



Training and Support



# 2017-2018 *FIRST*<sup>®</sup> Tech Challenge Score Tracker Manual



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## Volunteer Thank You

Thank you for taking the time to volunteer for a *FIRST*® Tech Challenge event. *FIRST*® and *FIRST*® Tech Challenge rely heavily on volunteers to ensure events run smoothly and are a fun experience for teams and their families, which could not happen without people like you. With over 4,600 teams competing yearly, your dedication and commitment are essential to the success of each event and the *FIRST* Tech Challenge program. Thank you for your time and effort in supporting the mission of *FIRST*!



Revision History		
Revision	Date	Description
1	10/3/2017	Initial Release
1.1	10/25/2017	<ul style="list-style-type: none"> <li>Updated Tournament Org Chart</li> <li>Added Head Referee, Referee, Score Tracker Minimum Age Requirements section</li> <li>Added Key Volunteer Role Minimum Age Requirement section</li> <li>Pre-event Responsibilities – Added review of official Q&amp;A Forum</li> <li>Appendix B – Updated Scoresheets</li> <li>Appendix C – Updated Scoresheet Instructions with new Scoresheet images</li> </ul>
1.2	1/9/2018	<ul style="list-style-type: none"> <li>New cover page image</li> <li>New Sponsor thank you image</li> <li>Appendix A &amp; B – Updated Scoresheets with new logo</li> </ul>

## Contents

Introduction.....	5
What is <i>FIRST</i> ® Tech Challenge? .....	5
<i>FIRST</i> Tech Challenge Core Values .....	5
<i>Gracious Professionalism</i> ® .....	5
<i>Gracious Professionalism</i> for Volunteers.....	6
Youth Protection Program .....	6
Youth Protection Expectations and Guidelines.....	6
NOTICE OF NON-DISCRIMINATION .....	6
<i>FIRST</i> Volunteer Rights and Responsibilities .....	6

Volunteer Code of Conduct .....	7
Tournament Organization Structure.....	8
Job Description.....	9
Volunteer Training and Certification .....	9
Volunteer Minimum Age Requirement.....	9
Head Referee, Referee, Score Tracker Minimum Age Requirement .....	9
Key Volunteer Role Minimum Age Requirement .....	9
Bring a Friend! .....	9
Overview of Responsibilities .....	10
Pre-Event Day Responsibilities.....	10
Event Day Responsibilities .....	11
Before Matches Begin.....	11
Match Play .....	11
Autonomous Period .....	11
Driver Controlled Period .....	11
End Game .....	11
Score Tracker – Field Location .....	12
Score Summary.....	13
Appendix A – Resources .....	14
Game Forum Q&A .....	14
FIRST Tech Challenge Game Manuals.....	14
FIRST Headquarters Pre-Event Support.....	14
FIRST Tech Challenge Event On-Call Support .....	14
FIRST Websites.....	14
FIRST Tech Challenge Social Media .....	14
Feedback.....	14
Appendix B – Scoresheets .....	15
Appendix C – Scoresheet Instructions.....	18
Step by Step instructions .....	19
Appendix D – Live Scoring App Instructions .....	21

## Introduction

### What is FIRST® Tech Challenge?

FIRST Tech Challenge is a student-centered program that focuses on giving students a unique and stimulating experience. Each year, teams engage in a new Game where they design, build, test, and program autonomous and driver operated robots that must perform a series of tasks.

They also cultivate life skills such as:

- Planning, brainstorming, and creative problem-solving.
- Research and technical skills.
- Collaboration and teamwork.
- Appreciating differences and respecting the ideas and contributions of others.

To learn more about FIRST Tech Challenge and other FIRST® Programs, visit [www.firstinspires.org](http://www.firstinspires.org).

### FIRST Tech Challenge Core Values

FIRST asks everyone who takes part in FIRST Tech Challenge to uphold the following values:

- We display *Gracious Professionalism*® with everyone we engage with and in everything we do.
- We act with integrity.
- We have fun.
- We are a welcoming community of students, mentors, and volunteers.
- What we learn is more important than what we win.
- We respect each other and celebrate our diversity.
- Students and adults work together to find solutions to challenges.
- We honor the spirit of friendly competition.
- We behave with courtesy and compassion for others always.
- We act as ambassadors for FIRST and FIRST Tech Challenge.
- We inspire others to adopt these values.

