



The Blue Alliance

Episode One – FRC Electrical System

In episode one, we give a brief explanation of each part of the FRC Electrical System as an overview and jumping off point to learn about them in more depth.

In this episode's show notes package, we've assembled a slew of websites to help introduce you to the electrical system and give more detailed explanations of some of the more complex components.

Errata

As indicated during the show, we incorrectly say that team number is set on the newer Robot Controllers. Team number is in fact set on the Operator Interface and synced via tether to the RC.

Useful Websites

- **Olin Sharing FIRST** (<http://first.robotics.olin.edu/movie.html>)
 - This website contains a schematic for the FRC electrical system from 2004, which is still mostly applicable to the current system. You can click on each part of the system to learn more about it and see how it all goes together. This page also contains information on sensor systems and the pneumatic system.
- **Electrical Tips Handout**, by Anne Bergeron (<http://www.chiefdelphi.com/media/papers/1574>)
 - Electrical subsystem tips for teams. Good for rookies and veterans. Summary of things to keep in mind during building season and competitions.
- **Robot Battery Guide**, by Al Skierkiewicz (<http://www.chiefdelphi.com/media/papers/1563>)
 - This document contains a large amount of information about the batteries used to power FIRST robots, their care, and best practices.
- **Victor User's Manual** (<http://ifirobotics.com/docs/ifi-v884-users-manual-9-25-06.pdf>)
 - This is the official user's manual for the Victor 884 from IFI. It contains a graphic showing how to correctly wire it, as well as detailed information about the speed controller and how to use it.



- **RC Reference Guide** (<http://ifirobotics.com/docs/rc-ref-guide-6-13-2006.pdf>)
 - This is the official reference guide for the Robot Controller from IFI. It contains close-up graphics of the RC, as well as explanations of all the inputs and outputs.
- **OI Reference Guide** (<http://ifirobotics.com/docs/oi-ref-guide-11-21-05.pdf>)
 - This is the official reference guide for the Operator Interface from IFI. It contains close-up graphics of the OI, as well as advanced information for interfacing with it.

Contact Us

We hope you have found this primer to the FIRST Robotics electrical system helpful. If you have any additional questions or comments, please feel free to e-mail us at questions@thebluealliance.net.

Additionally, if you have any suggestions for topics to cover in future episodes, please let us know. We are always looking for viewer feedback, since you are who we are trying help.

Thanks for watching!

-Greg, Tom, and The Blue Alliance crew