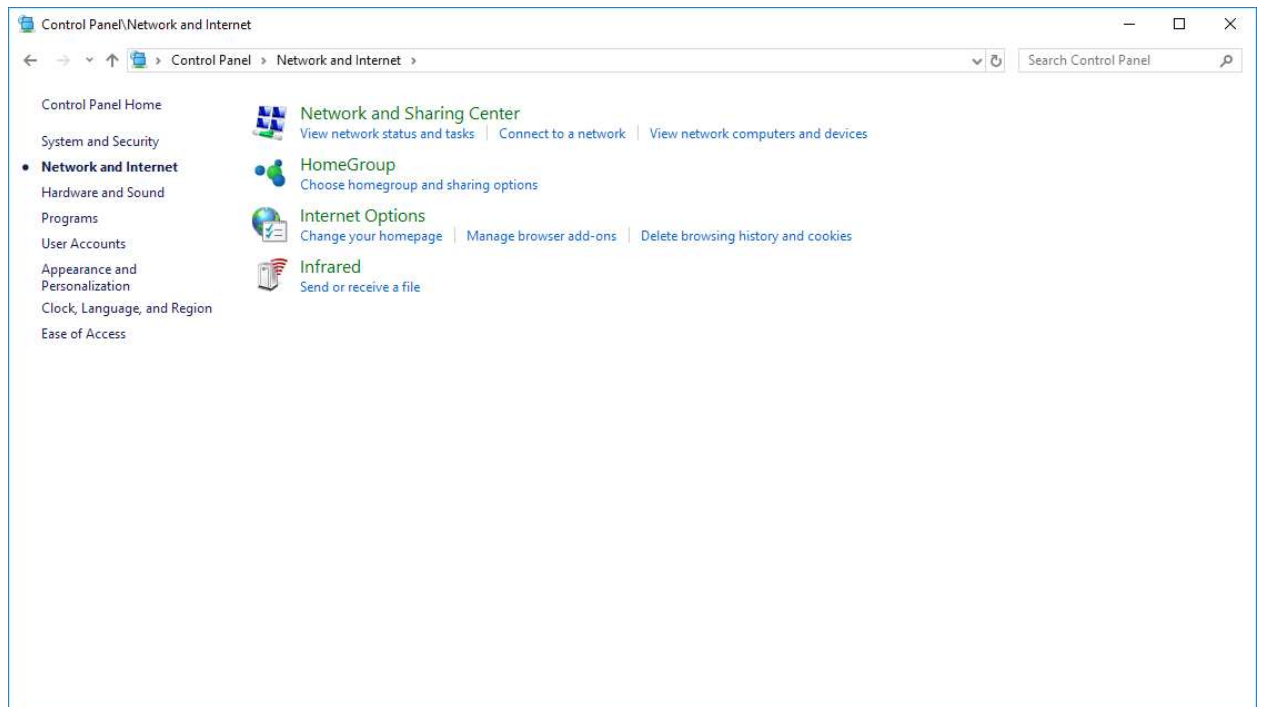
4. After disabling your firewall software, or ensuring that Windows Firewall is correctly configured: Press the Windows Key and R at the same time to open the Run Command window. When it is open, type 'Control Panel' and press enter