**An example of *Gracious Professionalism* is patiently listening to a team's question and providing support despite having several pressing things to do on the day of the event.**

## Gracious Professionalism®

FIRST uses this term to describe our programs' intent and is shared with all young people engaging in FIRST programs. At FIRST, team members help other team members, but they also help other teams.

*Gracious Professionalism*® is not clearly defined for a reason. It has different meanings to everyone.

Some possible meanings of *Gracious Professionalism* include:

- Gracious attitudes and behaviors are win-win.
- Gracious folks respect others and let that respect show in their actions.
- Gracious Professionals make valued contributions in a way that is pleasing to others and to themselves.

**FIRST Tech Challenge is MORE THAN ROBOTS<sup>SM</sup>! While competing, students develop personal and professional skills they will be able to rely on throughout their life.**

In *FIRST*, *Gracious Professionalism* teaches teams and student participants:

- Learn to be strong competitors, but also treat one another with respect and kindness in the process.
- Avoid leaving anyone feeling as if they are excluded or unappreciated.
- Knowledge, pride and empathy should be comfortably and genuinely blended.

In the end, *Gracious Professionalism*® is part of everyday life. When professionals use their knowledge in a graciously and individuals act with integrity and sensitivity, everyone wins, and society benefits.

Watch Dr. Woodie Flowers explain *Gracious Professionalism* in this [short video](#).

### ***Gracious Professionalism for Volunteers***

It is a good idea to spend time going over this concept with volunteers. Provide volunteers with real-life examples of *Gracious Professionalism* in practice before, during, and after the event and recognize great *Gracious Professionalism* when you see it in action!

## **Youth Protection Program**

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The *FIRST* YPP sets minimum standards recommended for all *FIRST* activities. Adults working in *FIRST* programs must be knowledgeable of the standards set by the *FIRST* YPP, as well as those set by the school or organization hosting their team.

### ***Youth Protection Expectations and Guidelines***

Coaches and mentors should read and follow the [FIRST Youth Protection Program guide](#). Anything labeled as required is mandatory in the United States and Canada, and cannot be waived without approval from the *FIRST* Youth Protection Department. *FIRST* recommends that the standards set forth in the *FIRST* Youth Protection Program guide be applied outside of the United States and Canada to the extent possible. At a minimum, local regulations regarding youth protection must be complied with.

Most up to date forms are available here: <http://firstinspires.org/resource-library/youth-protection-policy>

The US Screening process, the Canadian Screen process, Frequently Asked Questions (FAQ), and additional information are on the *FIRST* Youth Protection Program Website: <http://firstinspires.org/resource-library/youth-protection-policy>

### ***NOTICE OF NON-DISCRIMINATION***

For Inspiration and Recognition of Science and Technology (*FIRST*®) does not discriminate based on race, color, national origin, sex, disability, age, status as a veteran who served in the military, religion, gender, gender identity, or gender expression in its programs and activities.

Keep updated at: <http://www.firstinspires.org/about/legal-notices>

## ***FIRST* Volunteer Rights and Responsibilities**

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Volunteers are the most valuable asset to *FIRST*®. Your selfless contribution of time and resources are instrumental in accomplishing our mission of inspiring the next generation of science, technology, engineering, and mathematics leaders and innovators. The foundation of the relationship between *FIRST* and our volunteers is respect.

**It is your right to:**

- Be treated with *Gracious Professionalism*®. *Gracious Professionalism* is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community.
- Feel valued. *FIRST* recognizes the significant efforts that volunteers contribute. The time that you donate not only helps *FIRST* succeed but also builds the *FIRST* community.
- Understand your role. *FIRST* will inform you about what's expected of you, your schedule, any meals you will be provided, any changes to program or policy, and who to contact should you need assistance.
- Expect a safe environment. *FIRST* strives to create and maintain a safe environment for all volunteers and participants and will always factor safety into program planning.
- Receive fair treatment and inclusion. All volunteers will be treated with respect and dignity in inclusive environments. *FIRST* does not discriminate on the basis of race, color, national origin, sex, disability, age, status as a veteran who served in the military, religion, sexuality, gender, gender identity, or gender expression in its programs and activities.
- Reevaluate your time commitment. *FIRST* appreciates all of our volunteers and understands that volunteers experience life situations that may affect their commitment.
- Communicate with your Volunteer Coordinator or your local *FIRST* leadership about:
  - Concerns or limitations that are affecting your volunteer role.
  - Any mistreatment towards you or others. You may be required to fill out a [non-medical incident form](#).
  - Contact *FIRST* Headquarters directly if you feel that you are being treated improperly and attempts to resolve issues and conflicts at the local level are not successful. Volunteers can call (800) 871-8326 or email [volunteer@firstinspires.org](mailto:volunteer@firstinspires.org).

