

## Preparing your Control System for Competition

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This article outlines a number of Control System related items a team can do to prepare for running their robot connected to the field at an event. These tips and tricks should help ensure a smooth experience when bringing your robot to the field and connecting the Field Management System.

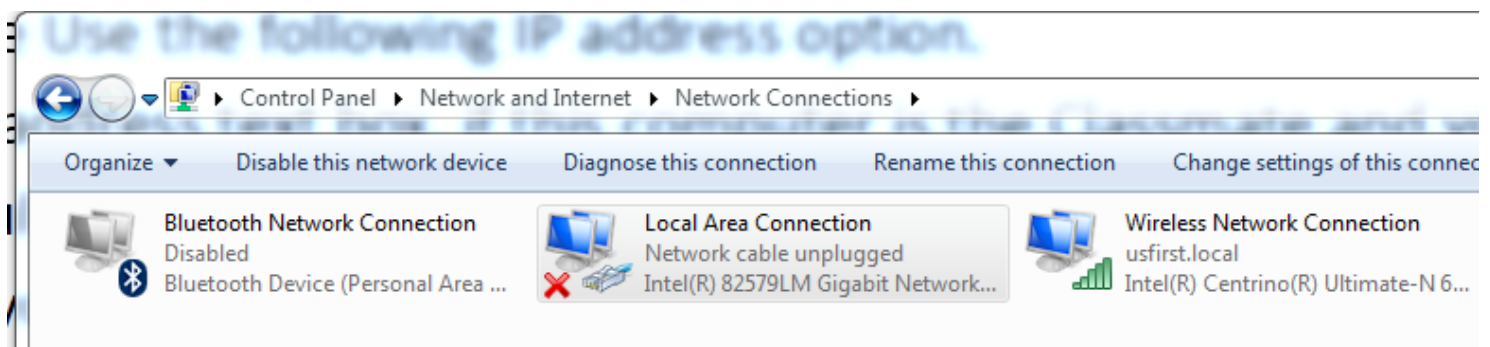
## Verify all software is up to date

Check to make sure all your software is up to date. You can find information on the latest versions of all software and how to check here: [Latest Software Revisions](#)

## Check Driver Station Network Settings

When operating at home, everything will work fine with the Driver Station set to a subnet mask of 255.255.255.0 and any IP in the 10.TE.AM.ZZ range. At the competition, the DS IP must be 10.TE.AM.5 and the subnet mask must be set to 255.0.0.0 to work properly with FMS. To check the IP and subnet mask of your Driver Station PC, follow the steps below.

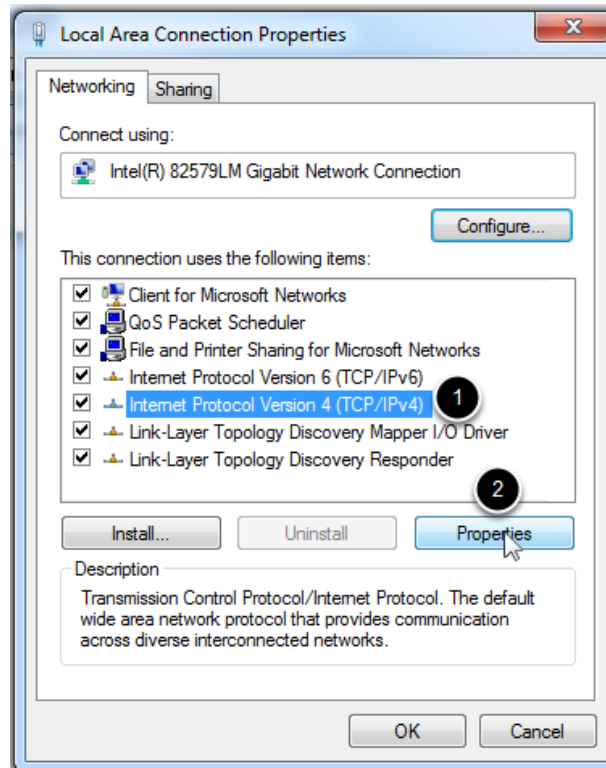
## Network Adapter Properties



To set the IP address, click on Start > Control Panel > View Network Status and Tasks > Change Adapter Settings, then double-click on Local Area Connection to display the Local Area Connection Properties dialog.

