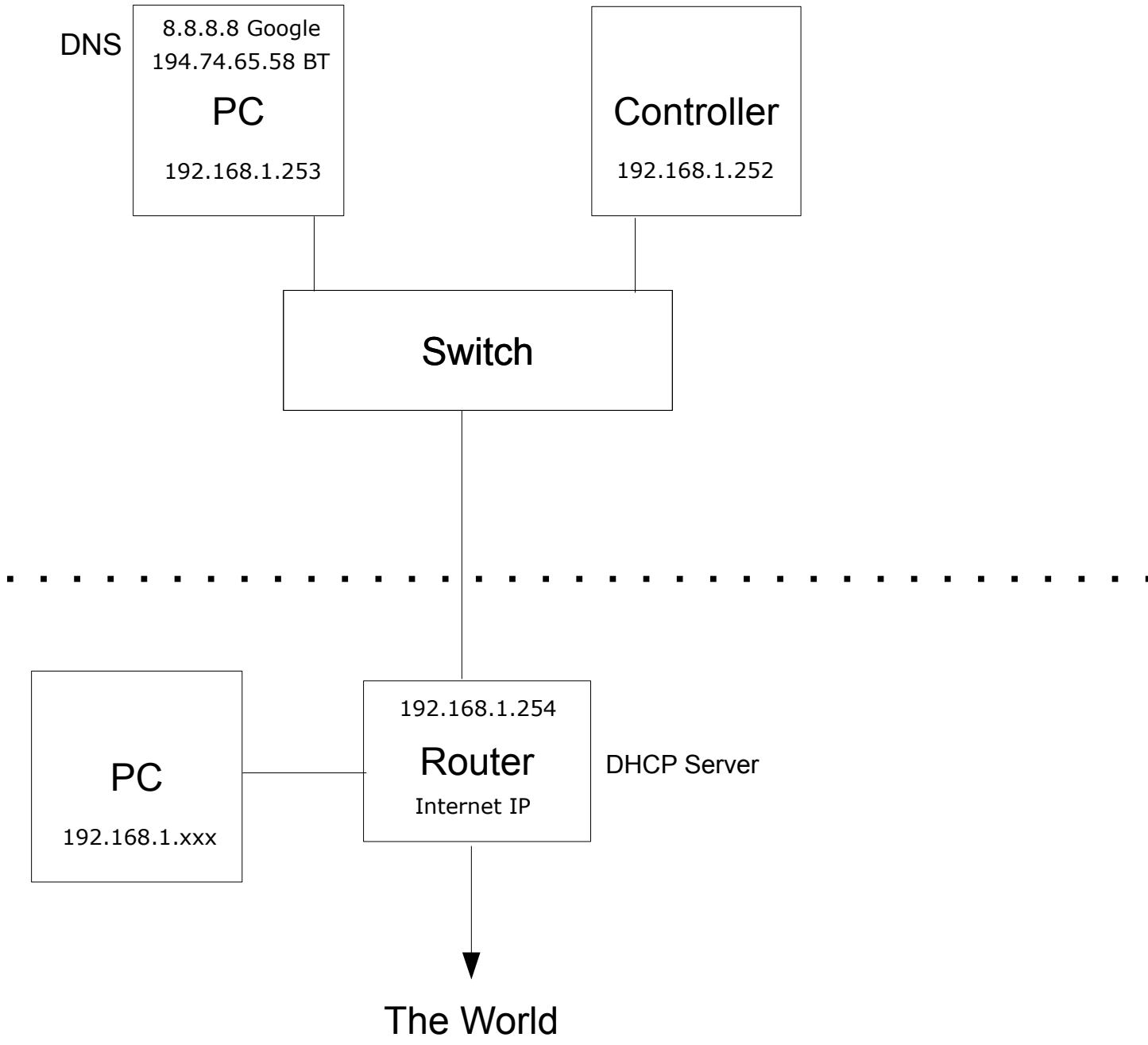
SYC Race Station PC Installation



SYC Lights/Horn Controller Set Up

The Controller switches the lights and horn on or off in response to instructions sent by the PC. It is connected to the mains via a mains plug which should be in a 13amp socket. This mains supply powers the lights as well as a 240v relay situated under the lights on top of the race station. The relay applies the 12v at 30 amps required by the horns. Note the relays in the Controller are too small to control the horns directly. Although a secondary high current 12v relay could be used, as the 240 wiring and 12v supply to the horns was already in place, this was used.

