

# Robotics Education & Competition Foundation

## VRC Event Troubleshooting Guide

**When Things Go Wrong – NOW What?**



# BEFORE YOU START YOUR EVENT

- Always set up the night before an event if possible.
- Always test the fields, displays, and sound before starting matches.
- Do you have a working printer with toner and has it been tested?

# Scenario:

Everything is great with a 2 field set-up then...

At the start of a match the *entire field* goes DEAD!

There are several things that may be happening – check the following:

1. Did the Ethernet cables get disconnected?
2. Are the lights on the match controller **green**?

Action if 1 or 2 are not the case:

- Have all teams disconnect their controllers.
- Re-start Tournament manager – re-configure fields

If a team has a damaged controller (Ethernet socket) it may have shorted the system. Look at all cables and then have teams plug in to the system one at a time. Make a list of teams for future reference in case this happens again.

## Scenario:

The event has progressed to the afternoon and all is going well except it is evident that eight matches are too many as the event is going longer than expected.

There are transportation concerns. NOW WHAT?

**Use Tournament Manager to reduce the amount of matches to get you back on schedule.**

**Tools – Options – Qualification Matches:** Lower the number.

Remember to announce the change in matches and why.

# Scenario:

My event has one projector and one pit display, the Pit display stops working. NOW WHAT?

Use Tournament Manager to show rankings and queuing on main display between matches until you get the problem resolved.

1. Look at the data connection to the pit display – is it connected?
2. Did the computer driving the display – time out?
3. Restart and insure that the IP address is correct.

# Scenario:

I am running two fields and in the middle of the event a Driver Interface or Match controller quits. **NOW WHAT?**

This is when you get your Competition Switch (used for inspection) and go manual until resolved.

Have a Referee positioned to control all four robots. The Tournament Manager will still show time and sounds.

Start the trouble shooting process with the field controls.

1. Check the USB connection
2. Check all Connections

# Scenario:

We are ready to start Qualification matches and three late arriving teams are not inspected and are in the first few matches. **NOW WHAT?**

You have 3 basic choices:

1. Run the matches without the teams (avoid if possible).
2. Delay the Event.
- 3. Best choice is:** Have the Inspector do a Size and Safety check of the robot and allow them to play the one match. As soon as the match is over the team must be fully inspected. If they fail the inspection the match is a disqualification for the team (not the alliance).

The final decision on this rests with the Head Referee.

## Scenario:

I underestimated the amount of Skills Fields and resources needed. **NOW WHAT?**

Reduce the amount of runs each team can get at the event to a manageable number so all teams have equal access.

We suggest a standard of three runs of each skill is appropriate.

Use the Main fields during Lunch for skills runs if possible.

# Scenario:

My head Referee is ill and did not show up.

## **NOW WHAT?**

Gather the remaining referees and see if one of them can take the position.

Talk to the veteran team members and ask them for a Referee Volunteer to be Head Referee, understanding that when their team plays they will take a Step back from that match.

# Scenario:

I am ready to start the qualifications and my Printer will not work. **NOW WHAT?**

## Follow these steps:

- Use Tournament manager to display team matches.
- Make a handwritten copy of the first six matches and display for teams.
- Print your qualifications to Microsoft PDF writer or other generic program, save and transport to another printer.
- Seek another printer to use for the afternoon – Worse case is purchase a Brother Mono Laser \$85 or less – locally – send a runner.

# Scenario:

When the tele operated mode is activated by tournament manager, both robots on one of the alliances go back into autonomous mode. **NOW WHAT!?**

## Follow these steps:

- Check the Ethernet port on both of the team's controller.
- Look to see if one of the wires that makes a connection to the cable is out of its slot and shorting with another wire.
- Have the team gently nudge the wire back into place to resolve the short.
- If this is not possible try to find another controller for the team.

