VEX Robotics Competition

Live Remote Tournament (LRT)

Event Partner & Volunteer Guide/
Tournament Operator Instructions
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Introduction to Live Remote Tournament (LRT) Gameplay

Live Remote Tournament (LRT) gameplay is a new event format developed by the REC Foundation for the 2020-2021 competition season. LRT gameplay allows teams to compete remotely in live interactive competitions using a web-based portal through RobotEvents.com. The purpose of this document is to outline the technical and volunteer requirements needed as well as provide the required instructions for Event Partners to set up and conduct Live Remote Tournaments.

Previously, traditional VEX Robotics Competition events have been held “in-person” in a single location such as a school, gymnasium, community center, or a myriad of other public venues. By utilizing the RobotEvents.com Live Remote Tournament system, Event Partners can also choose to hold an event entirely remotely. This allows teams to compete together while remaining in physical isolation from one another, and allows teams to compete with teams in their region and beyond without the expenses of travel.

Many aspects of the competition that might have been handled by volunteers, including proper field setup and reset, and ensuring teams are on the field for their upcoming match are responsibilities that now fall to team members and their designated adult team Facilitator, the coach, or other responsible adult who will be supervising students during the event. Event Partners hosting Live Remote Tournaments must be proactive and detail oriented in preparing for and managing these events. Failure to follow these directions may result in substantial delays to the event and/or an inability of teams to participate in the event.

In a Live Remote Tournament, VRC Change Up is played by two Alliances – one “red” and one “blue” – composed of two Teams each. Each Team competes on a separate field (i.e., there are four Robots, four Teams, and four fields involved in each Match).

For the full game rules, please consult the current version of the VRC Change Up Game Manual, including the section on Live Remote Tournament Rules.

General information for Event Partners is found in the Event Partner Guide. Additional resources for Event Partners is available at RoboticsEducation.org or by contacting your Regional Support Manager.
Document Overview

This guide is divided into six sections:

**Section 1:** Volunteer Roles/Event Staffing Requirements
This section will explain the volunteer/event staff requirements for Live Remote Tournaments and how they compare to in-person events.

**Section 2:** Technology Requirements for Volunteers
This section will explain technology requirements for volunteers/event staff. Requirements for teams is found in the Live Remote Team Guide & Setup Instructions.

**Section 3:** Tournament Setup & Initialization
This section will explain how to set up a Live Remote Tournament in RobotEvents.com and setting up volunteer permissions.

**Section 4:** Event Initialization Procedures
This section will explain how to initiate the start of the event on the RobotEvents.com Live Remote Tournament system so teams and volunteers can connect.

**Section 5:** In-Event Procedures
This section will explain the step-by-step process for running a Live Remote Tournament.

**Section 6:** Troubleshooting
This section will give guidance on how to solve common issues.

Section 1: Volunteer/Event Staffing

Overview

Event Partners who are familiar with the volunteer roles and responsibilities for in-person events will recognize that Live Remote Tournaments (LRTs) have different volunteer needs from in-person events. For example, resetting fields correctly - a vital part of the event which would fall under the responsibility of a field reset crew and referee staff at an in-person event, is that teams must be responsible for doing during Live Remote Tournaments.

Another key difference is that Live Remote Tournaments do not use Tournament Manager to input scores, start match timers, or finalize results. Instead a browser-based user interface is used through remote.robotevents.com. The person(s) responsible for using this interface to execute the event is called referred to as the Tournament Operator in this document. Once in the event, Tournament Operators can fill more specific volunteer roles: Emcee/Announcer, Match Controller, or Scorekeeper.
LRT events may be viewed by their audience with a slight delay via an automatically generated link via YouTube. However, the teams participating in the match and a select few key event staff need to have a real-time connection. There is a practical limitation for how many computers can be connected to the event in real time. As such, it is recommended that a Tournament Operator also fulfill the role of the Emcee/Announcer in addition to another role such as Match Controller. The Head Referee also needs access to the event in real time. All others should watch using the public video feed which will have a slight delay, or in the case of scorekeepers, follow along via 5-second screen captures (explained below). The Head Referee, Emcee/Announcer, and Match Controller are key roles which have identical levels of access to the event and can fill in as backup for each other if needed. The Head Referee, Emcee/Announcer, and Match Controller are key roles which have identical levels of access to the event and can fill in as backup for each other if needed.