**It is your responsibility to:**

- Treat others with *Gracious Professionalism*®.
- Follow the schedule and the role description provided for your position. Contact your local *FIRST* leadership if there are any issues.
- Respect others, treat them fairly and kindly. Be inclusive and follow the non-discrimination policy of *FIRST*.
- Follow safety rules and ensure safety of others. Adhere to all [FIRST Youth Protection Program \(YPP\) policies](#). Report any injuries or safety concerns within 48 hours.
- Adhere to the [FIRST Code of Conduct](#).
- Have FUN!

**Volunteer Code of Conduct**

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The mission of *FIRST* is to inspire a generation of science and technology leaders who are both gracious and professional. This *FIRST* Code of Conduct lists some of the basic behaviors mentors, coaches, volunteers, team members, Affiliate Partners, contractors, staff, and other participants should adhere to while participating in *FIRST* activities.

- Exhibit [Gracious Professionalism](#)® always. *Gracious Professionalism* is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the

community. With *Gracious Professionalism*, fierce competition and mutual gain are not separate notions.

- Ensure the safety of all participants in *FIRST* activities.
- Not engage in any form of bullying, harassment, use of profane or insulting language, or any actual or threatened violence.
- Adhere to all *FIRST* Youth Protection Program (YPP) policies.
- Report any unsafe behavior to event or local *FIRST* leadership.

Should a volunteer not comply with the Code of Conduct, they may be barred from participating in future *FIRST* activities.

## Tournament Organization Structure

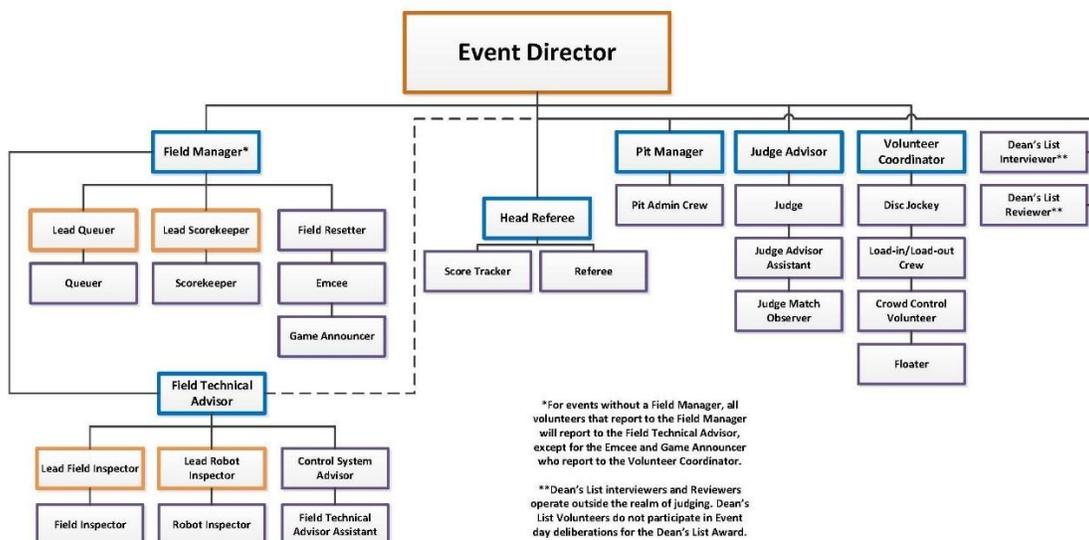


Figure 1 - League Championship, Qualifying Tournament, Championship Tournament Organization