The 12v battery in the race station, powers the horns, the VHF's, the Controller's electronics board, and the Netgear Ethernet Switch.

In the Race Station there are 2 RJ45 network sockets one is used for sending USB serial data to the weather station. It is NOT on the local network.

The other RJ45 socket is connected to the network, which in turn is connected to the Internet by a Router situated in the Light House.

The Controller can be configured to connect to the PC directly or put on the local network, there are advantages and disadvantages in both.

Direct Connection

Is resilient to networking issues but Race Station PC would also be off the local network so data could not be transferred to results PC. Also Time would not be automatically updated. A direct connection uses a x-over RJ45 lead

Local Network Connection

There are two alternative configurations. Firstly Automatic IP address configuration by using a DHCP server, alternatively using a fixed IP address.

DHCP

To prevent an uniformed user causing problems with the communication between the Race Station PC and the Controller, it may be helpful for me to try and explain how DHCP works.

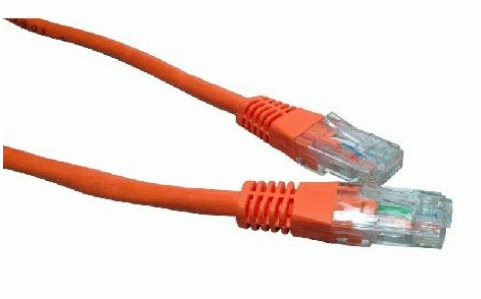
Every Device plugged into a network must have a unique IP address. A “normal” Home or Small Business network will have the addresses set by a DHCP server, which nowadays will normally be their internet Router. The advantage of using DHCP is that devices become “plug and play”

The problem with DHCP is if the Router is switched off or fails for any reason, after a period of time, devices on the same network will stop communicating with one another.
For this reason, the Race Station PC and Controller should be **both** set up to Static IP addresses.