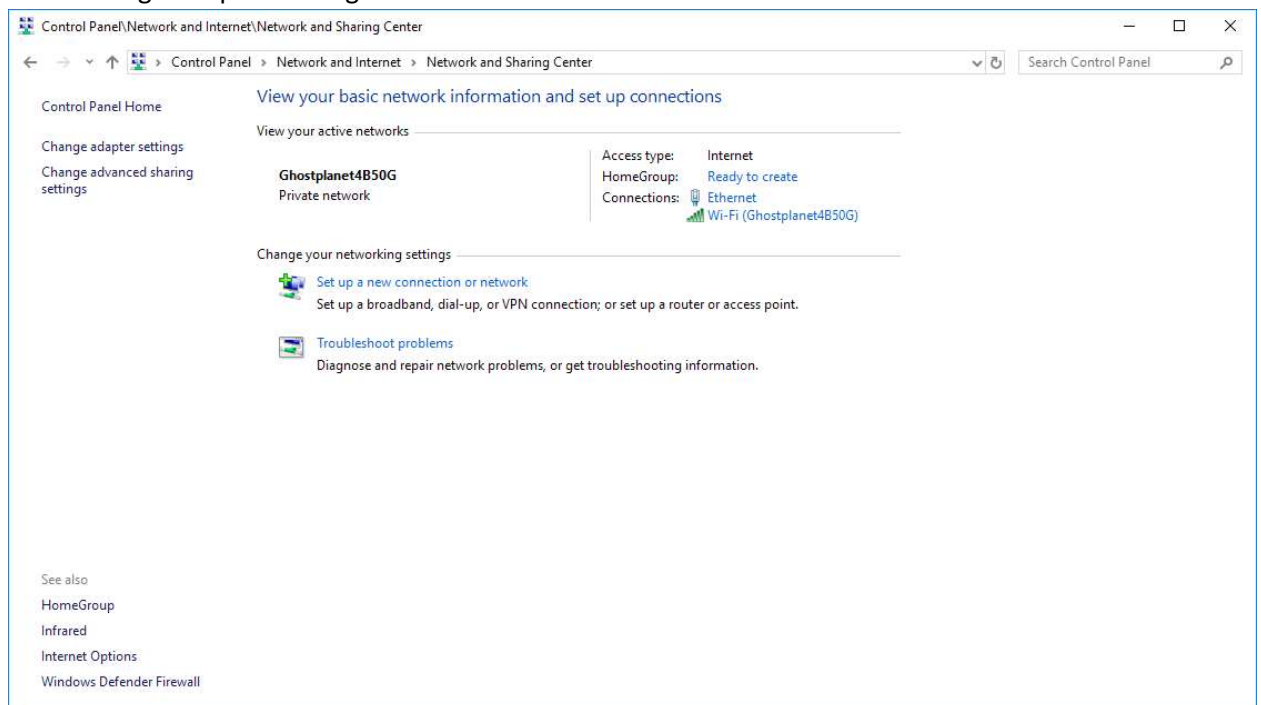
5. Select Network and Internet



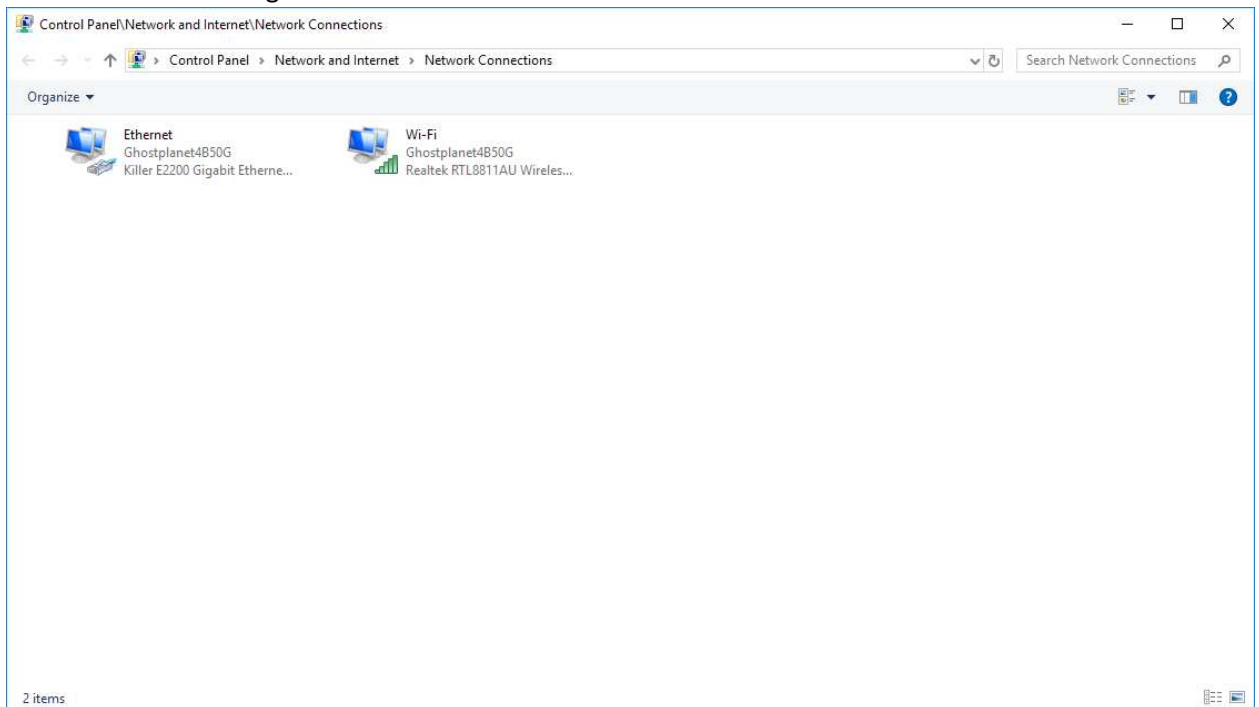
6. Click View Network Status and Tasks



7. Click 'Change Adapter Settings'



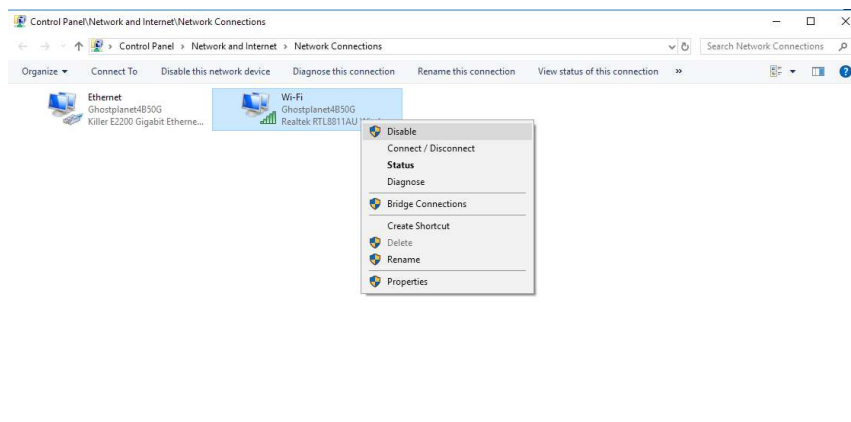
8. You will see something like this screen:



9. Carefully review this screen as your screen **will look different**. You will have at