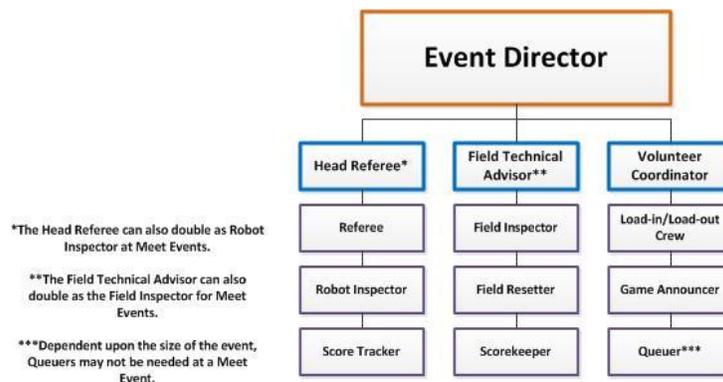


Figure 2 - League Meet Organization

Learn more about the roles of volunteers on our [Volunteer Resources page](#), "Volunteer Role Description".

## Job Description

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- **Physical/Technical Requirements:**
  - Technical – Medium
  - Physical – Medium
  - Administrative – Medium
  - Communication – High
- **Time commitment:**
  - Training – Approximately 3 hours
  - Event Day – Approximately 8 hours
- **Proper Dress:**
  - Wear comfortable shoes, most of the day will be spent standing and walking between the Pit area and the Competition Fields.
  - ANSI Z87.1 certified safety glasses are required in the Competition Area.

### ***Volunteer Training and Certification***

Volunteers must apply to their role using the [Volunteer Registration System](#). After the volunteer has applied to their role, FIRST Tech Challenge will send an email to the volunteer with access instructions to training and certifications (if applicable). Emails with access to the training and certifications will be sent within one business day from applying to the role. If you have applied for a role but have not received access to the training, please email [FTCTrainingSupport@firstinspires.org](mailto:FTCTrainingSupport@firstinspires.org).

Score Tracker should read this manual before the Event. She/he should speak to the Event Director or Affiliate Partner to check for additional requirements, such as meetings before the Event or run-throughs of the queuing path before the Event. The estimated training time is three hours.

### ***Volunteer Minimum Age Requirement***

FIRST requires that FIRST Event volunteers be at least 13 years old for most roles. There are exceptions listed below. The Regional Planning Committee can increase the age requirement as needed. Adult volunteers cannot have children with them while volunteering nor be responsible for supervising children at the event. Children under the minimum age are welcome at FIRST Competitions with suitable supervision by someone other than a volunteer.

### ***Head Referee, Referee, Score Tracker Minimum Age Requirement***

The minimum age allowed for volunteers filling a role as a Head Referee, Referee, or Score Tracker is 21. Students who have been a part of a Team must be at least 3 years removed from the Team before they can serve as a Head Referee, Referee, or Score Tracker at an Official FIRST Tech Challenge Tournament.

### ***Key Volunteer Role Minimum Age Requirement***

Volunteers MUST be at least 21 years old before they can serve in a Key Volunteer Role for the FIRST Tech Challenge. Key Volunteer positions include: Volunteer Coordinator, Head Referee, Judge Advisor, Field Manager, Field Technical Advisor, Lead Robot Inspector, Lead Field Inspector, and Lead Scorekeeper. Local Affiliate Partners can make case by case exceptions to these guidelines by contacting FIRST for approval.

### ***Bring a Friend!***

Volunteers are a huge part of the FIRST Tech Challenge Program and continuing to inspire students to seek out careers in science, technology, engineering, and math (STEM). FIRST Tech Challenge needs your help in recruiting new volunteers to keep our programs thriving for future generations! If you have a friend or co-worker you think would be interested in volunteering at an event, there are just a few easy steps to help get them involved!

1. Check out our full list of [volunteer opportunities](#) online!
2. Have them apply for the Event in the [Volunteer Registration System](#). Volunteers must be screened before volunteering.
3. Have them contact [FTCTeams@firstinspires.org](mailto:FTCTeams@firstinspires.org) with any questions they may have.

If they are concerned about jumping in head first, no worries! Job shadowing at a *FIRST* Tech Challenge Event is a great way to get a taste of what a full day's worth of competition looks like. New volunteers can discover ways they can fit their personal skills into a volunteer position!