**Volunteer Roles**

Those who are accustomed to in-person events will recognize that many of the roles and responsibilities for Live Remote Tournaments are similar to those filled at in-person events, but there are key differences. To help illustrate the volunteer roles for Live Remote Tournaments, the chart on the next page compares the LRT roles with those of an in-person competition.

Currently it is recommended that only two computers can be connected into the Live Remote Tournament as Match Controllers/Announcers/Head Referees at any given time. Scorekeeping should be done through a separate role which uses snapshots sent to those users. This does not count towards the two computer limit since it does not use real-time video. For this reason, it may make sense to have these two key volunteers located in separate access points to the Internet if there is any question about the stability of an access point.

This will allow the event to continue as any technology or volunteer issues are being worked on. Event Partners may wish to have a reserve volunteer able to fill either role on standby in case of need - just as they would at an in-person event.

If two volunteers can share a computer and a video screen - for example one person serving as a Tournament Operator looking at one computer screen, while another serves as an Announcer looking at a connected monitor showing the same display, then event roles can be subdivided among additional personnel as long as the overall number of connected computers is limited. If each volunteer is in isolation and would need a separate connection, then it may be necessary for each volunteer to fill more than one role during the tournament (i.e., one person acting as both Tournament Operator and Announcer) in order to keep the number of overall connections to a minimum.
<table>
<thead>
<tr>
<th>Live Remote Volunteer Role</th>
<th>In-Person Volunteer Role</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Event Partner</strong></td>
<td><strong>Event Partner</strong></td>
</tr>
<tr>
<td>- Organizer of event</td>
<td>- Organizer of event</td>
</tr>
<tr>
<td>- Responsible for recruiting and organizing volunteers</td>
<td>- Responsible for recruiting and organizing volunteers</td>
</tr>
<tr>
<td>- Responsible for setting up the event in RobotEvents.com</td>
<td>- Responsible for setting up the event in RobotEvents.com</td>
</tr>
<tr>
<td>- During event, helps solve unforeseen issues/communicate with teams having connection issues</td>
<td>- During event, helps solve unforeseen issues</td>
</tr>
<tr>
<td>- Ultimately responsible for the execution of the event</td>
<td>- Ultimately responsible for the execution of the event</td>
</tr>
<tr>
<td><strong>Key: Match Controller/Announcer</strong></td>
<td><strong>Tournament Manager Operator</strong></td>
</tr>
<tr>
<td>- Backup Head Referee</td>
<td>- Start/stop matches</td>
</tr>
<tr>
<td>- Needs access to real-time match video</td>
<td>- Finalize scoring</td>
</tr>
<tr>
<td>- Needs Microphone</td>
<td>- Manage Displays</td>
</tr>
<tr>
<td>- Starts/stop Matches</td>
<td>- Correct scoring errors</td>
</tr>
<tr>
<td>- Finalize scoring</td>
<td></td>
</tr>
<tr>
<td>- Assist with scoring/correct errors</td>
<td></td>
</tr>
<tr>
<td>- Makes any event announcements</td>
<td></td>
</tr>
<tr>
<td>- Play-by-Play commentary during matches</td>
<td></td>
</tr>
<tr>
<td>- Communicates to teams for refresh-tech help</td>
<td></td>
</tr>
<tr>
<td><strong>Key: Head Referee</strong></td>
<td><strong>Head Referee</strong></td>
</tr>
<tr>
<td>- Emergency Backup Tournament Operator/Announcer</td>
<td>- Watch the match and make rulings on legality, final word on rules and violations</td>
</tr>
<tr>
<td>- Needs access to real-time match video</td>
<td>- Verifies scores as posted with teams</td>
</tr>
<tr>
<td>- Needs Microphone</td>
<td>- Oversees Team/Robot Inspection</td>
</tr>
<tr>
<td>- Watch the match and make rulings on legality</td>
<td>- Can score fields if needed</td>
</tr>
<tr>
<td>- Makes final ruling on scoring issues</td>
<td></td>
</tr>
<tr>
<td>- Oversees Team/Robot Inspection</td>
<td></td>
</tr>
<tr>
<td>- Helps check accuracy of field reset</td>
<td></td>
</tr>
<tr>
<td><strong>Scorekeeper Referee</strong></td>
<td><strong>Scorekeeper Referee</strong></td>
</tr>
<tr>
<td>- Does not use live video - but snapshots of team video feeds sent at intervals</td>
<td>- Score matches</td>
</tr>
<tr>
<td>- Scores matches (Usually assigned to a particular field or alliance)</td>
<td>- Potentially assists with inspection</td>
</tr>
<tr>
<td>- Potentially assists with inspection</td>
<td>- Helps check field reset</td>
</tr>
</tbody>
</table>
Overall Volunteer Needs