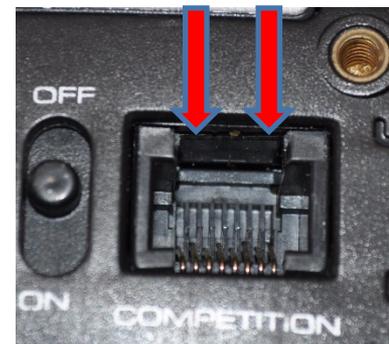
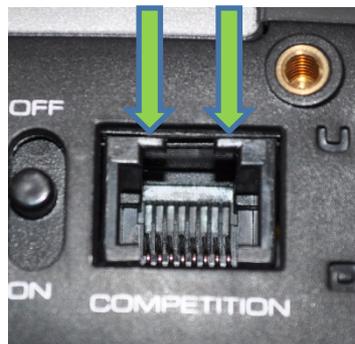
# Scenario:

A team reports that the field is not working correctly and that their robot worked fine on the other field or other side of the field. **NOW WHAT!?**

## Follow these steps:

- Inspect the Ethernet connection on the joy stick to make sure that the portion of the port that engages the retention clip on the Ethernet cable is not broken.
- If the port is broken explain to the team that the Ethernet cable is able to do several things which will cause the robot to "stop working". This not only includes the cable pulling out, but it is also the cable moving into the socket too far or moving from side to side in the socket. All of these may interrupt the communication with the robot on the field.

**NOTE:** *The port in the picture on the right is broken and will cause a robot to stop working on the field.*



# Scenario:

A robot does not work properly on the field and the team claims it is the field because the “robot worked fine when we tested it”. **NOW WHAT!?**

## Follow these steps:

- Explain to the team that the field is really just a big switch.
- Have the team double check to make sure they are using the competition template in their program.
- Have the team double check to make sure they are using the correct firmware.
- Make sure to tell the team to load the correct firmware first. Then reload the correct program on the correct competition template.
- Keeping a copy of the firmware and competition template on a thumb drive is a good idea (teams will often manage to slip by this in inspection).
- This is best tested with a Competition switch.

## Scenario:

I can not get the sound to work correctly on my field after restarting TM. **NOW WHAT?**

**Field sounds are output through the Audience Display.** Open Audience Display on the computer that is attached to the sound system.

There are unique circumstances when you will need to restart the Audience Display even though you see it running.

Sounds can also be played from the Field Control window. Make sure sound is checked.

## Scenario:

The wrong field activates when the match is started. **NOW WHAT!?**

Use TM to correctly assign the fields or switch the Ethernet cables.

To re-configure the controllers by assigning them to the correct fields, go to the system tray and right Click the Match Controller Icon.

# Scenario:

I am trying to set up a small network of computers to run multiple displays as well as Tournament Manager. I am unable to get the machines to connect and get an error message when logging into the tournament server. **NOW WHAT!?**

## Follow these steps:

- Check to be sure all computers are running the same version of Tournament Manager this is **VERY** important!
- Make sure that firewalls are off so that machines may connect to one another.
- Check to be sure the computer is in Airplane mode. If a computer's networking allows connection by both Wi-Fi (which should never be used with Tournament Manager) and a hardwire, the computer will not be able to distinguish between the two connections and will become "confused".

# Scenario:

I have multiple computers in a local network and have to restart TM during a hectic event. The person who set up the fields is not the person running Tournament Manager and has left the building on an errand. The person running Tournament Manager is having difficulty finding the IP address of the server to log all machines back in. **NOW WHAT!?**

Go to the “help” pull down menu in Tournament Manager to get the IP address of the server.

A better practice would be to find the server IP address while setting up the system and writing the server’s IP address on either blue painter’s tape or a sticky note and placing it on each machine in the network.

A second item that you may wish to place on each computer is its purpose, i.e. “field timer display 1”, “field timer display 2”, “pit display”, etc...

