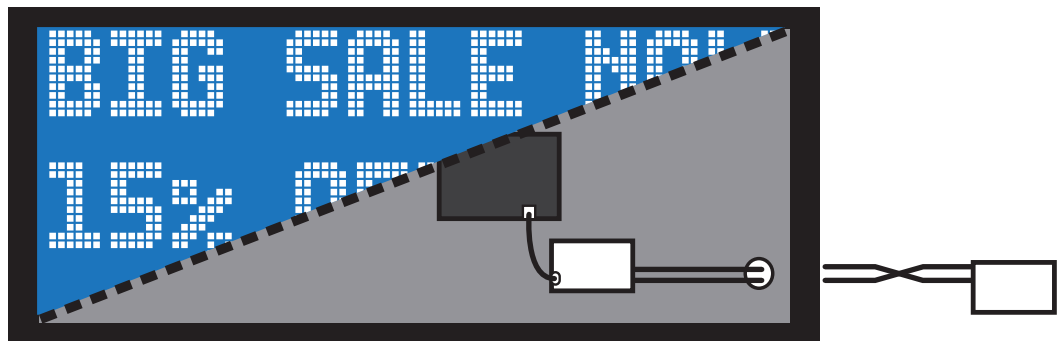


Fiber Optic Communication Setup

Model: MC210CS



IMPORTANT INSTALLATION NOTES

- We provide two converters. One pre-installed in the sign, and the other provided for installation at the building (Network Room or Computer)
- They support Single Mode fiber, and accept SC Type connectors only.
- We DO NOT provide the fiber optic cable.
- The converters require (2) fiber cables for TX (Transmit) and RX (Recieve). When connecting, make sure the TX and RX ports are crossed from one converter to the other.

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FIBER OPTIC CONVERTER INSTALLATION

NOTE: Verify the software type configured with your display. If you are using a custom or 3rd party option, contact the 3rd party or follow the instructions shipped with the custom project.

SM INFINITY (Online)

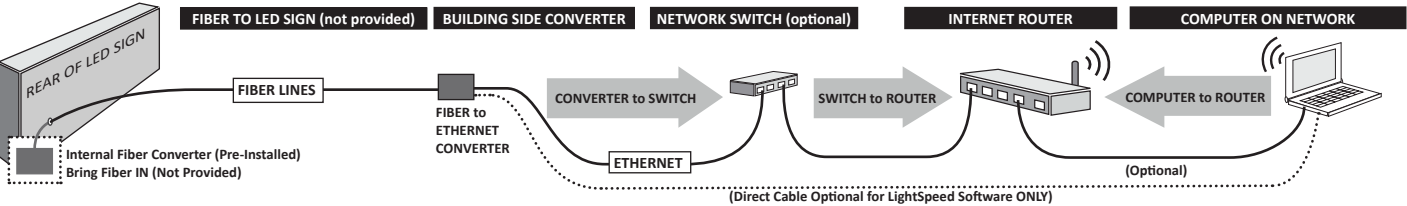
The display MUST be connected to the internet. This means the fiber converter at the building must connect to a network switch or router.

LIGHTSPEED (Local)

The display is controlled directly from a computer with the software installed. With this option, communications can be connected directly to a single computer, OR over a network. Internet access is not required by the sign. If using live video the software is pre-installed on the controller or workstation in the press box.

CONNECTION OVERVIEW

- We provide two converters. One pre-installed in the sign, and the other provided for installation at the building.
- They support Single Mode fiber, and accept SC Type connectors only.
- We DO NOT provide the fiber optic cable.
- The converters require 2 fiber cables RX and TX. When connecting, make sure the TX and RX ports are crossed from one converter to the other.



CONNECT TO ADAPTER AT THE SIGN

1 Bring your fiber lines into the display using the “COMMS” port on the back of the LED sign.

2 Identify the location of the PC Controller using the location diagram that shipped with the sign. The Fiber Converter will be mounted nearby.