least 1 and perhaps many different connections listed. *You will need to DISABLE all connections here EXCEPT your wired connection.*

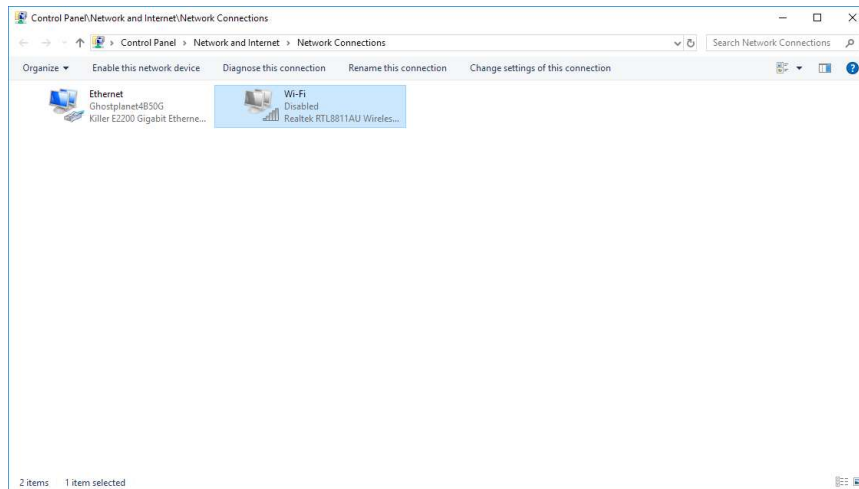
For this computer the wired connection is called 'Ethernet', and uses a card called 'Killer E2200 Gigabit Ethernet Controller'. The connection named 'Wi-Fi' must be disabled. To Disable a connection:

- a. RIGHT click the connection
- b. Select Disable



Remember you must DISABLE ALL other connections. Once complete ALL your connections except the wired connection should have a red X on them, or say

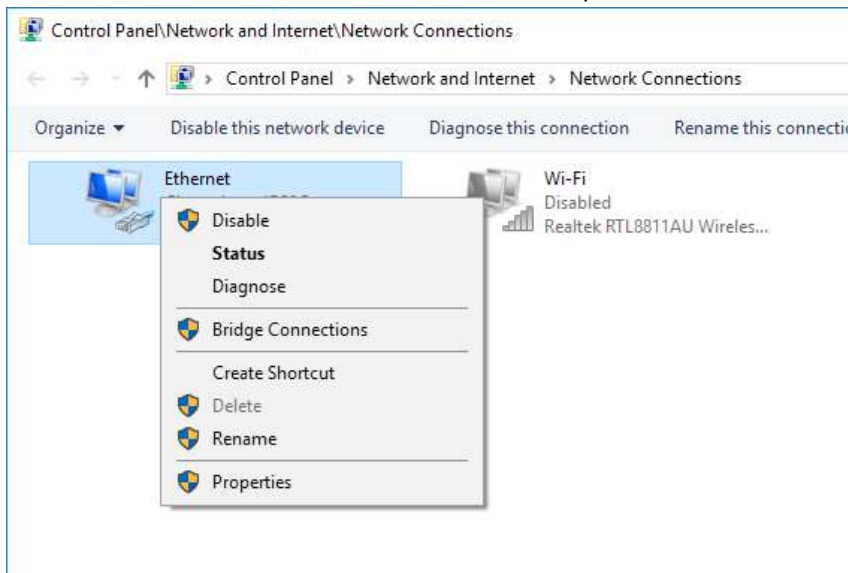
‘Disabled’. This computer only had 2, yours may have more:



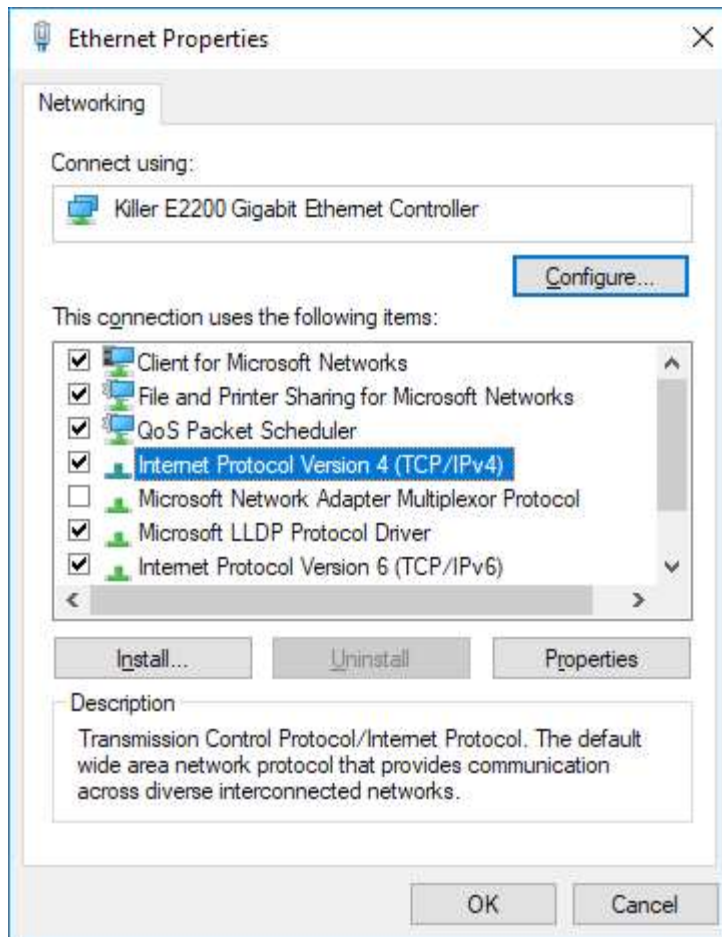
It is VERY important that ALL connections are disabled except the wired connection. If all connections are not disabled, the tests may fail.