The Event Partner is responsible for recruiting:

1. One Tournament Operator/Announcer
2. One Head Referee
3. One Scorekeeping Referee per 1-2 fields
4. Any inspection staff (dependent on the number of teams at the event)
5. Any judging staff including a Judge Advisor if Judged Awards are given at the LRT event

As stated previously, some roles may be combined for Live Remote Tournaments. This depends on the circumstances of each Event Partner and their key volunteers.

Note: At the present time, all event volunteers who need to be logged into the LRT system (Announcers, Tournament Operators, Head Referees, and Scorekeepers) will have identical access to the event. As such, volunteers will need instructions from the Event Partner as to what role they will need to fill on the day of the event and be mindful of their assigned role when selecting how to join into a match.

This also allows for volunteers to quickly cover each other’s roles if needed. For example, if a Head Referee loses Internet access, a qualified Scorekeeping Referee can take over their position by joining a match as a "Match Controller" rather than as a “Scorekeeper.” To put it another way, volunteer roles are defined by what users do and in what role they join a match, rather than any attribute or level of permission associated with their account.

Section 2: Technology Requirements for Key Volunteers/Event Staff

These requirements apply for any user serving key roles as Announcer/Tournament Operator/Head Referee. At present only two Key Volunteer computers should be joined with the Live Remote system to receive real time video feed.

Required Equipment:

- Reliable Internet access (preferably via an ethernet connection)
- Computer running Windows 10 or Mac OS
  - Minimum of an Intel i7 processor (4 processing cores) or equivalent.
- Chrome web browser (running the most recent release of Chrome) on the computer for logging into remote.robotevents.com

Note: As the system improves, the system requirements are likely to change and this section may be updated to include more specific hardware requirements.

Recommended Equipment:

- Additional large monitor or screen to make it easier for scoring/sharing the view of fields if multiple volunteers such as scorekeepers are working in the same location.
- High-quality microphone
Note: Scorekeeping referees do not need computers of the same processing power since they will be scoring using pictures of team videos captured at intervals rather than real-time video. They also do not need microphones or cameras. Event organizers and the Head Referee should coordinate so scorekeepers are scoring the correct fields and have an alternate plan of communication such as group chat or telephone system for resolving any scoring issues.

Section 3: Event Setup & Initialization

Step 1: Event Setup on RobotEvents.com

The Event Partner sets up their event on RobotEvents.com by filling in all required fields. The process is the same as setting up other types of events on Robot Events except for some specific fields that need to be entered correctly on the “Event Information” page:

1. Be sure to select “Live Remote Tournament” as the Event Type.
2. Be sure to select “Remote” as the Event Format.

If you are unsure of this process and would like detailed instructions on posting events on RobotEvents.com, refer to this guide. It is recommended that Event Partners add a survey question in the event for coaches to confirm the event day contact phone numbers for each team’s Event Facilitator. This could also be done outside of the RobotEvents.com system via email or an independently written survey that the EP sends to teams. This is also included as an item in the LRT inspection checklist.

Once all required fields are filled out, Event Partners should contact their Regional Support Manager to initiate the final approval/review process.
Step 2: Set Up Key Volunteer Permissions

Currently all LRT Volunteers that require direct access to the LRT system (Tournament Operator(s), Announcer(s), Head Referee(s), and scorekeeping referees) need to be added into the event as “Event Administrators.” This will give them the necessary access to log into the LRT tournament via remote.robotevents.com.

Volunteers will need to first make a RobotEvents.com account and then forward those emails to the Event Partner, who will then send their completed list of volunteer emails to their Regional Support Manager who will make the necessary modifications to their RobotEvents.com account. This needs to be done well in advance of your event date to ensure they are properly set up in the RobotEvents system.

Step 3: Organize Robot, Field, & Camera Inspections

Event organizers should develop a plan for inspecting teams – this process may take longer than in-person events since teams need to have their field and camera setup inspected in addition to their robot. This information can be found in the VRC LRT Field and Technology Inspection Guide.