3 Remove required LED modules to access the internal components

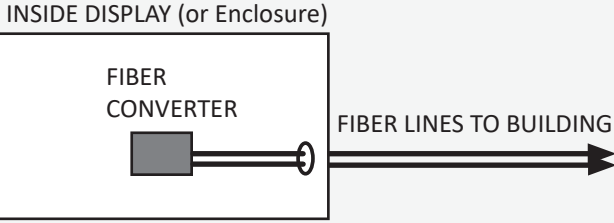
- Insert the Hex Key and twist 1/2 turn left to unlock each
-
- Hex Key
- Gently pull out module, take care not to pull the cables out.
-

The data and power cables can be disconnected at the module. Avoid dropping the cables inside the sign.

4 Locate the Fiber Converter mounted near the PC Controller. (May need to remove multiple modules)



5 Connect your fiber lines to the TX and RX ports on the converter using SC Connectors. Then power on display.



CONNECTION AT THE BUILDING/OFFICE

1 Locate the Fiber Optic adapter for the building. Install near your computer or network connection and power on.



SIDE 1: Fiber, Status, Network



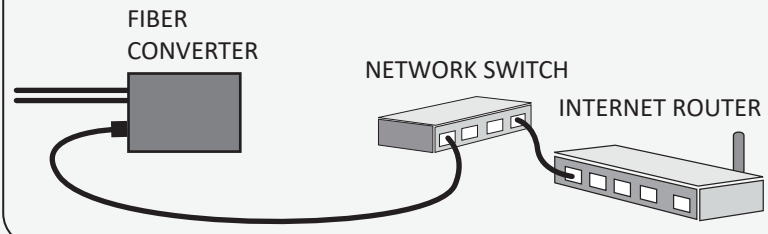
SIDE 2: Power Connection

2 Plug in the other end of your Fiber Cables to the TX and RX ports. Connect the TX from the sign to the RX at the building and the RX from the sign to the TX at the building.



3 SM Infinity or LightSpeed

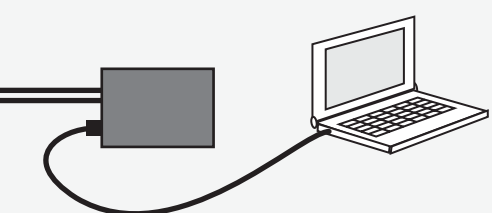
Plug your Network Cable to the ETHERNET network port on the Fiber Converter, then connect it to your NETWORK SWITCH, or INTERNET ROUTER.



OR

Temporary or LightSpeed ONLY

Plug the ETHERNET Network Cable directly to your COMPUTER



4 Verify the connectivity between the Fiber Converters from the status lights.

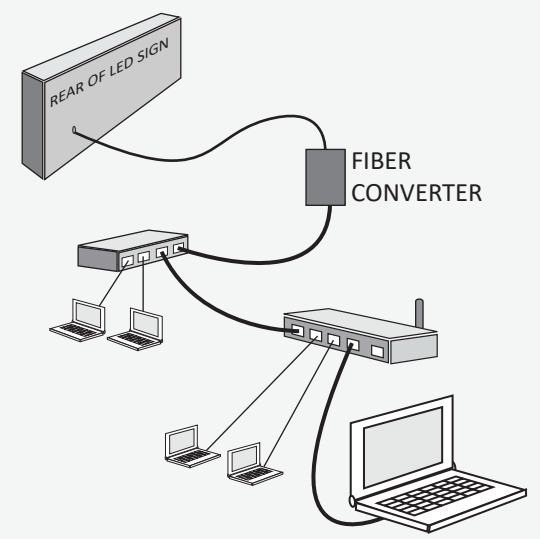


PWR	Power Light	Device is getting power.
TX/RX FIBER		Indicates if there is a good FIBER OPTIC link between the FIBER ADAPTERS
Link/Act		Indicates if there is a good NETWORK connection between the FIBER ADAPTERS and Your Network.