# Scenario:

Your event is running over time and a helper has decided to modify the event to reduce the number of matches being played to end on time. Unfortunately rather than using the **Tools → Options → Qualification Matches** method described earlier to reduce the number of matches, they reran the wizard and erased all of the match scores as well as the match list. **NOW WHAT?!**

**Tournament Manager has an automatic backup feature that creates backup files of a tournament on every machine that is networked to the tournament server.**

Find and open the “VEX” folder on the computer. Its location will depend on the operating system your computer is running. Once the VEX folder is open, find a “Tournament Manager” folder. This folder contains the “Automatic Backup Folder” containing a number of backup files. Restore your event with these files by opening the correct file in Tournament Manager. Use the time-date stamp to help identify the correct backup file.

# Some Important Links

These links are some important documents from the [Event Partner Resources & Documents](#) page on RoboticsEducation.org There are additional resources available on that page you may wish to use (be sure to select the VEX Robotics Competition tab shown by the **red** arrow on the picture below).

[VEX ARM® Cortex®-based Microcontroller and VEXnet Joystick User Guide](#)

(this includes a troubleshooting guide for the controller and joystick)

[VEX Robot Trouble shooting guide](#)

(this includes a competition robot trouble shooting guide)

[Getting Started with TM Mobile](#)

(use of tablet scoring)

[Tournament Manager Results Uploading Process](#)

(How to upload your event results to RobotEvents.com)

[Participant Release Form](#)

[Sample event layouts](#)

[Schematics for laying out a tournament](#)

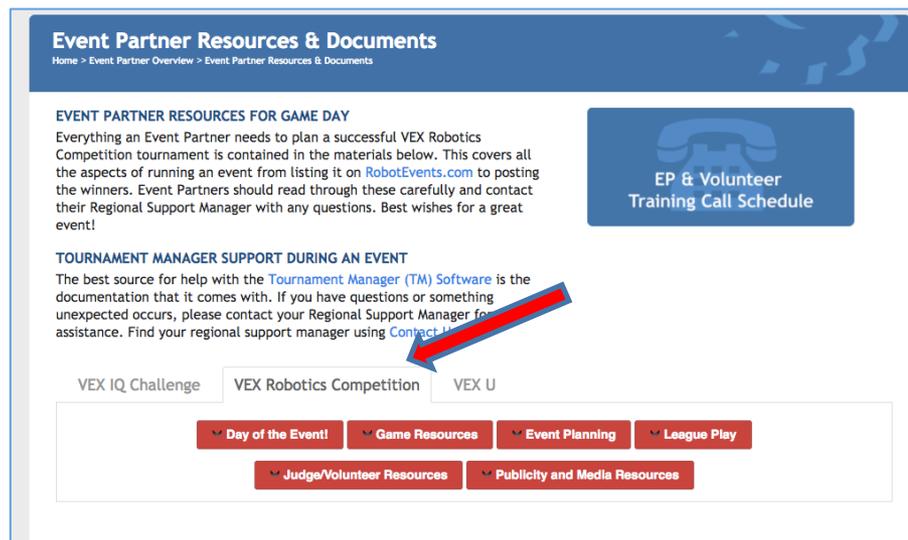
[Starstruck Game Manual](#)

[Referees guide](#)

[Referee score sheet](#)

[Judges Guide](#)

[Robot Inspection Checklist](#)



**Event Partner Resources & Documents**  
Home > Event Partner Overview > Event Partner Resources & Documents

**EVENT PARTNER RESOURCES FOR GAME DAY**  
Everything an Event Partner needs to plan a successful VEX Robotics Competition tournament is contained in the materials below. This covers all the aspects of running an event from listing it on [RobotEvents.com](#) to posting the winners. Event Partners should read through these carefully and contact their Regional Support Manager with any questions. Best wishes for a great event!

**TOURNAMENT MANAGER SUPPORT DURING AN EVENT**  
The best source for help with the [Tournament Manager \(TM\) Software](#) is the documentation that it comes with. If you have questions or something unexpected occurs, please contact your Regional Support Manager for assistance. Find your regional support manager using [Contact Us](#)

VEX IQ Challenge   VEX Robotics Competition   VEX U

Day of the Event!   Game Resources   Event Planning   League Play

Judge/Volunteer Resources   Publicity and Media Resources