Only ONE wired connection should be active. If your computer has more than one NIC, ensure you have disabled all of the others AND that you are actually using the NIC that you left active.

10. RIGHT click the wired connection and select ‘Properties’



11. On the properties screen, select ‘Internet Protocol Version 4 (TCP/IPv4)’, then press the properties button just below



12. At this time, disconnect the CAT 5 cable that is going to your computer (if any).

13. On the Internet Protocol Version 4 (TCP/IPv4) Properties page:
 - a. Select 'Use the following IP Address'
 - b. In IP Address type 192.168.0.51
 - c. In Subnet Mask type 255.255.255.0
 - d. In Default Gateway type 192.168.0.1

Internet Protocol Version 4 (TCP/IPv4) Properties

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

☒ Use the following IP address:

IP address: 192 . 168 . 0 . 51

Subnet mask: 255 . 255 . 255 . 0

Default gateway: 192 . 168 . 0 . 1

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server: 8 . 8 . 8 . 8

Alternate DNS server: 8 . 8 . 4 . 4

☐ Validate settings upon exit

Advanced...

OK Cancel

DO NOT CHANGE any other settings on this page, including the section below. Yours may not look like this. THAT IS OK.

14. Press OK/Close/Etc. several times to close all windows.
15. Reboot the computer. Again, do not just power off, instead select 'Restart' from the Windows Power menu.

16. Factory Reset your PixCon16:

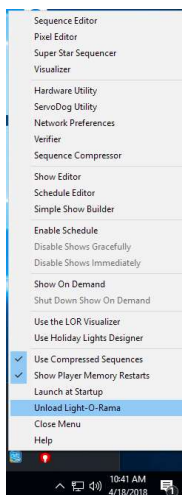
- Power down the board
- Press and hold BOTH buttons on the board (Factory IP and Bootloader)
- Power up the board
- Wait 10 seconds
- Release both buttons

17. Set your Pixcon16 to the Factory IP setting:

- Power down the board
- Press and hold the 'Factory IP' button
(NOTE: If you were asked by this document to press the Bootloader button, press that button instead. **Do not use the bootloader button unless asked to do so.**)
- Power up the board
- Wait 10 seconds
- Release the button

18. Connect a straight CAT 5 cable from the metal jack on the PixCon16 to the Ethernet Jack of your computer. Observe the lights on the CAT5 jack of the PixCon16. One should be on. The other may flash randomly.

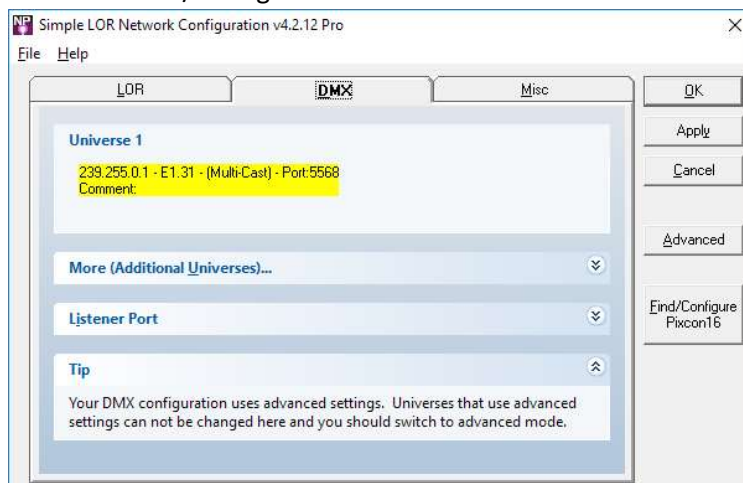
19. Ensure no other LOR programs are running. If you have the LOR Lightbulb in your system tray (and/or the LOR Comm Listener is running), right click the light bulb and select 'Unload Light-O-Rama'.