IF COMMUNICATION CANNOT BE ESTABLISHED:

- Check the power and status indicators on BOTH adapters.
- Verify the Fiber Cables are crossed between the adapters (TX to RX, RX to TX)
- Verify the Fiber Cables or RJ45 Ethernet Network Cables are not pinched, damages, or disconnected.
- Contact Technical Support if the problem cannot be resolved.

5 Access a computer that is connected directly, or to the same network as the sign. Then proceed to the next section to configure the SIGN CONTROLLER.



SM Infinity™ - COMMUNICATIONS

The display needs to connect to SM Infinity in order to modify content and updates. Unless the display shipped with a Cellular Modem, the display will use your local network to connect to SM Infinity online.

Before you Start:

- Make sure the display is powered on.
- Verify the communication devices have signal.
- Verify the communication device at the building is plugged into the network switch or router.

WARNING: If you are unfamiliar with Network Configuration, please contact your Network Administrator, Tech Support, or your display provider for assistance. These instructions carry no guarantee, and no liability.

AUTOMATIC (DHCP)

- This is the default, and most common configuration for displays using SM Infinity. The controller in the display is pre-configured to automatically get an IP address from your network and try to go online.
- After connecting all devices and power, go to sminfinity.com and login to your account. If you did not get an account, please contact your dealer or support for assistance.
 - Verify if the display is online in the My Displays section of SM Infinity.

- If the display is not connecting to the internet.
- Turn the display OFF, wait 30 seconds, then back ON. Wait 10-15 minutes, then check sminfinity.com again.
 - Verify your network isn’t blocking the display from SM Infinity. The following domains, and all sub-domains, must be allowed on your network.
 - sminfinity.com
 - sminfinitymedia.com
 - Contact your network admin, or support for further assistance if needed.

MANUAL IP CONFIGURATION

If requested, your display may have been manually configured at the factory for a static IP address. In most cases, this is requested by an IT or Network team prior to shipment. After connecting all devices and turning on power, you’ll need to temporarily configure your computer, set the IP address of the display, then connect it to your network and verify connection to SM Infinity.

A quick guide is below for IT professionals, or those comfortable with networking. Detailed instructions are provided later in this guide.

QUICK NETWORK GUIDE (use only if you are familiar with networking)

1. Use a computer on the same network as the sign to verify the existing IP network information by using **ipconfig /all** in a **cmd** window (IP, SUB, Gate, DNS)
2. Configure the network adapter with the same ip settings provided by DHCP (IP, SUB, Gate, DNS) to avoid any IP conflicts, then add a secondary IP address to the adapter on the same range as the sign (IE 192.168.0.100) using the **Advanced** button.
3. Apply the settings then **Ping** the LED sign’s default IP address (192.168.0.2) to verify settings and local communication with the sign.
4. Use UltraVNC (vantageled.com/download) to remotely log into the LED Sign Controller. Contact the dealer or factory support for the password.
5. Use the “Minimize” button on the SM Player to access the desktop. *Note: the sign will go blank during this process.*
6. Configure the LED Sign Controller’s network adapter to a compatible scheme for the existing network, including IP, SUB, Gate, and DNS. Make sure to use an IP address that will NOT be used for another computer over DHCP.
7. Add a secondary IP to the adapter (Advanced button) set to the default IP address of the sign as a fail-safe.
8. Apply the settings. This will may disconnect the VNC session while the settings are changed.
9. Log back in with UltraVNC with the NEW IP address and verify the controller has access to the internet. Once confirmed, close all open windows, maximize the SM Player application, and exit out of Ultra VNC.

The sign will now sync with the SM Infinity servers over the internet and any changes made in the SM Infinity account will be reflected on the sign. If there are any issues or questions, please contact your Dealer or Factory Support team.

LightSpeed (SignScheduler) - COMMUNICATIONS

The display is managed by a computer connected directly to the display, or over a network. This option does NOT require the display to be connected online, but does require you to install the LightSpeed software on your computer. If this is a Live Video configuration, you will use the software pre-installed on the workstation or controller.

