

13 GLOSSARY

Term	Definition
ACTIVE DEVICE	any device capable of dynamically controlling and/or converting a source of electrical energy by the application of external electrical stimulus
ALIGNMENT LINE	one of thirty-two (32) white gaffers tape marks adhered to the carpet that start 1 ft. 6 in. (~46 cm) from the outermost face of the assembly and extend to the point where the carpet meets the assembly and centered at GAME PIECE placement/retrieval points
ALLIANCE	a cooperative of up to four (4) FIRST® Robotics Competition teams
ALLIANCE CAPTAIN	The designated student representative from each ALLIANCE in a Playoff MATCH
ALLIANCE STATION	a 30-ft. (~914 cm) wide by 10-ft. (~305 cm) deep infinitely tall volume formed by, and including the ALLIANCE WALL, the edge of the carpet, and ALLIANCE colored tape
ALLIANCE WALL	a 6-ft. 6-in. (~198 cm) tall structure that separates ROBOTS from DRIVE TEAMS (except the TECHNICIAN) and consists of three (3) PLAYER STATIONS, and two (2) LOADING STATIONS. ALLIANCE WALLS define the short edges of the FIELD and, along with the guardrails, prevent ROBOTS from inadvertently exiting the FIELD during the MATCH
ARENA	all elements of the game infrastructure that are required to play DESTINATION: DEEP SPACE Presented By The Boeing Company: the FIELD, GAME PIECES, and all equipment needed for FIELD control, ROBOT control, and scorekeeping
ARENA FAULT	an error in ARENA operation
BACKUP TEAM	The team whose ROBOT and DRIVE TEAM replaces another ROBOT and DRIVE TEAM on an ALLIANCE during the Playoff MATCHES
BAY	a container used to hold one (1) CARGO and can be sealed with one (1) HATCH PANEL
BOM	Bill of Material
BUMPER	a required assembly which attaches to the ROBOT frame
BUMPER ZONE	the volume contained between the floor and a virtual horizontal plane 7½ in. (~19 cm) above the floor in reference to the ROBOT standing normally on a flat floor
BYPASSED	the state assigned to any ROBOT which is unable or ineligible to participate in that MATCH as determined by the FTA, LRI, or Head REFEREE
CARGO	one (1) of two (2) types of GAME PIECES, an orange 13-in. (~33 cm) ±½ in. (~1.2 cm) diameter rubber playground ball with a FIRST logo as shown in Figure 4-30. The ball is made by Sportime (PN 1623139E)
CARGO SHIP	a 7-ft. 11¾-in. (~243 cm) long, 4-ft. 7¼ in. (~142 cm) wide, and 4 ft. (~122 cm) tall (excluding its fin) assembly with eight (8) BAYS, three (3) on each side and two (2) on the front (the front faces its ALLIANCE WALL).



Term	Definition
CARGO SHIP LINE	one of two (2) tape lines that extend the width of the FIELD and are colinear with the stern of each CARGO SHIP
CENTER LINE	an unmarked reference line that bisects the length of the FIELD
COACH	a precollege student or adult mentor member of the DRIVE TEAM who acts as a guide or advisor
COMPONENT	any part in its most basic configuration, which cannot be disassembled without damaging or destroying the part or altering its fundamental function
COTS	Commercial off the Shelf, a standard (i.e. not custom order) part commonly available from a VENDOR for all teams for purchase
CUSTOM CIRCUIT	any electrical COMPONENT of the ROBOT other than motors, pneumatic solenoids, roboRIO, PDP, PCM, VRM, RSL, 120A breaker, motor controllers, relay modules (per R36-B), wireless bridge, electrical solenoid actuators, or batteries
DEPOT	an area used to stage CARGO at the start of the MATCH per the Setup section
DISABLED	the state in which a ROBOT is commanded to deactivate all outputs, rendering the ROBOT inoperable for the remainder of the MATCH
DISQUALIFIED	the state of a team in which they receive zero (0) MATCH points and zero (0) Ranking Points in a Qualification MATCH or causes their ALLIANCE to receive zero (0) MATCH points in a Playoff MATCH
DRIVER	a precollege student member of the DRIVE TEAM who is an operator and controller of the ROBOT
DRIVE TEAM	a set of up to five (5) people from the same <i>FIRST</i> Robotics Competition team responsible for team performance for a specific MATCH
FABRICATED ITEM	any COMPONENT or MECHANISM that has been altered, built, cast, constructed, concocted, created, cut, heat treated, machined, manufactured, modified, painted, produced, surface coated, or conjured partially or completely into the final form in which it will be used on the ROBOT
FIELD	a 27 ft. (~823 cm) by 54 ft. (~1646 cm) carpeted area bound by and including the inward- and upward-facing surfaces of the guardrails, inward-facing surfaces of the ALLIANCE WALLS (except Chute surfaces). It is populated with ROCKETS, CARGO SHIPS, HAB PLATFORMS, DEPOTS, and LOADING STATIONS
FIELD STAFF	REFEREES, FTAS, or other staff working around the FIELD
FMS	the electronics core responsible for controlling the <i>FIRST</i> Robotics Competition playing FIELD. The FMS encompasses all FIELD electronics, including the computers, REFEREE touchscreens, wireless access point, sensors, stack lights, E-Stops, etc.
FOUL	a credit of three (3) points towards the opponent's total score
FRAME PERIMETER	fixed, non-articulated structural elements of the ROBOT contained within the BUMPER ZONE