Completing inspections ahead of the event day gives teams time to resolve any issues before the event. It is highly recommended that event organizers do inspections with plenty of time for teams to make changes or corrections to be in compliance with the inspection criteria. Scheduling inspections a day ahead of the event can help the event run more smoothly, shorten the overall length of competition day, and provide a better experience for teams. It is recommended that this be done over a video conferencing platform by asking teams to sign up for an inspection time. This can be linked in the email that RobotEvents.com will generate for each team that registers for the event. To speed up the process, multiple inspectors can work in parallel.

It is recommended that robot inspection and field/camera inspection be scheduled separately. Teams may use a different camera for robot inspection then they would for their LRT setup. Scheduling distinct inspections will give inspectors a better opportunity to evaluate the actual setup and camera views that teams will be using during the event.

If teams fail inspection at in-person events, they will often have an opportunity to make corrections to their robot in order to compete and must sit out of any matches until they pass an inspection. LRT events by nature cannot work the same way. For LRT events, teams that do not demonstrate that they can pass inspection in their allotted inspection time should be removed from the event.

Permitting teams to compete in LRT events who do not have field or technology configurations that are in compliance with the inspection requirements will degrade the experience for other teams, event volunteers, and the audience. While it is laudable to try and accommodate teams who may be struggling to try and give them a good experience, the inspection requirements are not negotiable and the experience of all other participants in the event should take precedence over an individual team.
Section 4: Event Initialization Procedures

Step 1: Verify Team List
At the present time, the team list must be verified prior to the event being opened on Remote.RobotEvents.com. Each team’s attendance should be verified as a part of inspection and confirmed the day of an event. Any teams that do not pass inspection should not be included in the team list for the event. They can be removed by the Event Partner going through the admin portal to their event on RobotEvents.com and then removing teams from the active team list by transferring them to the waitlist.

This image shows the “Registered Teams” and “Add to Waitlist” buttons in the RobotEvents.com Admin portal.

Step 2: Logging into the Tournament
When you are ready to start your event, all event volunteers should go to remote.robotevents.com and select “Login as an Event Partner.” All volunteers should use this button to log into the event.

Note: If someone is both a Tournament Operator and has a team in the event, they will need two separate computers, one to log in as a team, and the other to log in as an Event Partner/Volunteer.
Step 3: Selecting Audio and Video Inputs

Once the Tournament Operator has logged into remote.robotevents.com, they will be asked to connect their audio and video preferences. At this time, they will have to choose/connect an audio input such as a microphone (please be aware of your microphone and mute yourself unless you are talking to the teams) but can select “None” for video. All volunteers require a microphone in order to connect to the event.

Note: The Tournament Operator, Announcer, and Head Referee roles do not require an appearance on camera and thus does not need a dedicated webcam.

![Audio/Video Input selection screen]

Step 4: Open the Tournament

Once logged in, a list of LRT events that your account has access to will appear. Click “OPEN” on your event that will be running on that day.

![View of Available Remote Tournaments accessible by an Event Partner’s account]
Step 5: Set up Event Variables

Once the event has been Opened, the Tournament Operator will be asked to set up the event by selecting the time allotted between matches, the number of matches, and other event details as shown below.

**Note:** The time is measured in seconds. The time between matches is not the same as the “match cycle time” used in Tournament Manager.

**IMPORTANT:** When scheduling the number of Alliances in your Live Remote Tournament, please keep in mind that due to the nature of this format, teams that lose connection will be unable to participate in the Alliance Selection process which will make your event is unable to proceed to completion. As such, Event Partners should be conservative when configuring the number of teams that will move on to Eliminations, setting that number to fewer than the total number of teams in the event.

For events of 24 teams or more, it is strongly recommended that the number of alliances be limited to 8. For events with between 12 and 19 teams, the number of alliances limited to 4, and for fewer than 12 teams, the number of alliances be limited to 2.

Once “SAVE & FINALIZE SCHEDULE” is clicked, these details cannot currently be revised. Event Partners/Tournament Operators should discuss these numbers with their Regional Support Manager prior to the day of the event.

**Note:** The event date in the LRT system must match the date on RobotEvents – if the event is postponed, the event date in RobotEvents must be changed.

![Event Setup Screen](image_url)

*The Event Setup screen where an EP can set up various aspects of the event*
Section 5: In-Event Procedures

Overview of the Key Volunteer Interface

This view shows the in-match view for the Tournament Operator. Numbered Items are:

1. The match timer, current score, and autonomous scoring indicators. Color indicates the autonomous winner and a gold star indicates the completion of the home row
2. Current videos of teams in the match – each has independent full screen and mute buttons
3. The match list – including already scored and upcoming matches
4. The match chat – this chat is only visible for teams in the specific match and volunteers
5. The scoring interface – note that the user must select which field is being scored
6. The Match Actions Panel, which includes actions such as “Ready Check” and “Start Match”. Above is the mute feature for the user logged in, and button to open the private chat window.