WARNING: If you are unfamiliar with Network Configuration, please contact your Network Administrator, Tech Support, or your display provider for assistance. These instructions carry no guarantee, and no liability.

Before you Start:

- Make sure the display is powered on.
- Verify the communication devices have signal.
- Verify the communication device at the building is plugged into your computer directly, or over a network.

MANUAL IP CONFIGURATION

By default, the display’s IP address is 192.168.0.2. However, if requested, your display may have been manually configured at the factory for a different IP address. In most cases, this is requested by an IT or Network team prior to shipment.

After connecting all devices and turning on power, you’ll need to temporarily configure your computer, set the IP address of the display, then verify connection directly or across your network.

A quick guide is below for IT professionals, or those comfortable with networking. Detailed instructions are provided later in this guide.

QUICK NETWORK GUIDE (use only if you are familiar with networking)

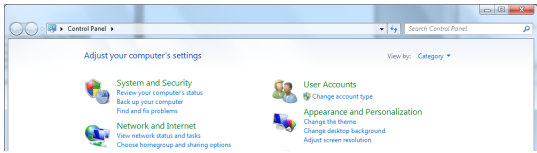
1. Use a computer on the same network as the sign to verify the existing IP network information by using **ipconfig /all** in a **cmd** window (IP, SUB, Gate, DNS)
2. Configure the network adapter with the same ip settings provided by DHCP (IP, SUB, Gate, DNS) to avoid any IP conflicts, then add a secondary IP address to the adapter on the same range as the sign (IE 192.168.0.100) using the **Advanced** button.
3. Apply the settings then **Ping** the LED sign’s default IP address (192.168.0.2) or the IP address requested by your IT team to verify settings and local communication with the sign.
4. Use UltraVNC (vantageled.com/download) to remotely log into the LED Sign Controller. Contact the dealer or factory support for the password.
5. You will see the SignPlayback application running and playing content on the top left corner of the screen. Avoid windows in this area as they will show up on the display.
6. Configure the LED Sign Controller’s network adapter to a compatible scheme for your existing network, including IP, SUB, Gate, and DNS. Make sure to use an IP address that will NOT be used for another computer over DHCP.
7. Add a secondary IP to the adapter (Advanced button) set to the default IP address of the sign as a fail-safe.
8. Double check, then apply the settings. This will may disconnect the VNC session while the settings are changed.
9. Log back in with UltraVNC with the NEW IP address and verify the controller communications. Once confirmed, close all open windows, make sure the SignPlayback application is running, and exit out of Ultra VNC.

- You can now send messages to the display using the LightSpeed software installed on any computer with access to this display directly, or over your network.
1. Install LightSpeed (SignScheduuler) from the disc that shipped with the display.
 2. Go to **Tools>Options** and select **TCP/IP**.
 3. Add the IP address of your display and save. (leave the port at the default setting)
 4. Press OK
 5. Begin creating and sending content to your display. Use the Help menu or go to vantageled.com/online-training for instructions on using LightSpeed.

MANUAL IP CONFIGURATION - CONFIGURE YOUR IP ADDRESS

NOTE: The instructions below assume you want to have your computer connected to both the display and your network/internet. If you are using LightSpeed and only want to connect directly to the sign, you can skip steps 3-4, and simply change your main IP address on step 7, then save.

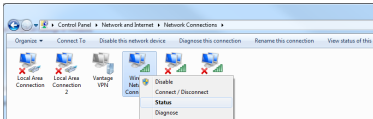
- Go to the Windows **Start** menu and select **Control Panel**



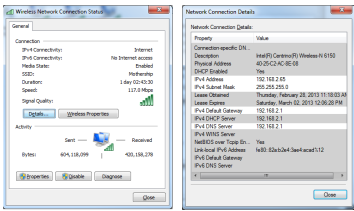
- Type **adapter** in the search box, then select **View Network Connections**.

Note: If you are using an earlier version of windows, just click on the **Network Connections** icon in the control panel.

