Configuring CT/GT-Series LED Sign Controller for your Network

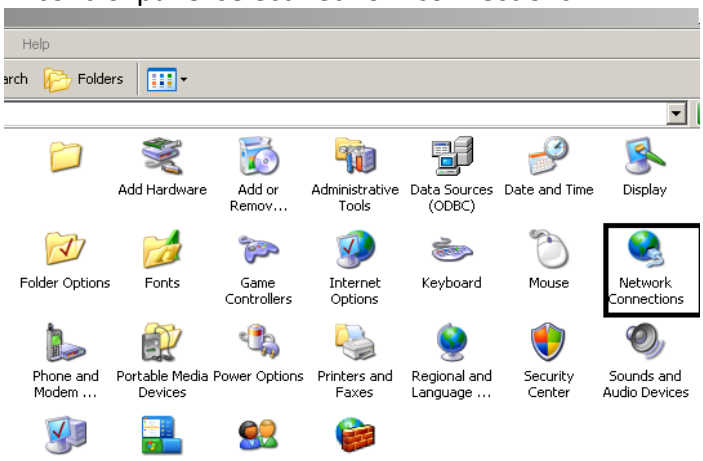
CT/GT-Series LED displays from Optec support both serial and 10BaseT Ethernet communication. Serial communication via RS232 or RS485 is independent of Ethernet communication and can serve as a back up communication option if hardwired cable is installed in addition to the wireless EnGenius radios.

CT/GT-Series controllers by default are pre-programmed with IP address of 192.168.0.250 and it cannot be changed by means of wireless connection. In order to change the IP address of the CT/GT-Series controller, a laptop must be used with a cross over CAT5 cable to connect directly to the controller inside the LED sign. IP address of the laptop must be changed to the IP scheme 192.168.0.xxx, in the same range as the default IP address of the controller.

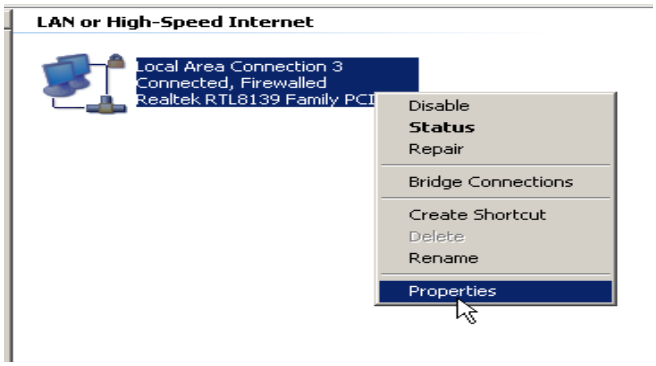
I. Changing IP address of your laptop

Steps are outlined below to change your laptop/notebook IP address to 192.168.0.200.
For Windows XP computer or laptop:

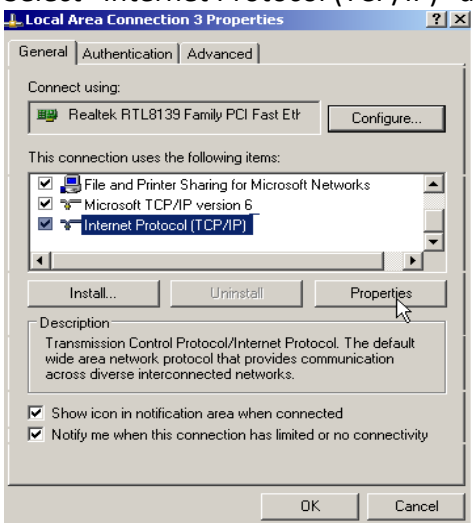
1. Go to start > settings > control panel.
2. In control panel select network connections