Note: To join a match as either a Score Keeper or Match Controller, click on the 3 dots next to a match as shown. Scorekeeping Referees while logged into matches, will not have access to the Match Actions Panel – they will be limited to the scoring interface.
Step 1: Start the Event

Once the event schedule has been finalized, the Tournament Operator will be brought to the event lobby. The Tournament Operator must select “START EVENT” right next to the Match Schedule to allow for teams to be joined into the event. They will receive a notification in Remote.Robotevents.com that the tournament has been started and a link that will take the to the event lobby. As teams join, the team numbers will show white in the schedule. If teams are not connected to the Live Remote Tournament, the team number will be grayed out.

Note: Tournament Operator can use the chat function on the right-hand side of the screen to communicate with the teams in the lobby. Event Partners or other technical assistant volunteers should also have their phone available that is listed on the event page at RobotEvents.com as the Event Day Phone Number. This gives teams that may be having internet connectivity issues a way to communicate with event staff.

The image on the left contains the list of upcoming matches indicating which teams have joined the events: those teams appear in white, teams that have not yet joined remained grayed out. If a team is grayed out in your event, they may be having issues connecting. We recommend the Event Partner or other event assistant reach out to the team to see if they are in the process of solving their technical difficulties and assist if needed.
Teams that have joined appear in the match list with white text. Teams that have not yet joined remained grayed out. If a team was connected but grayed out in your event, they may be having issues connecting. We recommend the Tournament Operator reach out to the team to see if they are in the process of solving their technical difficulties.

**Step 2: Start a Match**

Once all the teams are joined to the event, then the Tournament Operator can “Join” Practice/Qualifying matches by selecting “Join as Match Controller.” Once the Tournament Operator joins the match, click “Start Match” in the Match Action Panel to automatically bring the teams into the match from the event lobby.

Scorekeeping referees should also join the match but use the option “Join as Scorekeeper.” They will not have access to the Match Action Panel or live team video feeds but will have access to the Scoring Interface and chat features. Team videos will be replaced by snapshots of the team fields every 5 seconds while a match is running.

**Note:** Once in the match, the Tournament Operator can use the chat function on the bottom of the page to communicate with the teams. The Tournament Operator can also use the microphone to communicate with the teams as well. The Tournament Operator will notice that teams can be muted using the microphone buttons on the bottom of each team video. This will mute the team for the Tournament Operator only. Teams will still be able to hear each other (teams can mute each other independently).

**Announcer Note:** Welcome teams to match, verbalize any discrepancies with field setup, if video for a team is not appearing, ask team to refresh their browser.

This view shows the in-match view for the Tournament Operator. The Match list is on the left, match actions such as Start Match as well as the scoring application are on the right. Event Chat is on the bottom of the screen, and the center has the view of all four team fields.
Step 3: The Ready Check

Tournament Operator performs a “Ready Check” for all the teams to ensure they are ready to start the match. This is done using the appropriate button in the upper right panel. This will send a notification to each team and they must click using their computer to confirm that they are ready for the match. In an in-person event, this is usually done by drive team members giving the head referee a “thumbs-up” signal that they and their robots are ready to start the match.

**Note:** If the Tournament Operator does not see one of the teams show up in the view, they should first refresh their browser page. It may take up to 8 seconds to refresh. Wait before clicking refresh again. **If the team video feed still does not appear, the team must refresh on their end.**

**Announcer Note:** Instruct teams: “Please click your ready check so we know you are ready for your match.” if they do not answer the ready check prompt.

![Ready Check Button](image)

*On the left, the Ready Check Button is vision in the Match Actions panel. On the right, three of four teams have signaled Ready Check complete.*

Step 4: Starting the Autonomous Match Period

Tournament Operator selects “Autonomous” to run the autonomous period of the match once all teams have confirmed their Ready Check.

**Announcer Note:** You can give a clear countdown to start the match, but do not say “Go.” Allow the Timer sound to be the signal as to the start of the match.
Once Autonomous is complete, referees will need to score the autonomous period, including whether teams have completed their home row, which is a bonus independent of the autonomous bonus.