## Overview of Responsibilities

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The *FIRST* Tech Challenge Score Tracker is the person that is responsible for tracking the status of the playing field and game elements as the match is in play. There will be two Score Trackers per field; one tracking the blue alliance and the other tracking the red alliance. As the Score Tracker keeps track of the status of the field, they also confer with the Referees on the field who track penalties and rule violations. The Referee communicates these penalties to the Score Tracker throughout the match. At the conclusion of the match, the Score Tracker provides the scores and penalties to the Scorekeeper, either by paper or via the live scoring app, to be entered into the scoring system. The Scorekeeper will enter this data into the Scoring System, which then calculates and displays the Match Score. The Score Tracker is the person responsible for recording the status of the field, while the Referee tracks penalties. If a team questions either, the ultimate authority is with the Head Referee.

There are two ways the Score Tracker will track the status of the match, depending upon the tournament where they are volunteering:

- Manually Track via Scoresheets
- Track via the live scoring system using either an Android device, tablet, or laptop.

This manual will cover both types of tracking so that the Score Tracker can be prepared for either situation. This role is well suited for volunteers who have refereed in the past, or would like to referee in the future.

## Pre-Event Day Responsibilities

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Outlined below are responsibilities Score Trackers have before event day. Make sure to check with the Event Director to see if they need help setting up before the event.

- Review this Score Tracker Manual.
- Watch the [Game Animation](#) for the current seasons game. This will give a Score Tracker an idea of how the matches flow.
- Read the [Game Manual Part 2](#) – Score Trackers will need a good understanding of how teams score during a match.
- Review the *FIRST* Tech Challenge Official Q&A Forum – It is essential for Score Trackers to be up-to-date with the state of the game rulings that have taken place. Game rulings can be found in the [FIRST Tech Challenge Game Forum](#). They are updated throughout the season. They should be read and understood immediately prior to the Tournament. Updates stop for the week on Thursdays at approximately 12:00PM Eastern time during Tournament season. The *FIRST* Tech Challenge Game Forum is also converted to PDF, EPUB, and MOBI formats every Thursday afternoon.

## Event Day Responsibilities

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### ***Before Matches Begin***

The Score Tracker should arrive early to the event. They should first check in with the Head Referee and confirm which field they will be stationed, and which alliance they will be tracking. At most events, the Head Referee will hold a meeting the morning of the event with the Score Trackers and Referees to talk about the flow of the day. This is a good opportunity for the Score Tracker to know which Referee will be working on the same field (if there are multiple fields) and come up with a communication plan since these two volunteer positions work very closely. It is important that they communicate well during the matches to ensure the matches run smoothly and on time.

### ***Match Play***

Matches have two distinct periods of play: a 30-second autonomous period where robots operate via preprogrammed instructions only. This is followed by a two-minute driver-controlled period. The last 30 seconds of the driver-controlled period is called the end game. Each period of a match adds new scoring opportunities for robots to achieve.

### **Autonomous Period**

During the Autonomous period, alliances earn points by:

- Selecting and removing opponent colored Jewels from platforms
- Scoring Glyphs into the Cryptoboxes,
- Scoring a Cryptobox Key
- Parking in a Safe Zone

### **Driver Controlled Period**

During the Driver-Controlled period, alliances earn points by:

- Scoring Glyphs into their Alliance's Cryptoboxes
- Creating Cipher patterns with their Glyphs in the Cryptoboxes.

