

# Contents:

|                                      |          |
|--------------------------------------|----------|
| <b>Version 3.0</b>                   | <b>2</b> |
| <b>Version 3.1</b>                   | <b>2</b> |
| <b>Version 3.2</b>                   | <b>4</b> |
| <b>Version 3.3 (Final Release)</b>   | <b>6</b> |
| <b>Version 3.3.1 (Clarification)</b> | <b>8</b> |

## Version 3.0

- Initial Release

## Version 3.1

- Standardized formatting
- Removed parts tables under the field specifications from the Manifest
- Small wording additions in the Overview and Treasure Map sections for clarification
- The Route:
  - Added a section detailing how the route should be displayed on the robot
  - Added a section detailing initial robot starting state
  - Added a section detailing signal repetition
  - Added an example describing the requirement to complete destinations in order
  - Changed wording to clarify certain sections
  - Described in greater detail how to earn points from the treasure chest
  - Added a section describing the proper operation to earn points via the rotary encoder and the colors the RGB LED will be using
  - Changed the dead time between when Destination A changes to Destination C to a lockout time of 45 seconds; in this period of time Destination C will not be available for activation.
  - Added a section describing the location and operation of the green indicator LED
- Playing Rules:
  - Clarified the ‘water’ out of bounds section as including vertical space
  - Changed wording to clarify certain sections
  - Removed 250 point penalty for losing an appeal and added a note that points may be removed based at the judge’s discretion
  - Clarified the time in which sequestering occurs and the need for 15 minutes between the end of sequestering and beginning of the matches
  - Clarified how the T-shirt points are earned
- Field Specifications:
  - Added a note referencing the CAD file and how to obtain it
  - Added paint specifications and table containing the paints used
  - Initial Signal:
    - Removed references to using NEC protocol and replaced with “Similar to NEC”
    - Updated image to show the location of Most Significant and Least Significant bits
    - Updated wording for clarification on the signal structure
    - Added Table Containing information on the IR LED used in the field

- Destination A and C:
  - Added the location of the green indicator LEDs and described which LED is associated with each button press
- The Water:
  - Added image to aid in correctly describing the zone encompassed by the water
  - Changed wording to clarify exactly where the water is located
- Destination B:
  - Added current approximate weight needed to depress the lever
  - Removed Home Depot references in parts table
- Added “Green indicator LED” section:
- Added parts table for Green LED indicator section
- Flag Destination:
  - Clarified that the wheel should fit over the knob supplied with the rotary encoder
- Treasure Chest:
  - Removed now defunct Home Depot references
  - Added links to websites where each item can be purchased
  - Added sinker weights to parts list
- Two Qualifying Rounds:
  - Clarified that rounds begin once the first IR signal is sent and end when Destination C is pressed, regardless of if it is correct or incorrect
- Scoring
  - Changed all point values except for time points, the maximum earnable points, not accounting for time points, is now 1500
  - Described how the robot should display the code and provided updated examples
  - Removed Destination B association with other points scoring opportunities
  - Added description on the process of earning flag raising points
  - Added partial points for partially raising the flag
  - Clarified the wording in the out of round points earning descriptions
- **Edits missed in this release:**
  - Removal of the 150 partial points for delivering the chest without activating Dest. B; if the chest is delivered to the ship the full 300 points will be awarded regardless of the status of Dest. B
  - The Date in the footer should read October 16, 2017

# Version 3.2

- Updated Date and Version number
- Terminology:
  - Added “Treasure Chest” and “Pirate Flag” definitions to the terminology list
- Changed some wording to clarify sections of the Overview
- The Route:
  - Clarified destination ordering process regarding skipping a stage
  - Added Signal LED operation with respect to Dest. A
  - Various changes to wording for consistency
  - Elaborated on rotary encoder operation and scoring regarding encoder reset for overturning
  - Specified indicator LED locations
  - Added section allowing for robots to use indicator LEDs
- Playing Rules:
  - Added Indicator LED operation when incorrect button is pushed
  - Added maximum points deduction for frivolous appeals
  - Specified that no projectiles or microcontroller interference will be tolerated
  - Added limits for dropping the treasure chest
- Clarified wording in the Doubloon earning locations section
- Made clarifications in robot specifications section on size and no projectiles
- Added Team Logo Specifications
- Team Flag Specifications:
  - Added examples of bad materials
  - Clarified location of team flag and that the pirate flag is provided as part of the field
- Field Specifications:
  - Paint specifications:
    - Added image detailing locations of paint
  - Initial Signal:
    - Added section detailing voltage and resistance currently used in the IR LED
  - Dest. A/C
    - Added location of the Indicator LEDs
    - Updated lower image to include LED locations
  - Dest. B
    - This stage was redesigned and eliminated the spring
    - Rewrote section to reflect stage redesign
    - Changed activation weight to >0.5lb
    - Added limit switch to parts list table
    - Updated Figure 7 to reflect redesign

