

WiFi Network for Robots

The basics: Each robot has an 802.11b/g, IP addressable radio. IP addresses must be static because the MainController requires manual input of the IP address (No DHCP sync with MainController).

Depending on how you want to manage robot communications you can:

- A) Set up an independent access point and network for the robots.
- B) Run the robot communication across your existing WiFi network (if you have enough IP addresses blocked)

Note: sequential IP addresses allow easy hacking from one team to another and becomes a teacher headache to debug when students are being 'difficult'. I use a 255x255 IP address range to give me sufficient differentiation to avoid the issue completely.

At Hill we set up a VLAN network. We listed the MAC addresses of the radios and workstations so they are the only devices allowed on the Robo Network (security). We have the robot radios set to 'DHCP enabled' and let them pull an IP. We then set that IP specific to the MAC address so the robot always pulls the same IP. We label the robots with a code number and the teacher keeps a list of IP addresses specific to robots that can then be issued with the robot to each student team.

FYI, you won't know MAC addresses of the robot radios until you receive them but you can get the workstations configured prior to receiving the robots/radios.