### **End Game**

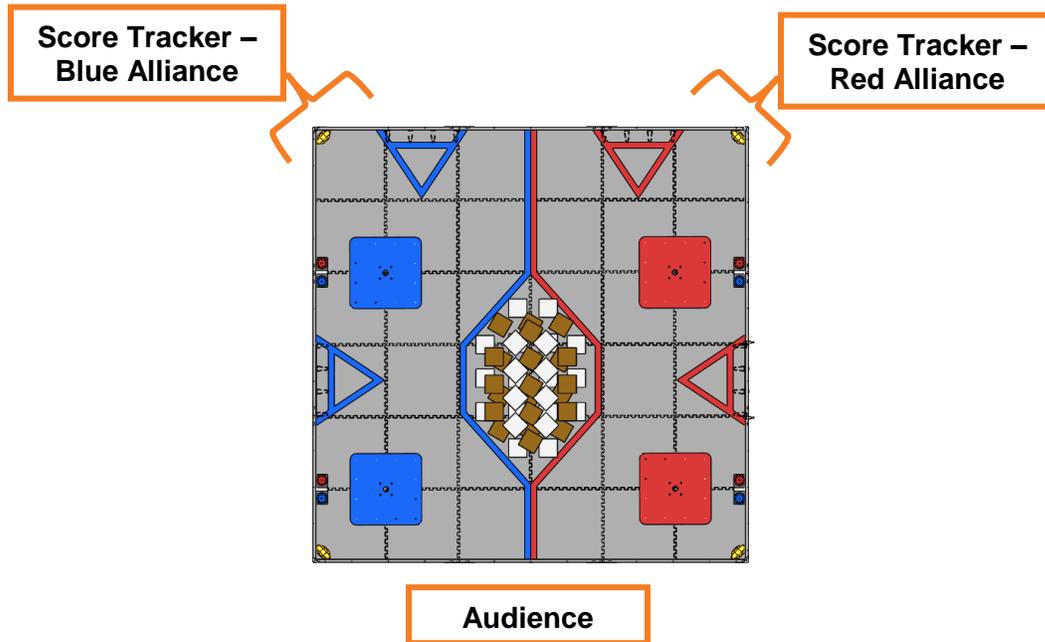
The final 30 seconds of the Driver-Controlled Period is called the End Game. In addition to the previously listed Driver-Controlled Period scoring activities, alliances earn points by:

- Moving their Relics to safety in their Recovery Zone
- Balancing Robots on the Balancing Stones.

The Score Tracker must pay close attention throughout the match to keep track of the status of the field. At events with live score tracking, the status of the field is fed to an audience display that shows the teams and audience the status of the field, and therefore the approximate score for each alliance. When manually tracking the status of the field, the scoresheet must be filled out quickly. The scoresheet is then handed off to the Scorekeeper who enters the information into the scoring system. This will then be displayed for the teams and audience to see. Please see Appendix B & C for a visual of the Scoresheet as well as the instructions on how to fill it out.

## Score Tracker – Field Location

Score Trackers should be stationed in a place where they can view the field, while not blocking the audience view or the Referees from watching for penalties. Ideally, each Score Tracker should be stationed toward the back of the field. The below diagram shows an approximate location for the Score Tracker while the match is in progress.



## Score Summary

The following score summary chart comes from the [Game Manual Part 2](#). Please make sure to also read the Game Manual Part 2 for a complete game and scoring description.

The following table shows the possible *Scoring* achievements and their point values. The table is a quick reference guide and not a substitute for a thorough understanding of the game manual.

<b>Scoring Achievement</b>	<b>Autonomous Points</b>	<b>Driver-Controlled Points</b>	<b>End Game Points**</b>	<b>Reference</b>
<i>Jewels</i> - One <i>Jewel</i> remains on the Platform	30 points	-	-	1.5.2.1
<i>Relic</i> - In Zone 1 - In Zone 2 - In Zone 3 - Upright Bonus	- - -	- - -	10 20 40 15	1.5.4.1
<i>Glyph</i> - Scored in Cryptobox - Bonus for a correct Cryptobox Key - Completed Row of 3 - Completed Column of 4 - Completed Cipher	15 30	2 -	10 per Row 20 per Column 30 points	1.5.2 and 1.5.3
<i>Robot Parked</i> - In Safe Zone	10	-	-	1.5.2.4
<i>Robot Balanced</i>	-	20	-	1.5.4.2

\*\* - The *End Game* occurs during the last thirty seconds of the *Driver-Controlled* Period.

## Appendix A – Resources

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### Game Forum Q&A

<http://ftcforum.usfirst.org/forum.php>

Anyone may view questions and answers within the FIRST® Tech Challenge Game Q&A forum without a password. To submit a new question, you must have a unique Q&A System User Name and Password for your team.

Volunteers that apply for a specific volunteer role will receive an email from [FTCTrainingSupport@firstinspires.org](mailto:FTCTrainingSupport@firstinspires.org) with their username and password to the forum. You will receive access to the forum thread specific to your role.