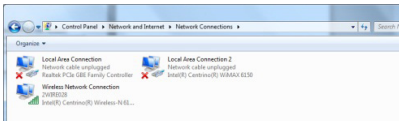
- Right-Click** on the network connection that you will use to connect to the sign, and select **Status**.



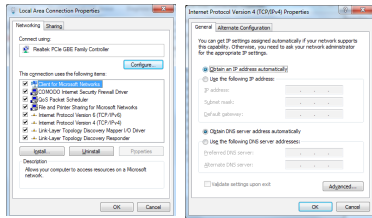
- Click on **Details** and write down the **IPv4 Address**, **Subnet Mask**, **Default Gateway** and **DNS Server** for future reference. Then close the **Details** and **Status** Windows.



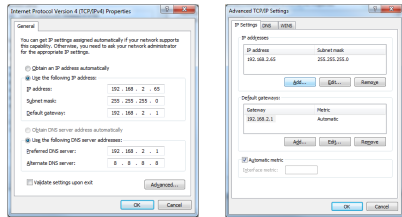
- Double-Click** on the network connection that you will use to connect to the sign.



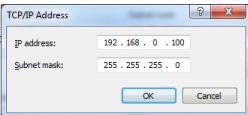
- Double-Click** on **Internet Protocol Version 4**



- Select **Use the following IP address** and enter the IP address information that you wrote down earlier, then click the **Advanced** button.



- Click the **Add** button and enter an IP Address that is on the same scheme as the sign (Example: 192.168.0.100). Then press the **Tab** key to automatically fill in the **Subnet Mask** then press **OK**.



DO NOT use the following:

192.168.0.1 192.168.0.20
192.168.0.2 192.168.0.21

Note: Make sure this IP address is not being used by another computer on the network, and it different from the default IP address of the sign (192.168.0.2). If you have any questions, ask your Network Admin.

- Press **OK** on the **Advanced Settings Window**, and **Close** button on the **Network Connections Properties Window** to save the new IP Address settings.

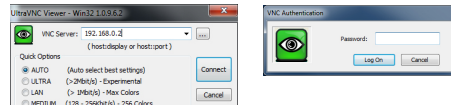
- Verify** communication to your network by opening up a web page.

MANUAL IP CONFIGURATION - CONFIGURE THE SIGN'S IP ADDRESS

The Sign Controller must be on the same IP scheme as the network to connect to your computer (LightSpeed) or the internet (SM Infinity). If you have any questions on what IP address to use, please consult your Network Administrator or contact technical support.

- Download and Install the latest Windows version of Ultra VNC by going to: <https://vantageled.com/download>

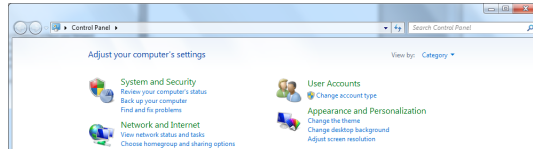
- Open Ultra VNC and type in the IP address of the sign, then hit **Connect**. A password prompt will appear. Please contact your dealer or tech support for this password.



- You will now see the internal sign controller. **SM Infinity:** Press the Minimize button to show the windows desktop **LightSpeed:** You can keep the SignPlayback application running.



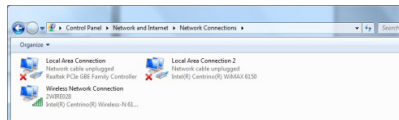
- Go to the Windows **Start** menu and select **Control Panel**



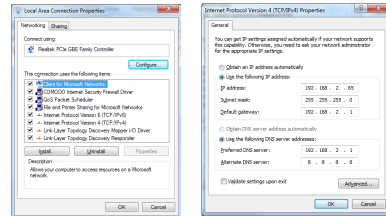
- Type **adapter** in the search box, then select **View Network Connections**.

Note: If you are using an earlier version of windows, just click on the **Network Connections** icon in the control panel.

- Double-Click** on **Local Area Connection (connected)**.