Term	Definition
FTA	a <i>FIRST</i> Technical Advisor
GAME PIECES	CARGO and HATCH PANELS
HAB PLATFORM	a 12 ft. 6½ in. (~382 cm) by 7 ft. 11½ in. (~243 cm) assembly that consists of Level 1, 2, and 3 platforms, their supporting structures, and the ramp
HAB LINE	one (1) of two (2) tape lines that extend the width of the FIELD and are colinear with and overlap the bottom of the HAB ramp by 1 in. The tape color matches the color of the closest ALLIANCE STATION.
HAB ZONE	an infinitely tall volume defined by the guardrail, ALLIANCE WALL, and the HAB LINE. The HAB ZONE includes the HAB LINE.
HATCH	an opening on a ROCKET or CARGO SHIP on which HATCH PANELS must be placed to retain CARGO. There are two types of HATCHES: a ROCKET HATCH and a CARGO SHIP HATCH.
HATCH PANEL	one (1) of two (2) types of GAME PIECES, a circular 3/16-in. (~5 mm) thick polycarbonate toroid
HUMAN PLAYER	a pre-college student DRIVE TEAM member who acts as a GAME PIECE manager
KOP	Kit of Parts, the collection of items listed on the current season's Kickoff Kit Checklists, distributed to the team via <i>FIRST</i> Choice in the current season, or paid for completely (except shipping) with a Product Donation Voucher (PDV) from the current season
LINEUP	The list of three (3) teams participating in the MATCH and their selected PLAYER STATIONS
LOADING STATION	a FIELD assembly that allows HUMAN PLAYERS to feed GAME PIECES to ROBOTS on the FIELD
LRI	a Lead ROBOT Inspector
MATCH	a two (2) minute and thirty (30) second period of time in which ALLIANCES play DESTINATION: DEEP SPACE
MECHANISM	a COTS or custom assembly of COMPONENTS that provide specific functionality on the ROBOT
MIDLINE	a reference line that bisects the width of the FIELD and is marked by black tape that covers the mating seam of the two strips of carpet
MPX	myRIO Expansion port, the expansion port on the roboRIO
OPERATOR CONSOLE	the set of COMPONENTS and MECHANISMS used by the DRIVERS and/or HUMAN PLAYER to relay commands to the ROBOT
PASSIVE CONDUCTORS	any device or circuit whose capability is limited to the conduction and/or static regulation of the electrical energy applied to it (e.g. wire, splices, connectors, printed wiring board, etc.)
PCM	a Pneumatic Control Module



Term	Definition
PDP	a Power Distribution Panel
PLAYER STATION	one (1) of three (3) assigned positions in an ALLIANCE WALL from where a DRIVE TEAM operates their ROBOT
PORT	one of three (3) 1 ft. 4 in. (~41 cm) diameter holes in the “front” face of each ROCKET
RED CARD	a penalty assessed for egregious ROBOT or team member behavior or rule violations which results in a team being DISQUALIFIED for the MATCH
REFEREE	an official who is certified by <i>FIRST</i> to enforce the rules of DESTINATION: DEEP SPACE
ROBOT	an electromechanical assembly built by the <i>FIRST</i> Robotics Competition team to perform specific tasks when competing in DESTINATION: DEEP SPACE Presented By The Boeing Company. The ROBOT must include all of the basic systems required to be an active participant in the game – power, communications, control, BUMPERS, and movement. The ROBOT implementation must obviously follow a design approach intended to play DESTINATION: DEEP SPACE (e.g. a box of unassembled parts placed on the FIELD, or a ROBOT designed to play a different game, does not satisfy this definition)
ROCKET	a 10 ft. 4 in. (~315 cm) tall assembly placed such that its centerline is 8 ft. (~244 cm) from the CENTER LINE, and its “front” face is parallel to the guardrail, faces its CARGO SHIP, and 2 ft. 3½ in. (~70 cm) from the guardrail.
RP	a Ranking Point
RS	the Ranking Score
RSL	a ROBOT Signal Light
SANDSTORM	an assembly that features three (3) shutters, each directly above a PLAYER STATION
SANDSTORM PERIOD	a fifteen (15) second period at the start of each MATCH (T-minus 150s to T-minus 135s), during which the PLAYER STATION is blocked by the SANDSTORM
SIGNAL LEVEL	circuits which draw ≤1A continuous and have a source incapable of delivering >1A, including but not limited to roboRIO non-PWM outputs, CAN signals, PCM Solenoid outputs, VRM 500mA outputs and Arduino outputs
STARTING CONFIGURATION	the physical configuration in which a ROBOT starts a MATCH
STARTING LINE	one (1) of two (2) lines in an ALLIANCE STATION, marked by white tape, that extends from the back of the outermost Driver Station Support assembly to the back of the ALLIANCE STATION



Term	Definition
SURROGATE	a team randomly assigned by the FIELD Management System to play an extra Qualification MATCH
TECH FOUL	a credit of ten (10) points toward the opponent's total score
TECHNICIAN	a precollege student member of the DRIVE TEAM who is a resource for ROBOT troubleshooting, setup, and removal from the FIELD
TIMEOUT	a period of up to six (6) minutes between MATCHES which is used to pause Playoff MATCH progression
VENDOR	a legitimate business source for COTS items that satisfies all the criteria listed in the Robot Construction Rules' Overview section.
VRM	a Voltage Regulator Module
WITHHOLDING ALLOWANCE	a static set of FABRICATED ITEMS that shall not exceed 30 lbs. (~13 kg.), brought to an event (or ROBOT Access Period) in addition to the bagged items, to be used to repair and/or upgrade a ROBOT
YELLOW CARD	a warning issued by the Head REFEREE for egregious ROBOT or team member behavior or rule violations. A subsequent YELLOW CARD within the same tournament phase will lead to a RED CARD