### FIRST Tech Challenge Game Manuals

Part 1 and 2 - <http://www.firstinspires.org/node/4271>

### FIRST Headquarters Pre-Event Support

Phone: 603-666-3906

Mon – Fri

8:30am – 5:00pm

Email: [FTCTeams@firstinspires.org](mailto:FTCTeams@firstinspires.org)

### FIRST Tech Challenge Event On-Call Support

*These numbers are available for event personnel only. Please **do not** call these numbers if you are a team looking for a ruling, a decision, or assistance. We trust that you will not misuse this resource.*

Day of Event Robot Control System Support: 603-206-2450

All other Day of Event support: 603-206-2412

### FIRST Websites

FIRST homepage – [www.firstinspires.org](http://www.firstinspires.org)

[FIRST Tech Challenge Page](#) – For everything FIRST Tech Challenge.

[FIRST Tech Challenge Volunteer Resources](#) – To access public Volunteer Manuals.

[FIRST Tech Challenge Event Schedule](#) – Find FIRST Tech Challenge events in your area.

### FIRST Tech Challenge Social Media

[FIRST Tech Challenge Twitter Feed](#) - If you are on Twitter, follow the FIRST Tech Challenge Twitter feed for news updates.

[FIRST Tech Challenge Facebook page](#) - If you are on Facebook, follow the FIRST Tech Challenge page for news updates.

[FIRST Tech Challenge YouTube Channel](#) – Contains training videos, Game animations, news clips, and more.

[FIRST Tech Challenge Blog](#) – Weekly articles for the FIRST Tech Challenge community, including Outstanding Volunteer Recognition!

[FIRST Tech Challenge Team Email Blasts](#) – contain the most recent FIRST Tech Challenge news for Teams.

[FIRST Tech Challenge Google+](#) community - If you are on Google+, follow the FIRST Tech Challenge community for news updates.

### Feedback

We strive to create support materials that are the best they can be. If you have feedback about this manual, please email [ftcteams@firstinspires.org](mailto:ftcteams@firstinspires.org). Thank you!

## Appendix B – Scoresheets



Qualcomm

Match: \_\_\_\_ Field: \_\_\_\_

### Autonomous Period

Single Jewel Remaining

Glyphs in Cryptobox

Cryptobox Keys

Robots in Safe Zone

### Driver Controlled Period

Glyphs Scored	Completed		
	Rows	Columns	Ciphers
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

### End Game Period

Relics			
Zone 1	Zone 2	Zone 3	Upright
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Robots Balanced			<input type="text"/>

### Penalties

# Minor  # Major

Teams	No Show	Yellow Card	Red Card
-------	---------	-------------	----------

<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Qualcomm

Match: \_\_\_\_ Field: \_\_\_\_

**Autonomous Period**

Single Jewel Remaining

Glyphs in Cryptobox

Cryptobox Keys

Robots in Safe Zone

**Driver Controlled Period**

Glyphs Scored	Completed Rows	Completed Columns	Completed Ciphers
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**End Game Period**

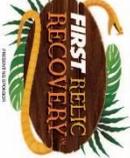
Relics			
Zone 1	Zone 2	Zone 3	Upright
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Robots Balanced			<input type="text"/>

**Penalties**

# Minor  # Major

Teams	No Show	Yellow Card	Red Card
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Match: \_\_\_\_\_ Field: \_\_\_\_\_

**Autonomous Period**

Single Jewel Remaining

Glyphs in Cryptobox

Cryptobox Keys

Robots in Safe Zone

**Driver Controlled Period**

Glyphs Scored	Rows	Completed	Columns	Ciphers
<input type="text"/>				

**End Game Period**

Relics

Zone 1	Zone 2	Zone 3	Upright
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

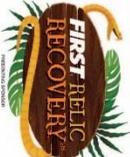
Robots Balanced

**Penalties**

# Minor  # Major

Teams: No Show  Yellow Card  Red Card





Match: \_\_\_\_\_ Field: \_\_\_\_\_

**Autonomous Period**

Single Jewel Remaining

Glyphs in Cryptobox

Cryptobox Keys

Robots in Safe Zone

**Driver Controlled Period**

Glyphs Scored	Rows	Completed	Columns	Ciphers
<input type="text"/>				

**End Game Period**

Relics

Zone 1	Zone 2	Zone 3	Upright
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Robots Balanced

**Penalties**

# Minor  # Major

Teams: No Show  Yellow Card  Red Card

## Appendix C – Scoresheet Instructions

The Scoresheets used by Score Trackers are designed to look like the Scoring System. There will be one Scoresheet for the Red Alliance, and one Scoresheet for the Blue Alliance. Below is an image of the Scoring System, you can see how the Scorekeeper enters Match information to the Scoring System.