To do this, Scorekeepers, or the Head Referee/Tournament Operator will use the scoring application on the right-hand side of the screen to assign scoring objects to goals on each field as appropriate. Make sure you are scoring in autonomous mode. Points will be automatically awarded and calculated.

**Note:** If teams do not have autonomous, the “Stop Current Mode” button allows you to end the autonomous period early.

**Announcer Note:** You should state which alliance is the autonomous winner or if it is a tie, and also mention if alliances have completed their home row. You can remind the audience that winning autonomous is worth 6 points and the home row is worth 1 win point, regardless of any other outcome.

### Step 5: Starting the Driver Controlled Match Period

Once the Autonomous period has been scored, the Tournament Operator you will click on “Driver” to begin Driver Control.

**Announcer Note:** You can give a clear countdown to start the match, but do not say “Go.” Allow the Timer sound to be the signal as to the start of the match.

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### Step 6: Scoring the Match

Once the match is complete, the referees can begin to score the match using the panel on the right-hand side of the screen.

**Announcer Note:** You can also use this time to discuss the different strategies employed by the alliances, pointing out positive contributions by different teams, and thanking sponsors and supporters.
Step 7: Ending the Match

Once the match is completed and scored, select “End Match”, and then click “Continue.”

**Note:** The "End Match" button gives you access to the “Finalize Scores” which will bring teams back to the event lobby. Think of this process as two factor confirmation that the match is over.

Once the match has been ended, teams will have a chance to confirm the scoring of their field. There will be a check mark by the team number in the scoring interface when a team has done so as seen below. Like the “Ready Check” feature, this is not a requirement for the event to proceed (teams that are unable or unwilling to confirm a score will not hold up a tournament).
Step 8: Finalizing the Score

Once the Head Referee has completed any final checks of the score, select “Finalize Scores” and then “Continue” on the “Finalize Scores” prompt.

Note: Once the “Finalize Scores” button is clicked, the button will turn into “Unfinalize” – which will allow a Match Controller to go back and make a correction if needed. This should be rarely used if teams are confirming the scoring of their fields.

Step 9: Leave the Match

Once the Tournament Operator has ended the match for teams and finalized the score, the Tournament Operator will “leave” the match and then go back to the lobby to select the next match.
Step 10: Repeat for Each Match

Repeat steps 2-9 for each match. Once all Practice Matches and Qualification Matches are completed then move onto Alliance Selection followed by Elimination Matches.

**Announcer Note:** As you get closer towards the end of the event, remind teams that if they think they are going to be in a position to select an alliance partner, they should have a list of those teams in mind so they can quickly go through alliance selection. Teams should have alternatives in case their first choices are not available.

Remind teams to stand by their computers because the alliance selection process will happen through prompts sent to them, and they must choose to accept or decline.

Step 11: Alliance Selection for Finals Matches

Tournament Operator clicks on the “Begin Alliance Selection” button on the right-hand side of the screen. This will bring the teams to a screen in which they will be able to select their alliance partner. At the top of the screen the Tournament Operator can choose to “Disqualify Team from Alliance Selection” if needed. Once Alliance Selection is complete, the quarterfinals, semifinals and finals matches will be automatically created on the left-hand side of the screen. Teams will receive prompts to be select partners as well as accept or decline invitations to join an alliance on their own screens. This process does not need to be facilitated by the Emcee as closely as it would in in-person events.

**Announcer Note:** After Alliance Selection is over congratulate all teams and set a timeframe for when finals matches will start.
Step 12: Run Finals Matches

Continue running matches as shown in steps 2-8 until the last match. Brackets will be automatically generated as matches progress until the finals are played and a Tournament Champion alliance is determined. Remember that teams with back-to-back matches will need time to change batteries and reset their field.

Step 13: Ending the Event

Once the last match is complete (finalized score and ended match) the Tournament Operator will be brought back to the event lobby and at the top of the screen click “End Event” to finalize the entire event and send results to RobotEvents.com.

Are you sure you want to end this event? All teams will be taken to RobotEvents.com and will be unable to come back. This action cannot be undone and should only be performed when the event is COMPLETELY finished.

Congratulations!

Your event is complete! At this time, you will need to manually add award winners, including Tournament Championships to the event on www.robotevents.com via the EP admin portal.
Section 6: Troubleshooting Information for Teams

Audio

Audio Feedback

Problem: In the Initial set up window, when a team connects audio, they experience audio feedback.