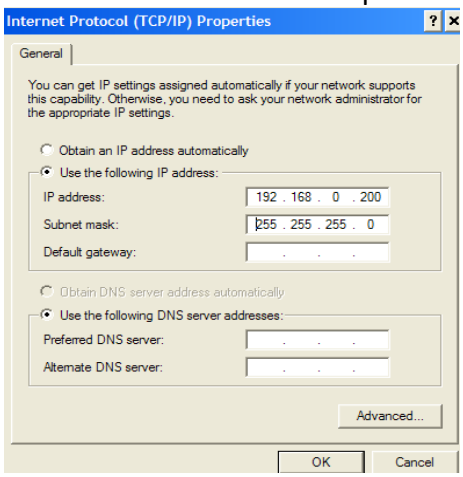
3. In network connections select “Local Area Network” , by right clicking and select properties



4. Select “Internet Protocol (TCP/IP)” and select properties



5. In the Internet Protocol Properties window select “Use the following IP address”



6. In the IP address field type in your new IP address 192.168.0.200 and your subnet mask 2565.255.255.0
7. Once IP and subnet mask are entered select “OK” on the bottom of the Properties window.
8. In the Local Area Connection properties window, select OK to save changes.

(This change of setting is done to configure a computer or laptop to communicate to an Optec CT/GT-Series display by its default IP address.)

Vista computers:

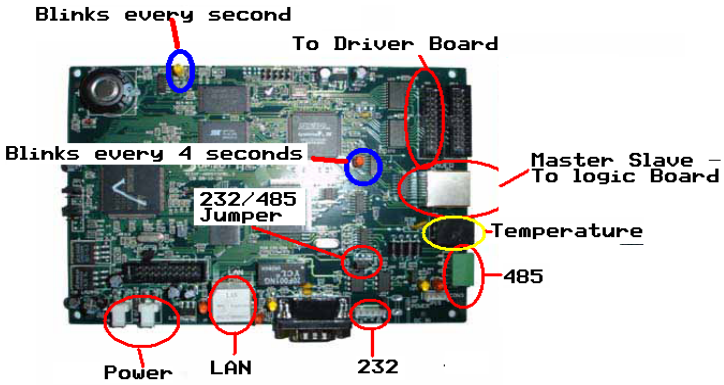
1. Go to start > network > sharing center or start > control panel > sharing center > manage network connections.
2. In network connections select “Local Area Network”, by right clicking and select properties.
3. Scroll down and uncheck Internet Protocol IV6.
4. Select Internet Protocol IV4.
5. Select “Internet Protocol (TCP/IP)” and select properties
6. In the Internet Protocol Properties window select “Use the following IP address”

7. In the IP address field type in your new IP address (192.168.0.200) and your subnet mask (255.255.255.0).
8. Once IP and subnet mask is entered select “OK” on the bottom of the Properties window.
9. In the Local Area Connection Properties window select “OK”

(This change of setting is done to configure a computer or laptop to communicate to an Optec CT/GT-Series display by its default IP address. NOTE: VISTA machines must have service pack 1 or 2 installed.)

II. Changing IP address of the CT/GT-Series controller

1. Connect the cross-over cable between your laptop LAN port and the LAN port on the CT/GT-Series controller labeled “LAN” installed inside the LED sign.



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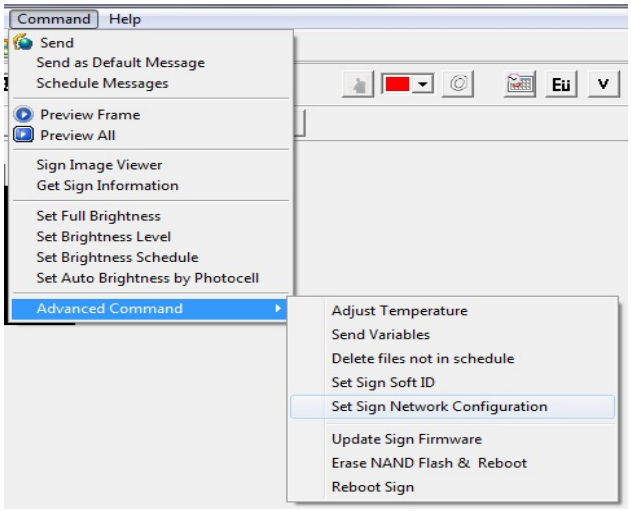
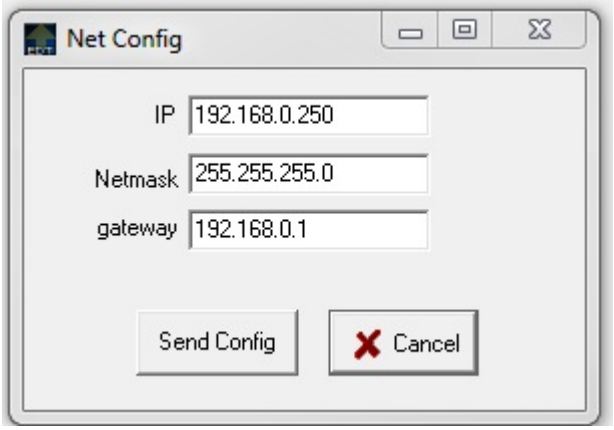
2. Run the Iris Composer program on your laptop computer.
3. In the Iris Composer main user interface screen, Go to Command ->Advanced Command->Set Sign Network Configuration and execute that command.