Network Connections to Switch in Race Station

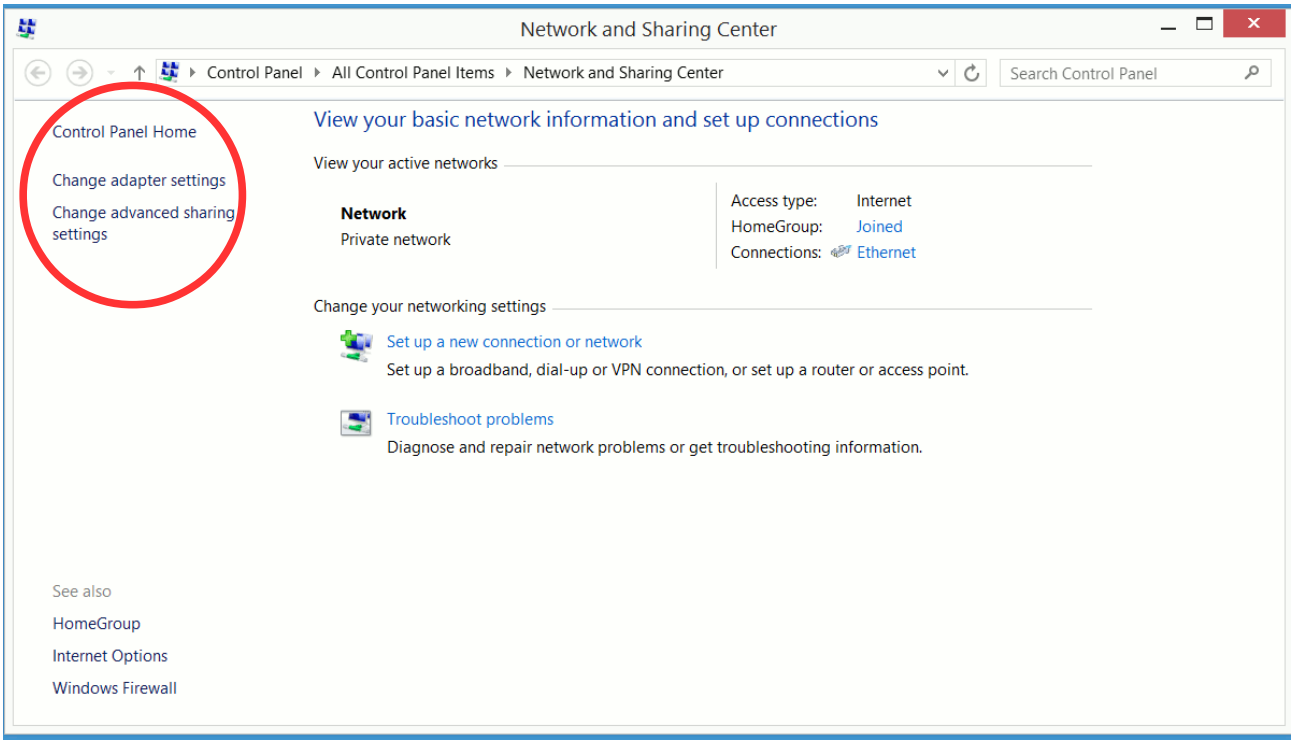
1. Controller 192.168.1.252
2. PC 192.168.1.253
3. LightHouse 192.168.1.254 (Internet Router Gateway)