- Pirate flag:
  - Added field to encoder measurement
- Treasure chest:
  - Specified that 18" is from the center of the chest
- Scoring:
  - Elimination Round:
    - Added clarification on how the final round is scored in relation to the qualifying rounds.
  - Table 11:
    - Added route number reference for consistency in the *Display Correct Code* section.
    - Expanded *Move Treasure Chest* wording to better explain points qualification between moving and picking up the chest
    - Addressed questions about picking up the treasure chest vs. storing the chest such that picking up and/or storing will earn full points if the attempt is obvious
    - Added further wording to remove association between Destination B and the treasure chest
    - Removed 150 partial score for delivering the chest w/o activating Destination B

# Version 3.3 (Final Release)

- Updated Date and version number
- Overview
  - Removed reference requiring Destination B completion before manipulating the chest
- The Treasure Map
  - Minor wording changes
- The Route
  - Added a positioning signal to be emitted from the IR LED to allow easier sensor alignment between the field and robot.
  - Clarified when and how a match begins
  - Added IR signal repetition period and a 30 second period after which the signal will no longer transmit.
  - Removed references requiring stage B before manipulating the chest
  - Clarified turns ranges to earn partial and full points in the flag stage
  - Added a section describing the different ways in which Destination A transitions to Destination C
  - Added field image to Figure 2
- Playing Rules
  - Re-ordered to increase clarity
  - Added section on how a match begins
  - Clarified section describing a round ending from contacting the water
  - Added section describing how teams should interact with judges
  - Added section outlining Judge's authority
  - Reworded section on unsubstantiated claims
- Doubloon Earning locations
  - Removed reference to "unlocking the chest"
- Doubloons Earned outside of round
  - Removed point value references
  - Removed requirement to have IEEE logo in the team logo and added note that school logos are only required for teams affiliated with a school
- Robot Specifications
  - Clarified when the various robot dimensions are allowed
- Team Logo Spec.
  - Added section on what is not allowed in a team's logo
- Team Flag Spec.
  - Removed section requiring flags to be attached to robots
- Field Specifications
  - Initial Signal
    - Added Carrier frequency of 38kHz

- Added frequency of repetition and duration of repetition of signal from the beginning of the match
    - Added section describing the positioning signal
    - Removed section in table 3 speaking about resistor values as it was unnecessary
  - The Water
    - Removed worded description of the water to remove confusion
    - Added CAD generated image of the water area with relevant measurements.
    - Added how many of each element is used in Table 5
  - Destination B
    - Removed two images and added three CAD generated images with relevant measurements
  - Green Indicator LED
    - Added location of Destination B LED
  - The Treasure Chest
    - Corrected description of chest location to line up with CAD files
    - Moved Images previously in Table 10 to Table 9 and removed Table 10
- Scoring
  - Qualifying rounds
    - Added number of competition and practice fields
    - Clarified how and when a match will begin and end
  - Elimination Round
    - Added Banquet date
  - Scoring table
    - Renamed from Table 11 to Table 10
    - Removed reference requiring stage B completion before manipulating the chest
    - Clarified flag position ranges with regards to partial or full points
    - Corrected erroneous 75 point value in the description of the 50 point value shirt, flag, and logo opportunities

## Version 3.3.1 (Clarification)

Various wording changes to help clarify different sections that could be misinterpreted from our intentions. The following sections have had some wording changes and content additions clarifications made:

- The Treasure Map
  - Edited sentence on receiving and displaying the code so it's clear that it is only required to earn doubloons
- The Route
  - Changed wording so that displaying the code is only mandatory for earning points
  - Added section on how a round will be initiated by a judge
  - Added steel blank of the treasure chest facing up to description of treasure chest placement
- Playing Rules
  - Added description of scoring
  - Added point describing the starting location of the Treasure chest
  - Added starting orientation of the Captains wheel
  - Added visually set as the margin of error for the treasure chest and captains wheel
  - Added "to earn doubloons" to the point describing team shirts
  - Added point describing how a judge will begin each round
  - Added how robots crossing the gangplank will be detected by the field automation
  - Added section describing the height at which the chest may not be dropped from above
  - Added description of how contact with the water, if not detected by the sensors but seen by a judge, will result in the end of a round
- Team Flag Specifications
  - Listed three materials that the flag can be constructed from; any other materials will not be accepted
- Field Specifications
  - Added description of the plastic and infill the 3D printed components will be constructed with.
  - The Water:
    - Added description of laser locations
  - Green Indicator LED:
    - Added color descriptions of the LED holders for Destinations A, B, and C
- Two Qualifying Rounds: Round 1, and Round 2
  - Added how judges will begin the round with a countdown
- Table 10 (Scoring)



- Move Treasure chest
  - Completely changed the notes to better describe how to earn points by moving the chest.
- Pick up and store treasure chest in/on robot
  - Completely changed the notes to better describe how to earn points by lifting/storing the chest.