Solution: Selecting “None” as Audio Option will immediately prevent this feedback. Note: once teams select “none,” to reselect audio in the future, teams will need to go through the set-up window again.

Missing Audio

Problem: The team cannot hear event audio/announcer/referees.

Solution: Have the team verify that the audio settings on the computer are set up properly. Confirm that the correct output device has been selected and that it is not muted. All teams should be using external speakers to listen to audio from the Live Remote Tournament. Note: There may be instances that there will be no audio, but you will always be able to hear game sounds and buzzers.

Solution: If the problem persists, connect to a different networks available to you, preferably one without a “website authentication” security feature.

Solution: Ask if they team is using school internet. If so, have the team ask their faculty IT department to setup all the needed permissions needed to participate in the event.

Video

Team Video Display

Problem: Team cannot see live video feed from their web camera. Instead, the teams see one of the following:

1. Black Screens for all teams in the match:
   - Solution: Go through the Audio and Video Selection tool again by refreshing the page. If the team can see the webcam video in the set up window properly have them finish the setup process by clicking “Continue.”
b. **Solution:** If they see a black screen on the preview within the set up window have the team verify that Chrome is giving access to the webcam in Chrome’s settings. To confirm this, click the lock icon on the search bar to find the video/audio sources being enabled in Google Chrome. If this is enabled have the team go to [practice.robotevents.com](http://practice.robotevents.com) to make sure their webcam is working properly.

2. **A Webcam Driver Error** (this error is indicative that your webcam driver has stopped working properly, i.e., a black screen with three dots or a black screen with an error message):
   a. **Solution:** Change the external webcam
   b. **Solution:** Remove the camera as a device from the computer and then re-add it to download the drivers within the settings of the computer.
   c. **Solution:** Select the computer web camera to confirm the computer is able to support webcam sharing within the Live Remote Tournament System.

3. If the above does not work, the problem can be related to Internet/Firewall:
   a. **Solution:** Try a different network available to you, preferably one without a “website authentication” security feature.
   b. **Solution:** Ask if team using school internet. If so, have their faculty IT department on site setup all the permissions needed to share web camera within the Live Remote Tournament System.

**Partner/Opponent Video Display**

**Problem:** The team cannot see live video feed from another team. Instead, the team may see one of the following:

1. **Black screens for all of the other teams:**
   a. **Solution:** Have the team refresh the entire page and wait 8 seconds.
   b. **Solution:** If a team is using a wireless connection for internet, it is recommended that the team change to a hardwired connection.
   c. **Solution:** Have the team use a different computer with a higher processing power (to be able to receive video from other teams).

2. **See black screens for some of the other teams:**
   a. **Solution:** Have the team that is not showing video use a different computer with higher processing power.
   b. **Solution:** Have the team and Event Partner (EP) ensure they are not running anything on the device outside of the Live Remote Tournament System. For example, ensure the teams are not using any applications for streaming AND/OR coding software.

3. **Team sees video feed but it is highly pixelated:**
   a. **Solution:** Verify that the team have a wired connection to internet.
Camera Selection

Problem: The team can’t select their external web camera.

Solution: On the left hand corner of the Google Chrome search bar there is a lock icon that you will select to see the permissions given to Google Chrome. You will select the dropdown next to “Camera” and select “Ask (default).” Next, restart Google Chrome, and then relaunch the Live Remote Tournament system.

Solution: Clear cache & cookies on Google Chrome and then close Google Chrome. Next, restart Google Chrome, and then relaunch the Live Remote Tournament system and log in.

Accessibility

Buttons

Problem: The team is not able to select the “my field is ready” button. The “My Field is Ready” button is greyed out after the team has selected “audio” and “video” sources, and have completed the controller pairing process correctly (if applicable).

Solution: Select a different audio source in the set up window by refreshing the page.

Solution: Have them select an audio source as “none” in the set up window.

In-Match Timer

Problem: The team’s in-match timer is not synchronized with the timers of the other teams or EPs.

Solution: The team must select the computer’s time/clock settings and make sure that their clock is synchronized with the time zone that they are in (see below screenshots). The team should select the “sync now” button. Next, restart Google Chrome, and then relaunch the Live Remote Tournament system.
Date & time

*Some of these settings are hidden or managed by your organization.