All cables are direct (not crossover) RJ45-RJ45

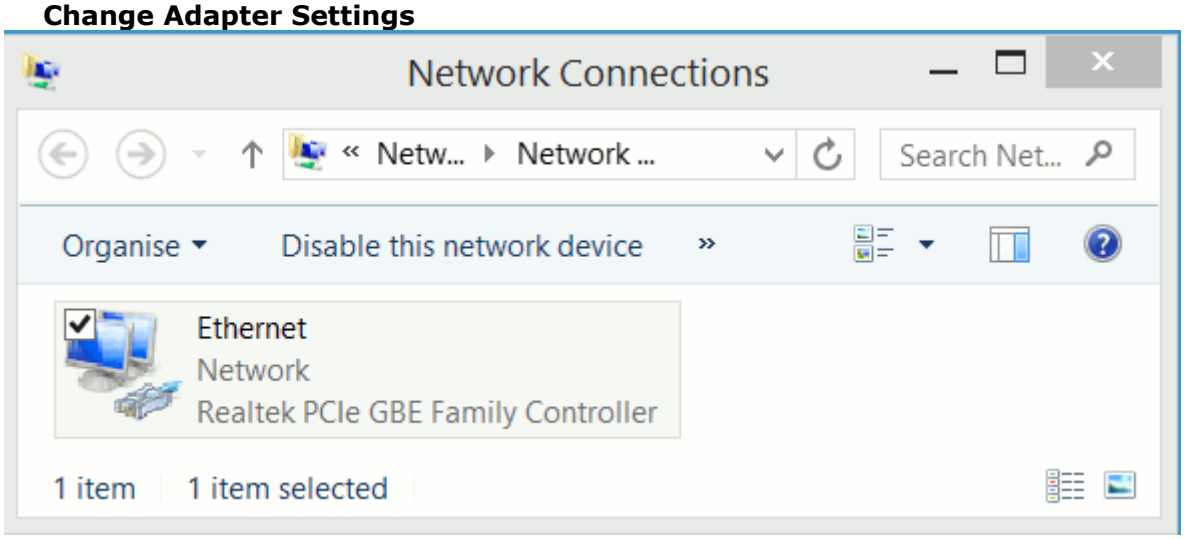


Setup PC's Static (Fixed) IP address

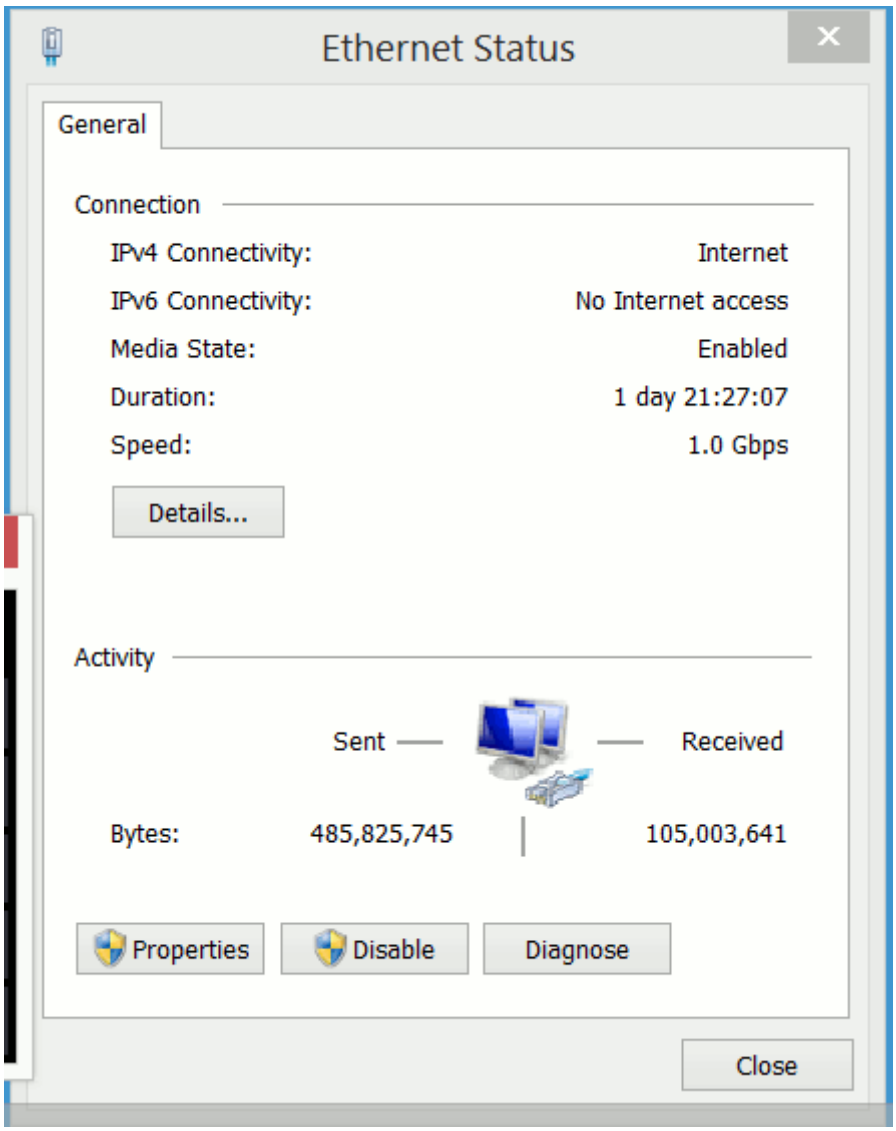
1. From the Control Panel