# Preparing your Control System for Competition

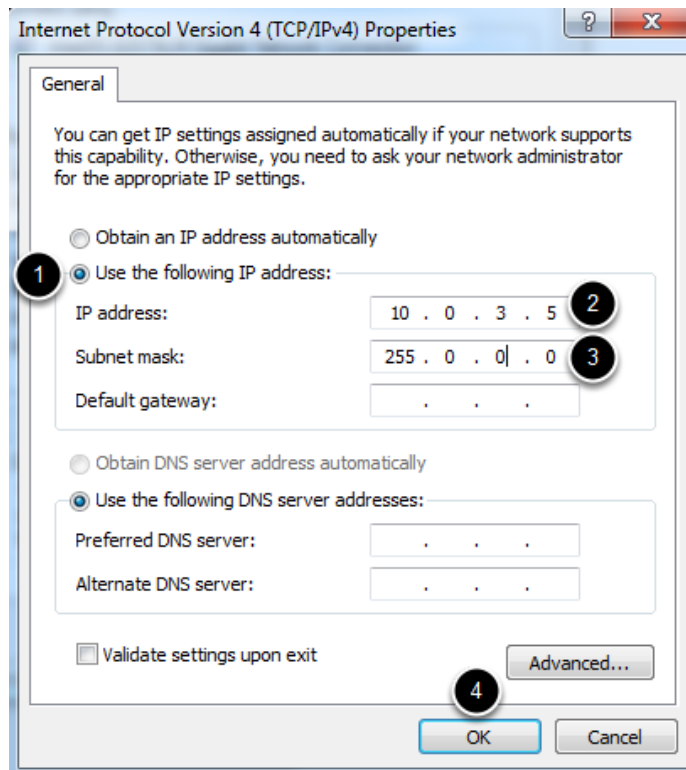
## TCP/IP Properties



Click on Internet Protocol Version 4 (TCP/IPv4) to highlight it, then click Properties.

# Preparing your Control System for Competition

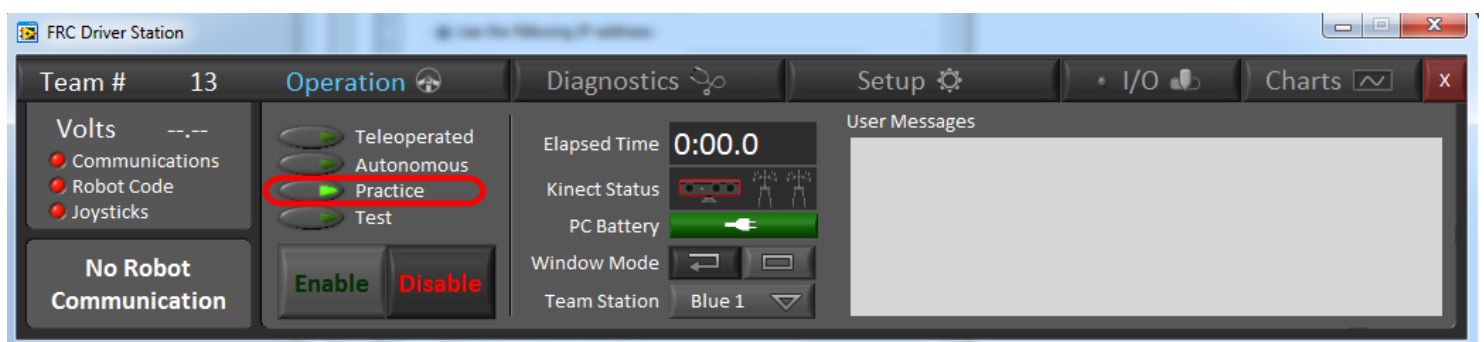
## Set IP address



On the TCP/IP properties page:

1. Click the bubble next to **Use the following IP address**
2. Enter your 10.xx.yy.5 or .6 address into the IP address box
3. Change the Subnet mask to 255.0.0.0
4. Click OK. Then click Close on the Local Area Connection Properties dialog box.

## Run the Robot in Practice Mode



# Preparing your Control System for Competition

During a match on the official playing field, the robot state will transition from Disabled->Autonomous->Disabled->Teleop->Disabled. To make sure your code works properly with this sequence, you should run at least one complete match using the Practice mode on the DS. To run a match in Practice mode, put the Driver Station in Practice mode, as shown above, then enable the robot. The Driver Station will have a 5 second countdown, then run the robot through the sequence it will experience during a match. Testing in this manner will help catch potential issues with the code transitioning between the states or with variables not being properly reset when changing modes.

## Have Multiple Copies of Code

Make sure to have multiple copies of your final robot code (and Dashboard code if customized). At least one copy should be on a computer you are bringing to the event and it is recommended to have at least one copy on a USB Flash drive. You may also wish to make sure that at least two people on the team have a copy of the latest code.

## Charge Batteries

Make sure both your Robot and Driver Station Computer batteries are fully charged. Also make sure to have a plan for ensuring batteries are charged throughout the event and keeping track of which batteries are charged and which are depleted. This will help prevent running into any power issues during a match.

## Train your Drivers

Make sure the team members who will be going out to field each match know:

- How to turn the robot on and off
- Where Ethernet cables go if unplugged
- Where the wireless bridge is located and which position the mode switch should be in
- How to test which joysticks are in which position in the Driver Station software and rearrange if necessary
- Any applicable Administrator passwords that may be required to change network or firewall settings on the Driver Station computer

## At the Event

After arriving at the event, there are a few things you can get done early to help things run as smooth as possible when coming to the field:

# Preparing your Control System for Competition

## Program Robot Radio

After arriving at the competition, make sure to get the D-Link DAP-1522 Rev B. radio programmed at one of the official event programming kiosks. The radio will need to be placed into Bridge mode for programming and should stay in bridge mode for the entire event, all connections to the radio at the event, but outside the official field should be tethered. It is not necessary to reset the radio prior to programming, only reset the radio if instructed to do so by the programming kiosk and follow the instructions on screen to do so.

## Connect to the Field on Practice Day

Even if your robot is not inspected, or ready to fully compete in the match, make sure to attend at least one practice match to verify that your Driver Station and Robot can connect properly to the field. If you do not make it to the field for any of your Practice Matches, check with your FTA to see if they are having all teams whom have not yet connected come out to the field on Thursday evening to verify that they are able to connect.