20. Start the Light-O-Rama Network Preferences program. (Start/[All Programs]/Light-O-Rama/Light-O-Rama Network Configuration -- You may or may not need to select 'All Programs')

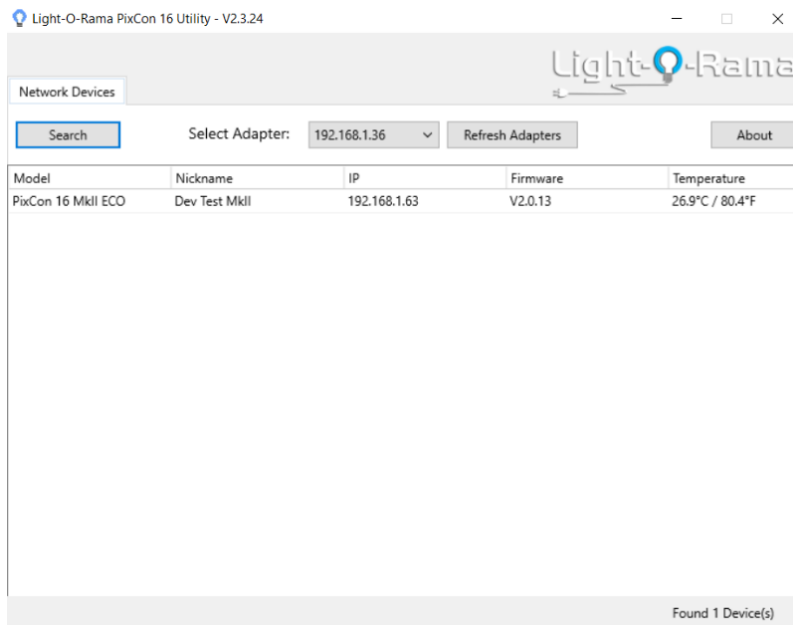


21. Press the 'Find/Configure Pixcon16' button.

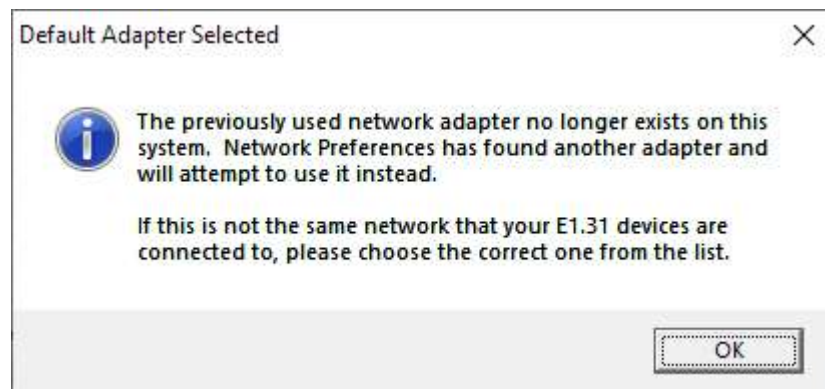


22. You should be using the newest version of our software, either S4 or S5. After you press the button, there should be a single network adapter shown in the drop down at the top. If you do NOT see this drop down, you are using an OLDER version of the software and need to upgrade.