4. The Net Config window appears for input of new IP information for the sign controller such that it can be placed on the desired network.



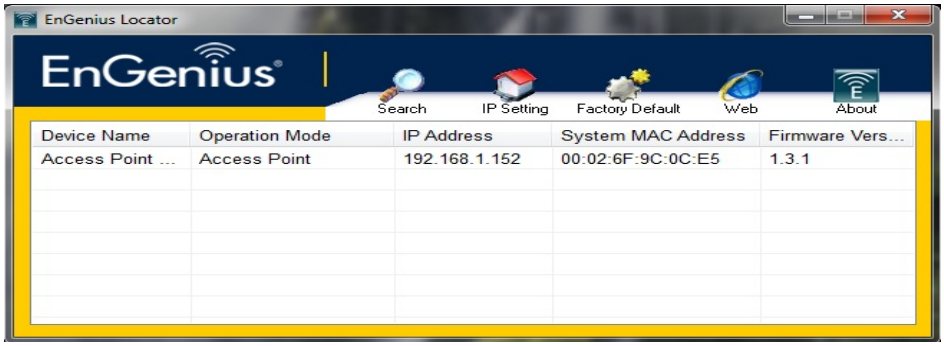
5. Click “Send Config” to send the new IP information to the sign controller (IP information in picture is the default settings for illustration only).
6. The laptop computer will now lose communication with the LED sign controller until a new IP address is set within range of the new controller IP.
7. Connect the communication CAT5 cable from the LED sign to an open port on your network switch.
8. Once the laptop computer has been updated with a new IP address that is allowed on the existing network, the laptop can communicate to the LED sign through the existing network and the new sign IP address.

III. Changing IP addresses of the wireless EnGenius radios for your network

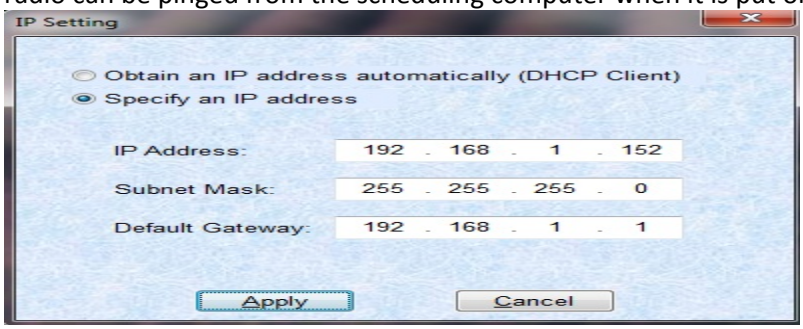
On the contrary, EnGenius radios are programmed at the factory as a pair of wireless bridges and as such will allow wireless communication between the programming PC and the CT/GT-Series LED sign without the need of reprogramming their IP addresses. The EnGenius AP (Computer end) is connected to the user’s network switch through its PoE power shot (see Quick Setup Guide), and at the Sign end the EnGenius Client radio is also connected to the CT/GT-Series controller through its PoE power shot and its associated 10/100BaseT network switch. The 10/100BaseT network switch is necessary to slow down the communication rate as the A –Series controller accepts 10BaseT communication only.