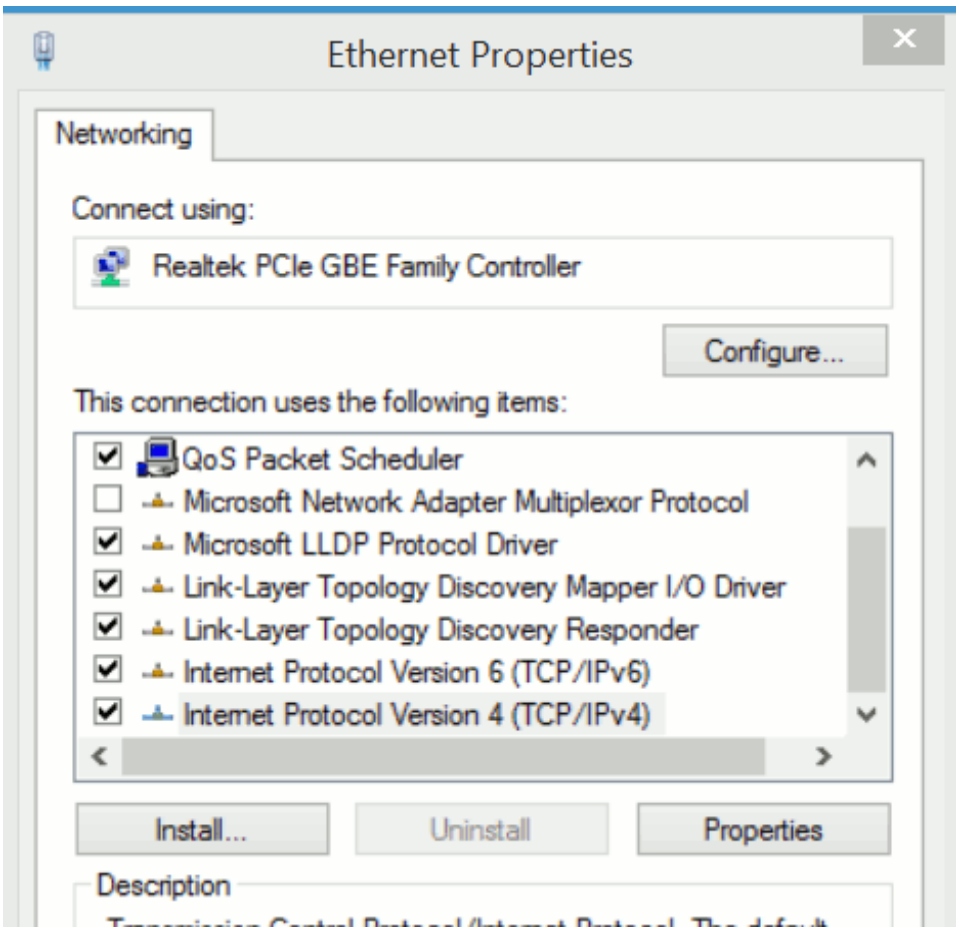
2. Change Adapter Settings



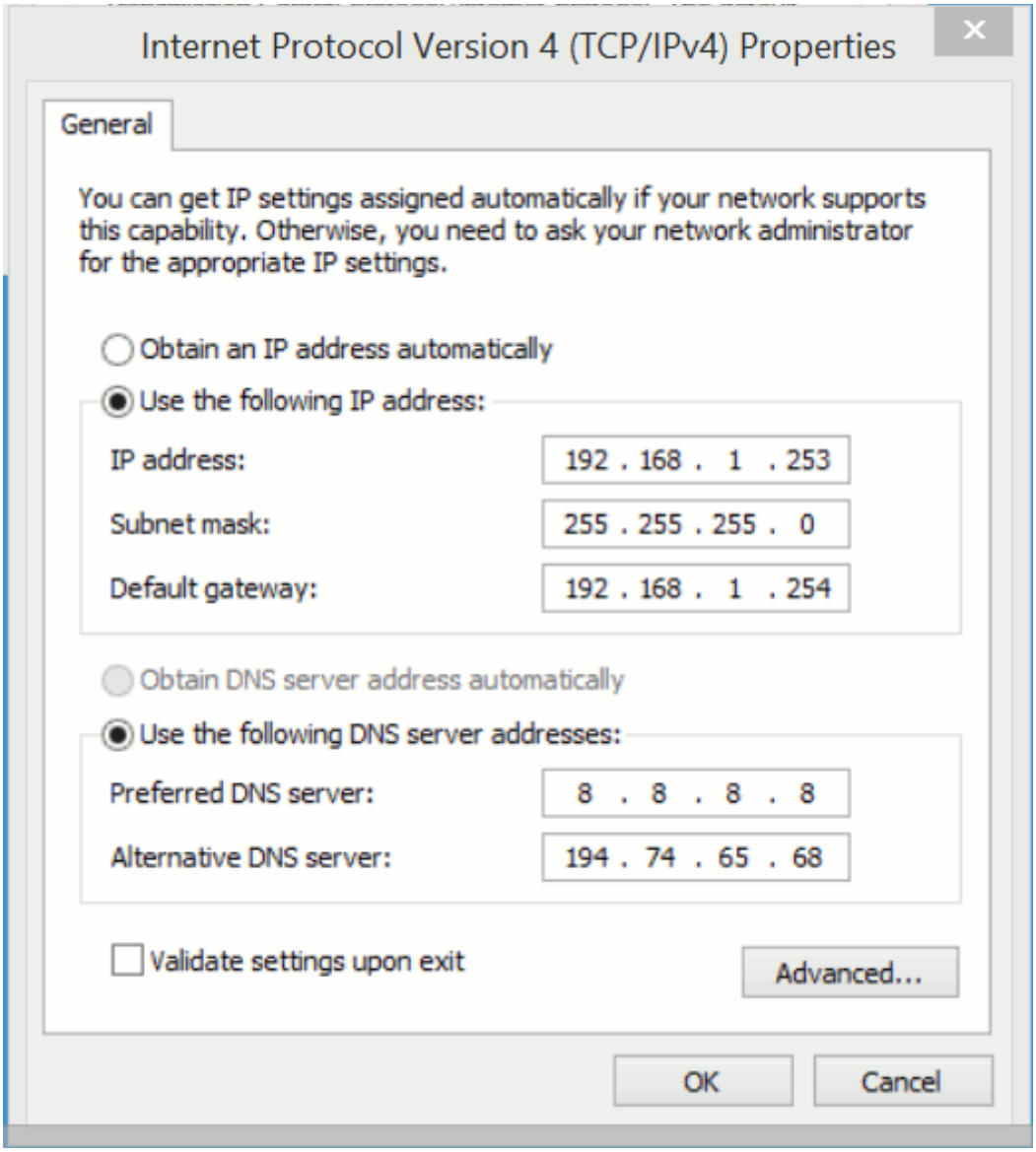
3. Ethernet



4. Properties



5. Select Internet Protocol Version 4, then Properties