- Double-Click** on **Internet Protocol Version 4**

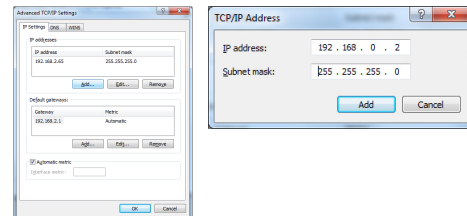


- Select **“Use the following IP address”** Change the IP address to one that is compatible with your network, and is **NOT** going to be used by any other computer. **Note:** This **MUST** be different from your computer's IP address.

- Enter a Subnet, Gateway and DNS that are compatible with your network.

- Click the **Advanced** button.

- Click the **Add** button and enter the original IP Address that the sign shipped with. IE “192.168.0.2”. Then press the **Tab** key to automatically fill in the **Subnet Mask** then press **OK**.



- Press **OK** on the **Advanced Settings Window**, and **Close** button on the **Network Connections Properties Window** to activate the new IP Address settings. You may lose the connection to the sign. If this happens , reconnect using the new IP address.

- A new network window may have opened on the screen. Select “Home” network. Then close any open network windows.

- Verify the controller has internet access by opening a webpage in a browser. If it will not connect to the internet, contact technical support.

- Close the browser and any other background windows.

- Click on the SM Player to maximize if the display is using LightSpeed, make sure the SignPlayback application is running (top left corner).** Then close the Ultra VNC window.

CONNECT TO THE SIGN AND VERIFY

CONNECT

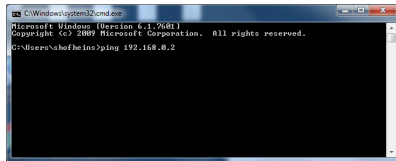
Option 1 - THROUGH NETWORK: Leave the Building Radio connected to the network router or switch. If you have any trouble, you may need to use option 2.

Option 2 - DIRECT: Connect the Building Radio to your computer's network port. This will allow a direct connection to the sign. **If your display is using SM Infinity remember to plug it back into the network router or switch after you have set the IP address.**

VERIFY

Verify communication to the sign using a “PING” test.

- Click the Windows **Start** menu.
- In the Search box type **cmd** then press the **ENTER**. This will bring up a command window.



- Type the word **ping**, hit the spacebar then type in the **IP address** of the sign (Default is 192.168.0.2) then Press **ENTER**. If you see *Request timed out* or *Destination host unreachable* then you will need to verify your computers IP address and any communications hardware. If you **do** get a response, then you are in low level communication with the sign.

You can now move onto the next section and change the IP Address of the Sign Controller. **Note:** To check your IP address, type **IPCONFIG** in the cmd window, and press enter. This will list all your active network adapters, and their corresponding IP address information.

VERIFY SIGN IS ONLINE in SM Infinity™

If you do not have your SM Infinity login yet, contact your sign provider, then continue below.

- Login to SM Infinity at www.sminfinity.com
- Navigate to the **My Displays** section.
- Select your display (if you have more than one).
- Verify your sign is ONLINE from the **Display Communications** area. The **Last Check In** date and time should be current. **Note:** The page may need to be refreshed.

IF THE SIGN IS OFFLINE

- Wait 5-10 minutes and refresh the page.
- Verify your internet is working.
- Contact your sign provider or factory support.

CONNECT WITH LIGHTSPEED (SignScheduler)

You can now use the LightSpeed (SignScheduler) software to control your display.

- Install LightSpeed (SignScheduuler) from the disc that shipped with the display.
- Go to **Tools>Options** and select **TCP/IP**.
- Add the IP address of your display and save. (leave the port at the default setting)
- Press **OK**
- Begin creating and sending content to your display. Use the Help menu or go to vantageled.com/online-training for instructions.

IF YOU CANNOT CONNECT TO THE SIGN

- Check all Communication Devices and Cables
- Check power to the display
- Verify you have the correct IP address entered in LightSpeed
- Contact your sign provider or factory support for further assistance.