If you press the arrow and find MORE than 1 network adapter listed, you did not perform step 9 properly:



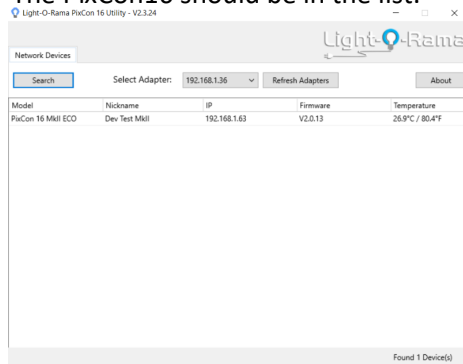
23. NOTE: In some cases when you press the 'Find Configure PixCon16 button, you may receive the following message. If you do, simply click OK:



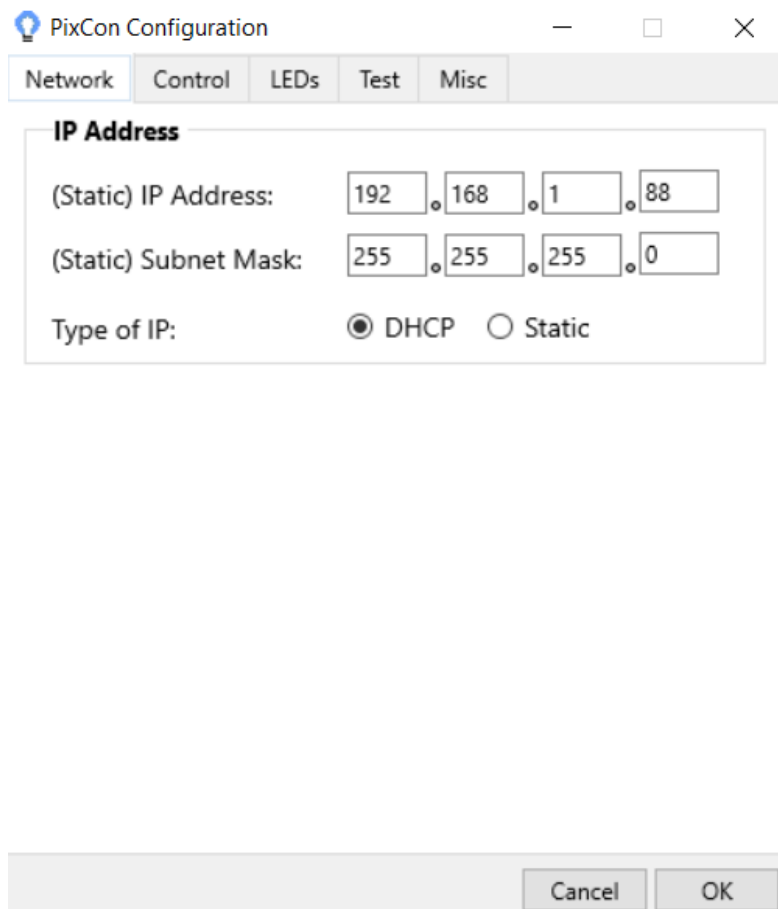
If however you receive a message that there are NO network adapters left on the computer, you have incorrectly disabled ALL your network adapters (or this computer does not have a network adapter). You should go back to step 9.

If you don't get ANY message that is OK. Most people will not see either of those errors.

24. The PixCon16 should be in the list.



25. Click the PixCon16 in the list to open the configuration



At this point if you were able to open the configuration page of the PixCon16 in this way, the board is working 100%.

To restore your computer, review the computer steps in reverse and restore the settings (that you previously recorded) and re-enable any connections you disabled.

Troubleshooting

- If you were able to configure the board using these procedures, but are not successful in configuring the board using the checklist and/or the E1.31 and DMX for Pixel Control documents then you have a networking configuration issue, not a PixCon16 hardware issue. The PixCon16 is a professional level board and requires some in-depth knowledge of TCP/IP. You may want to consult with a computer expert who can help you with your networking configuration.
- If you were able to see the board in the list, but were unable to open the configuration you did not perform one of the steps correctly in this troubleshooting guide or there is something else on your computer that is preventing our software from responding to the board. Since the board is showing in the list, the board is working.
 - Please follow the instructions again.
 - If you again are able to see the board in the list, but not able to configure it the issue lies with your computer.
 - Review the steps below (If you were not able to see the board in the list) to see if any of them may be the cause. Re-test from the start.
 - The issue could be a firewall, anti-virus or security software, a bad or corrupted Windows installation, etc. All of these things are beyond our control.
- If you were not able to see the board in the list, you may have configured something incorrectly, or it is possible the board is the issue. Follow these steps in order:
 - Most commonly this is because you failed to disable one or more networks during step 8. Double check.
 - You failed to disable any firewall software, or failed to allow the LOR programs through Windows Firewall.
 - Ensure you are running 4.3.34 OR LATER of S4.
 - Check the Status and Power LEDs on the top of the board. Status should be FLASHING, power should be solid ON. Check the following IN ORDER:

- Neither light is on nor flashing?
Check power to the board. Check logic fuse (fuse on the short edge of the board, may also be called 'fan fuse'). If the power supply is working and the fuse is good, contact support via a help desk ticket and explain you have NO POWER to the board.
- STATUS LED Solid ON?
Other LOR Programs may be running. Shut them down. Test that you have shut down all programs by disconnecting the CAT 5 cable from the metal jack on the PixCon16. Wait 30 seconds. If the status LED now starts to flash, you failed to shut down a program that is communicating with the board.
- STATUS LED Solid OFF?
Board may need to have firmware reloaded. Attempt to factory reset the board. Follow these instructions again from the top, however when asked to press Factory IP button, instead press and hold the *Bootloader* button. If you find the board at step 24 (most likely in BLUE), you need to recover the firmware. Contact support via a help desk ticket and explain that your board is locked up due to bad firmware.
- POWER LED flashing?
Board did not correctly set the IP address. Restart these instructions again, and ensure you are performing step 16 properly.
- Look at the 2 LEDs on the metal jack of the PixCon16 (not the LEDs on the top of the board). One of them should be solid ON (usually GREEN), the other should occasionally flash (usually YELLOW). Your computer network jack *may* have these same lights, and if so they should work the same way: one solid, one flashing occasionally.
 - No solid light?
Try a different CAT5/CAT6 cable. Ensure that you did not accidentally disable your wired connection in step 8. If all looks good, you may have a bad board, contact support via a help desk ticket and explain that your board is not receiving LAN traffic due to no Ethernet link.
 - Solid light and NO flashing light?
Depending on network activity, the data light may be dark for some time. Watch the light for several minutes.

If still no activity try a different CAT 5 cable. You may **not** have performed the steps correctly in this document and did not set your computer's IP correctly. Start again from the top. If still unsuccessful, contact support via a help desk ticket explain that your board is not receiving LAN traffic, but Link is OK.

- Solid light and flashing light and still unable to find or configure the PixCon16? Incorrect computer configuration or PixCon16 setup. Start these instructions again.

Contacting Support:

If you were asked by this document to contact support, please include the requested information. This information will quickly guide us to a solution.

If you can still not connect to the board and decide to contact us, please note there is not a lot we can help with over the phone or with trouble tickets. Phone support is especially problematic since all we could do is run through this document, and you won't have the benefit of the pictures available in it. Depending on your Windows skills, performing the steps in this document may take several hours. Being able to do it at your own pace will minimize mistakes.

Because the computer will NOT be connected to the internet, there is no way we can do a remote session to help you with this document.

If you do contact us, be aware that we are going to ask you for some very explicit information. First and foremost you are going to have to tell us what happened AND what steps you took to try to solve the issue. This document attempts to point out many problem areas. Telling us that you 'Followed these directions and it doesn't work' is not enough and you will be pointed back here to re-test from the start.

Depending on the issue, here are some of the things you should be prepared to send us:

1. A screenshot showing that you are logged into the computer as an administrator.
2. The complete IP setup of the computer. That means screenshots of all the steps where you were asked to change something (3E, 8, 13, 19, 22)
3. Screenshots of all the programs installed on the computer
4. A photo showing the connection from the PixCon to the CAT 5, as well as a photo showing the connection of the CAT 5 to the Ethernet jack on the computer.

This is only a general list. We could ask for additional information. With this information we can verify your settings and *possibly* see where something else could be interfering. If we verify that all of your information looks good, then the issue is most likely the computer itself.