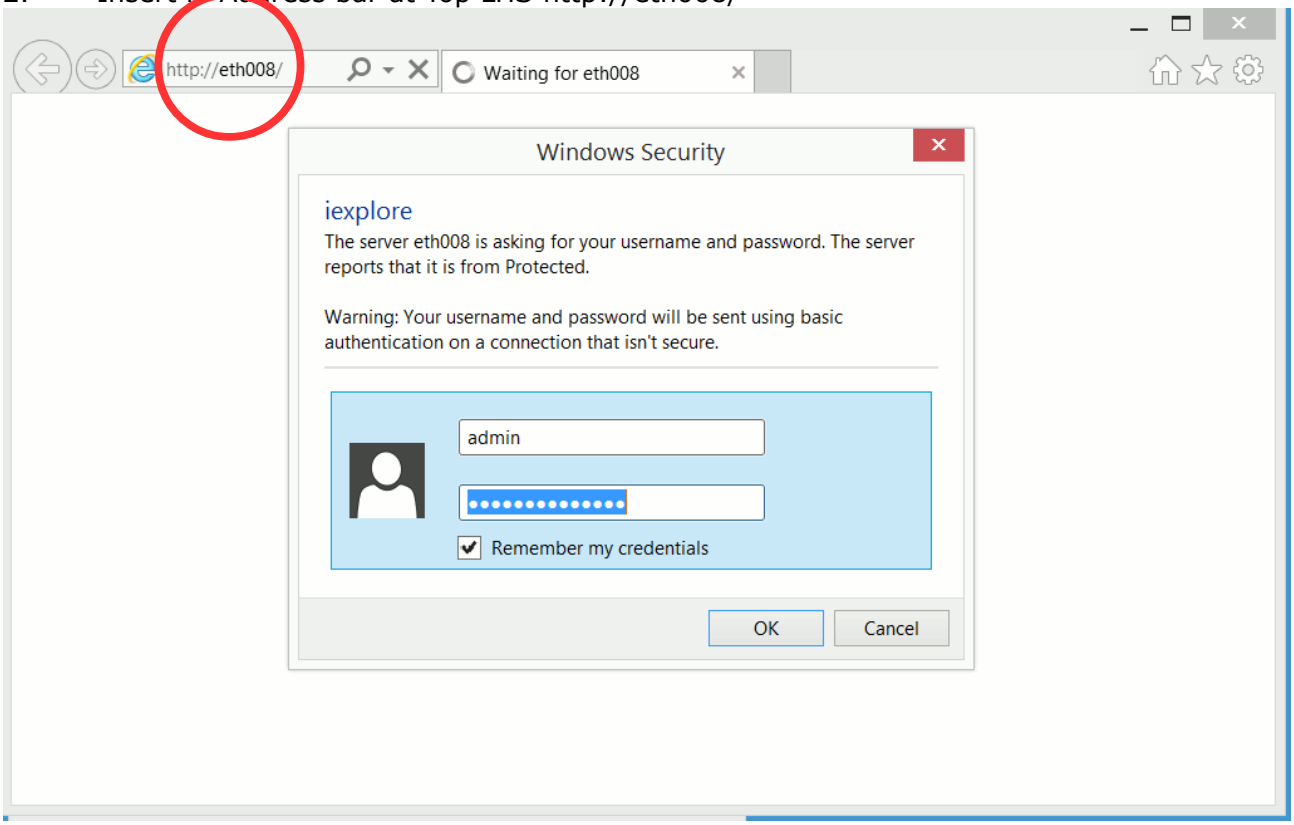
6. Set up IP and DNS addresses – DO NOT select Obtain IP address automatically

   8.8.8.8 is Google's DNS server, 194.74.65.58 is BT's DNS server