Though it is not necessary to change the IP addresses of the EnGenius radios in order for them to function in a network environment, there are benefits in doing so since it will be easier for troubleshooting communication if these radios can be pinged to identify the failing point in the wireless link.

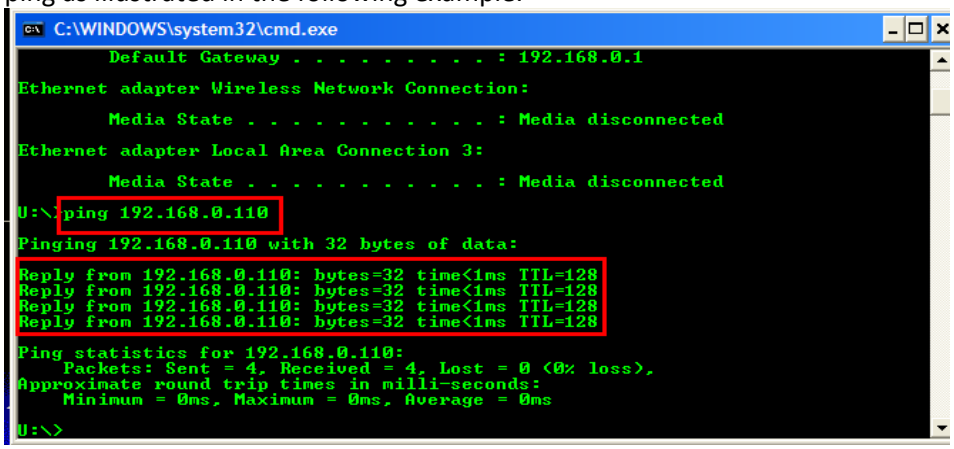
1. The EnGenius Locator makes it easy to make IP changes and will allow you to scan the presence of these radios and list them in a table with their respective IP addresses.
2. Take your computer or laptop off the network but note its IP address setting.
3. Connect EnGenius AP directly to your computer LAN port with its PoE power shot.
4. Change the IP address of your computer or laptop so that it has the same first three sets of numbers as the IP address of the EnGenius Client radio as shown below (picture for demonstration purpose only), e.g. 192.168.1.xxx



5. You may need to close and restart the EnGenius Locator program after you make changes to the IP address of your computer to refresh the scan.
6. Highlight by clicking on the Client radio, which you wish to have its IP address changed first.
7. Then click on IP Setting icon at the top.
8. In the Login dialog box, use “Admin” as User Name and “vgasign” as Password.
9. In the IP Setting dialog box, enter new IP information you desire so that the EnGenius radio can be pinged from the scheduling computer when it is put on the network again.