Current date and time

3:01 PM, Monday, January 4, 2021

Set time automatically

Off

Set time zone automatically

Off

Set the date and time manually

Change

Synchronize your clock

Last successful time synchronization: 12/12/2020 6:01:11 PM
Time server: Free-running System Clock

Sync now
VRC- Controller/Autonomous Troubleshooting

Errors

Select Valid Program

Problem: The team gets a “select a valid program” error during the “Connect Controller” setup portion of the set up window.

Solution: Have the team verify that the latest firmware is updated on everything including the controller. If not, have team update firmware re-download the code onto their robot as needed.

Solution: Ensure the program on their controller is running before they select “connect controller.”

Solution: Clear cache & cookies on Google Chrome and then close Google Chrome. Next, restart Google Chrome, and then relaunch the Live Remote Tournament system and log in.

Solution: Use a different controller (after code is downloaded to it).

Invalid Program or Failed to Open Serial Port

Problem: After selecting ‘Camera device’, ‘Audio Device,’ and connecting controller, a pop-up error appears stating: “Invalid program has been selected” or “Failed to open serial port.”

Solution: Use the following steps:

1. Clear cache and cookies
2. Double check and make sure “Experimental Web Platform Features” are enabled
1. Close chrome
2. Reopen Chrome and restart the login process for remote.robotevents.com
3. Plug in robot to computer and turn on robot

Solution: Close all programs that use a connection to the Robot Brain/Controller (e.g. coding software) and then relaunch the Live Remote Tournament system and log in.

Solution: If using a USB HUB, connect the controller directly to the computer.

Solution: Switch to different USB port on computer.

Solution: Switch out cable with another.

Solution: Use the following steps:

1. Log out of the Live Remote Tournament System
2. Clear cache and cookies
3. Turn off Robot
4. Close Google Chrome
5. Plug Robot into Computer
6. Turn on Robot
7. Start Google Chrome
8. Log in to remote.robotevents.com
9. Click on “join event”
10. Run Program on Controller
11. Select audio and video as applicable
12. Select connect controller

**Solution:** Re-download the program on the brain.

**Solution:** Switch out the controller.

### Autonomous Issues

#### Autonomous Running

**Problem:** The teams have issues with their autonomous running. For example, autonomous not running at all, autonomous not running for the full 15 seconds, etc. The teams should follow the following steps to resolve the issue:

a. If the team has a programmable Pre-Autonomous:
   i. **Solution:** The team will need to deactivate this and set up their robot program without the Pre-Autonomous. Attached is a link from the VEX Forums explaining the process for this: [https://www.vexforum.com/t/competition-code-and-user-created-tasks/88616](https://www.vexforum.com/t/competition-code-and-user-created-tasks/88616)

b. If the team does not have a programmable Pre-Autonomous:
   i. **Solution:** The team should copy their current code into a new file in VEXcodeV5, VEXcodeV5Pro, or VEXcoding Studio
   ii. **Solution:** Ensure the team is running the most up-to-date firmware on the robot and the controller.
   iii. **Solution:** Ensure the clock on the computer is synchronized to the time zone they are located in. Refer to “In-Match Timer” section.
   iv. **Solution:** Have the team review their code to ensure it is written properly.

#### Accessibility

##### Alliance Selection Process

**Problem:** The teams are not able to select an alliance partner and/or accept alliance invitations due to buttons being missing or greyed out.

a. Alliance Selection has not started:
   i. **Solution:** Before the EP begins alliance selection, all teams must refresh their browser. Once all the teams have refreshed, the EP can begin alliance selection

b. Alliance Selection has Started:
   i. **Solution:** If the team is the alliance captain, the team should refresh the browser and the “choose partner” button should appear next to each time available to be selected.
   ii. **Solution:** If the team is being picked by an alliance captain, the team should refresh their browser. If the team is being picked AND refreshing doesn’t
populate the buttons, the EP should cancel the team's invitation and have that team select a partner again.

**Other**

**Problem:** Camera View Seems to “Zoom In” During Event

**Symptoms:** Camera view was fine during inspection but seems to “zoom in” at some point during the LRT competition

**Cause:** Drop in processing power may cause a team’s outbound video feed to downgrade resolution which may in turn changes the aspect ratio.

**Solution:** Team will need to readjust camera to reframe field properly closing down background process may free up processing power.

**Problem:** None of the above problems or solutions are applicable to me. What should I do?

**Solution:** Call the Operations Live Remote Tournament Support Staff (903-457-0444) to assist or use the message icon on the bottom right hand side of the Live Remote Tournament system to get in contact with the Support Staff.