**RED SCORE:** 0

Red Alliance

---

**Autonomous Period**

Single Jewel Remaining

Glyphs in Cryptobox

Cryptobox Keys

Robots in Safe Zone

---

**Driver-Controlled Period**

Glyphs Scored	Rows	Completed Columns	Ciphers
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

---

**End Game Period**

Relics

Zone 1	Zone 2	Zone 3	Upright
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Robots Balanced

---

**Penalties**

# Minor  # Major

---

Teams	No Show	Yellow Card	Red Card
1243	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3663	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**BLUE SCORE:** 0

Blue Alliance

---

**Autonomous Period**

Single Jewel Remaining

Glyphs in Cryptobox

Cryptobox Keys

Robots in Safe Zone

---

**Driver-Controlled Period**

Glyphs Scored	Rows	Completed Columns	Ciphers
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

---

**End Game Period**

Relics

Zone 1	Zone 2	Zone 3	Upright
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Robots Balanced

---

**Penalties**

# Minor  # Major

---

Teams	No Show	Yellow Card	Red Card
5533	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12307	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Step by Step instructions**

1. Fill out the match number.
2. Indicate which field the match is taking place (of there are multiple fields being played).



Match: \_\_\_ Field: \_\_\_

3. Autonomous Period

**Autonomous Period**

Single Jewel Remaining	a.	<input type="text"/>
Glyphs in Cryptobox	b.	<input type="text"/>
Cryptobox Keys	c.	<input type="text"/>
Robots in Safe Zone	d.	<input type="text"/>

- a. Write in the number of single Jewels remaining on the Jewel holder in the Alliance color. If none, write zero.
- b. Write in the number of Glyphs scored into the Alliances Cryptobox (must look at both Cryptoboxes). If non, write zero.
- c. Write in the number of Cryptobox keys scored by the alliance. They can score a maximum of 2. If none, write zero.
- d. Write in the number of robots parked in safe zones, there is a maximum of 2. If none, write zero.

4. Driver Controlled Period

Driver Controlled Period			
Glyphs Scored	Rows Completed	Columns Completed	Ciphers
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Write in the total number of Glyphs legally scored into both Cryptoboxes for the alliance. If none, write zero.	Write in the total number of Glyphs legally scored into rows in both Cryptoboxes for the alliance. If none, write zero.	Write in the total number of Glyphs legally scored into columns in both Cryptoboxes for the alliance. If none, write zero.	Write in the total number of completed Ciphers (max 2) scored in both Cryptoboxes for the alliance. If none, write zero.

5. End Game Period

End Game Period			
Relics			
Zone 1	Zone 2	Zone 3	Upright
<b>Robots Balanced</b>			

Note which zone the Relic has been placed. Keep in mind there can be 2 Relics in one zone. Therefore, when filling out this section, either write zero, one, or two in the respective field. It is possible that an alliance might not score either Relic, so noting zero is important for the Scorekeeper when entering the final score into the scoring system.

Write either zero, one, or two for the number of Relics that remain upright in the Relic Recovery Zone.

Write either zero, one, or two for the number of robots that have balanced on the Balancing Stone during end game.

6. Penalties

The Score Tracker is NOT responsible for tracking penalties throughout the match, they only record the penalties during the match as they are communicated by the Referee. The Referee should communicate to the Score Tracker, and at the end of the match the Referee and the Score Tracker will quickly look over the scoresheet to ensure the penalties, as well as the state of the field, have been recorded correctly. The Head Referee should communicate any Yellow or Red Cards received by a team to the Score Tracker.

Write in the number of Minor and/or Major penalties as indicated by the Referee.

Penalties			
# Minor	# Major		
Teams	No Show	Yellow Card	Red Card
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If a Yellow or Red Card was given to a team, write in the team number, and check the appropriate Yellow or Red card box. Similarly, if a team did not show up, write the team number and check the box.

## Appendix D – Live Scoring App Instructions

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Coming Soon!