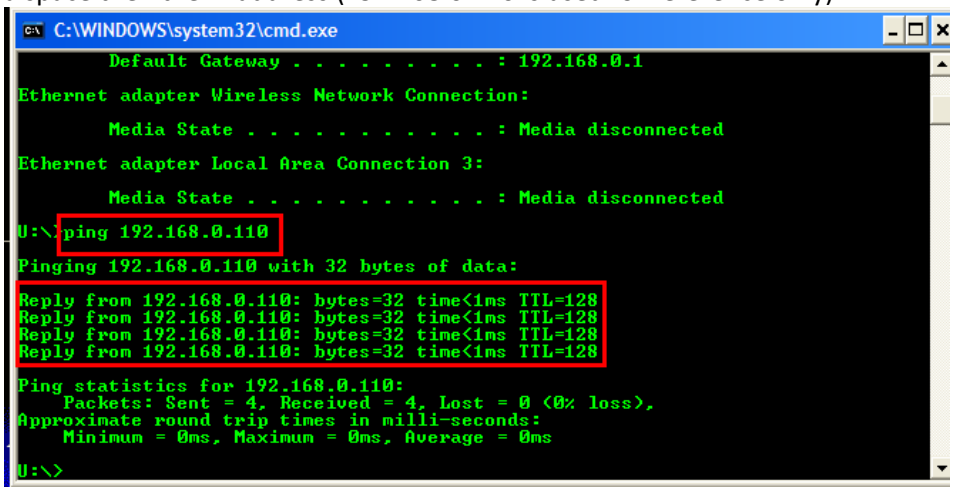


10. Click “Apply” button to save changes and reboot the EnGenious Client radio.
11. Repeat steps 3 through 7 above for the EnGenius AP radio with a different set of desired IP information.
12. Change the computer IP address setting back to its original network setting and connect it back to the network.
13. Connect the CAT5 cable from the EnGenius AP PoE to the network LAN port again.
14. Try to ping both EnGenius radios from the programming computer and finally the CT/GT-Series controller. You should get four (4) replies from all the IP addresses you ping as illustrated in the following example.



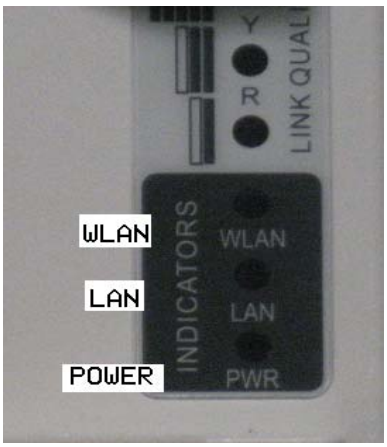
IV. Troubleshooting wireless connection and EnGenius radios

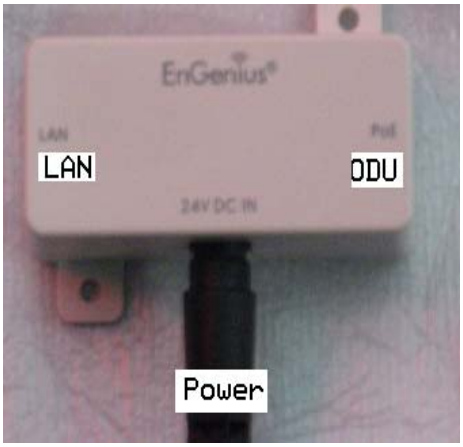
1. Now that the programming computer is in the same network range as the LED sign controller, then the “ping” command can be used to verify connectivity from point to point on the network. For example, from the computer to the network gateway, the computer end EnGenius AP, sign end EnGenius Client and LED sign controller.
2. In the command prompt window type “ipconfig/all,” the new IP address of the computer network interface card will show or the computer will have to be restarted.
3. Once the computer is restarted, go to Start>run> type cmd, so that the command prompt window opens.
4. To ping an IP address of a device on the network, in command prompt type “ping” then a space then the IP address (192.168.0.110 is used for reference only).



   a. Proceed to ping the computer end AP antenna by its new IP address.
   b. If you do not get a reply then test the NIC card and CAT5 cable by pinging the IP address of the computer itself. If there is still no reply, then the NIC or cable connecting the computer may possibly be bad.
   a. In command Prompt type ping 192.168.0.220 (default) or the designated IP of the computer end AP.
   b. If you get a reply ping the new designated sign end antenna IP address.
   c. If you get a reply ping the new designated sign end controller IP address.
   d. If no reply comes from the controller but replies come from sign end antenna, it is likely that the LAN/RJ45 port failed on the sign end antenna or on the controller. Replace the controller and the antenna along with the patch cable.
   e. To test which one fails, you must either go directly to the sign controller with a crossover cable or switch the sign end antenna in place of the computer end and ping it, if it replies then the problem is in the controller. If it does not reply, then the problem is in the wireless antenna.
2. To verify connectivity/functionality :

a. Verify that the WLAN, LAN, Power lights are ON, on the back of the units.





b. Also verify that the LINK QUALITY is strong by checking the LED indicators.
c. Power cycle the antenna by disconnecting the power plug from the EnGenius Power Injector.
d. Verify connections – LAN to computer or laptop | ODU to antenna.

Installation

1. Wireless antennas are required to be installed in a ***direct line of sight*** vertically, meaning that you can read the device name. If the device is installed horizontally then water will enter the unit and cause water damage – warranty will be void.
2. You will need to create a drip loop with the CAT-5 cable so that no water can drip into the unit.