   Ensure both PC and Controller are physically connected to Race Station Net Gear Switch

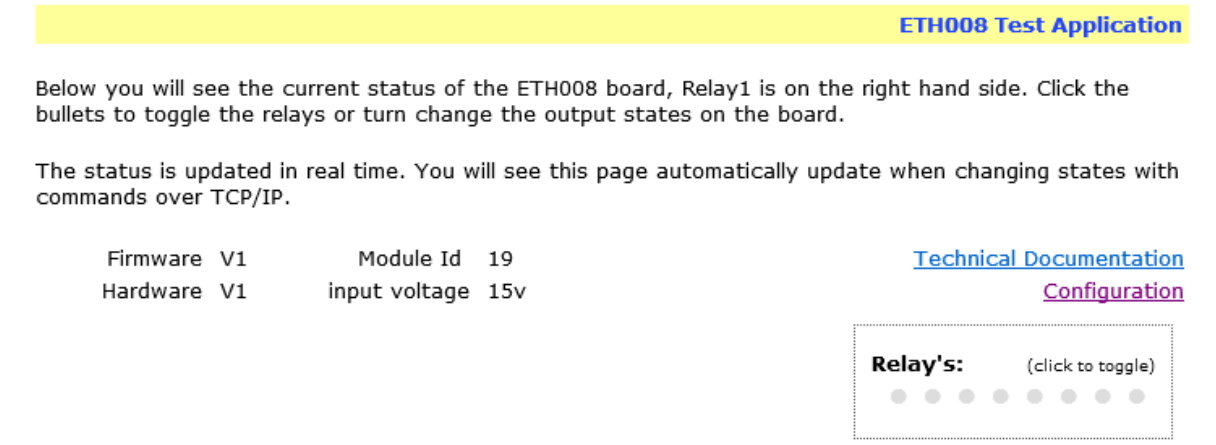
Setup Controller's Static (Fixed) IP address

1. Start Internet Explorer

2. Insert in Address bar at Top LHS http://eth008/

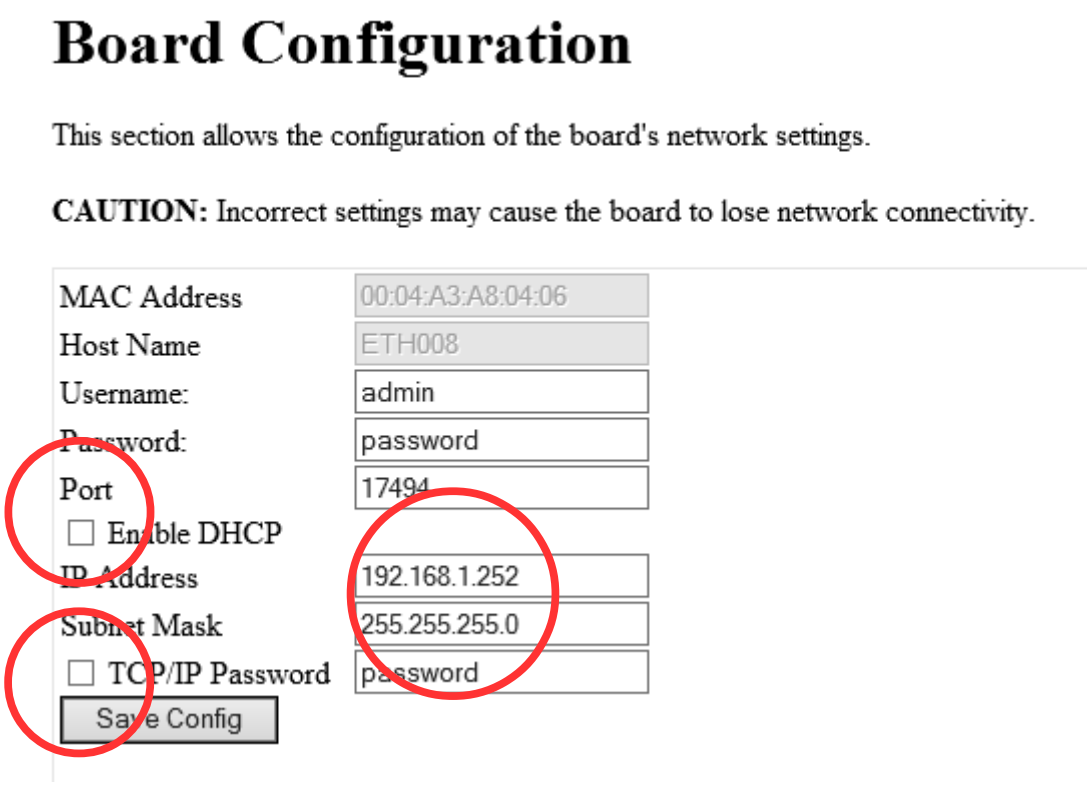


3. Insert admin (case sensitive) and password (also case sensitive)
DO NOT change username or password – there is no security risk here
Click OK



4. The Input Voltage is the Race Station Battery Voltage

5. Click on Configuration



5. Enter IP Address 192.168.1.252 and Subnet Mask 255.255.255.0
6. Ensure Enable DHCP and TCP/IP Password are not ticked
7. If anything has been changed, reboot controller by switching off and on Power to Controller on 12v distribution box. Then reconnect to the controller using IE (start at 1 above)
8. At Stage 3 above check horn is working by clicking (ON) then again (OFF) right hand side button

9. Click on the next 4 buttons from the right hand side, go outside and check all 4 lights are lit.

Download the installation file from
http://arundale.com/docs/ais/RacingSignals_setup_1.3.2.exe