

## 14 Glossary

Term	Definition
<b>ACTIVE DEVICE</b>	any device capable of dynamically controlling and/or converting a source of electrical energy by the application of external electrical stimulus
<b>ALLIANCE</b>	a cooperative of up to 4 <i>FIRST</i> Robotics Competition teams
<b>ALLIANCE AREA</b>	a 26 ft. 11 $\frac{1}{8}$ in. wide by 9 ft. 10 $\frac{1}{4}$ in. deep (~821 cm by ~300 cm) infinitely tall volume formed by, and including the ALLIANCE WALL, the edge of the carpet, ALLIANCE colored tape, guardrail, and the AMP wall
<b>ALLIANCE CAPTAIN</b>	The designated STUDENT representative from each ALLIANCE Lead
<b>ALLIANCE WALL</b>	separates ROBOTS from DRIVE TEAM members in the ALLIANCE AREA
<b>AMP</b>	a structure used by ROBOTS to pass NOTES to the ALLIANCE AREA
<b>AMP ZONE</b>	a 10 ft. 10 in. long by 1 ft. 5 $\frac{3}{4}$ in. wide (~330 cm by ~45 cm) infinitely tall volume defined by the AMP wall, guardrail, ALLIANCE WALL, and ALLIANCE-colored tape. The AMP ZONE includes the tape.
<b>AMPLIFIED</b>	the state in which FMS increases the number of MATCH points awarded for NOTES scored in a SPEAKER per Table 6-2
<b>ARENA</b>	includes all elements of the game infrastructure that are required to play CRESCENDO <sup>SM</sup> presented by Haas: the FIELD, GAME PIECES, queue area, team media area, designated TECHNICIAN area, and all equipment needed for FIELD control, ROBOT control, and scorekeeping
<b>ARENA FAULT</b>	an error in ARENA operation
<b>AUTO</b>	the first 15 seconds of the MATCH, and the FMS blocks any DRIVER control, so ROBOTS operate with only their pre-programmed instructions
<b>BACKUP POOL</b>	the group of teams willing and able to join an ALLIANCE during the Playoff MATCHES, if needed
<b>BACKUP TEAM</b>	The team whose ROBOT and DRIVE TEAM replaces another ROBOT and DRIVE TEAM on an ALLIANCE during the Playoff MATCHES
<b>BUMPER</b>	a required assembly which attaches to the ROBOT frame. BUMPERS protect ROBOTS from damaging/being damaged by other ROBOTS and FIELD elements.

Term	Definition
<b>BUMPER ZONE</b>	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.
<b>BYPASSED</b>	a state applied to any ROBOT which is unable or ineligible to participate in that MATCH, as determined by the FTA, LRI, or Head REFEREE
<b>CENTER LINE</b>	a white line that bisects the length of the FIELD
<b>CHUTE</b>	A 50° sloped tunnel that leads to the opening in the SOURCE wall
<b>COACH</b>	a guide or advisor
<b>COACH LINE</b>	a black line in the ALLIANCE AREA that extends from the end of the ALLIANCE WALL (AMP side) to the edge of the ALLIANCE AREA
<b>COMPONENT</b>	any part in its most basic configuration, which cannot be disassembled without damaging or destroying the part or altering its fundamental function
<b>CONTINUOUS</b>	describes durations that are more than approximately 10 seconds
<b>CONTROL</b>	an action by a ROBOT in which the NOTE is fully supported by or stuck in, on, or under the ROBOT or it intentionally pushes a NOTE to a desired location or in a preferred direction (i.e. herding)
<b>COTS</b>	a standard (i.e. not custom order) part commonly available from a VENDOR for all teams for purchase
<b>CUSTOM CIRCUIT</b>	Any active electrical item that is not an actuator (specified in R501) or core control system item (specified in R710)
<b>DISABLED</b>	the state in which a ROBOT is commanded to deactivate all outputs, rendering the ROBOT inoperable for the remainder of the MATCH
<b>DISQUALIFIED</b>	the state of a team in which they receive 0 MATCH points and 0 Ranking Points in a Qualification MATCH or causes their ALLIANCE to receive 0 MATCH points in a Playoff MATCH
<b>DRIVE TEAM</b>	a set of up to 5 people from the same FIRST Robotics Competition team responsible for team performance for a specific MATCH
<b>DRIVER</b>	an operator and controller of the ROBOT
<b>DRIVER STATION</b>	1 of 3 assemblies within an ALLIANCE WALL behind which a DRIVE TEAM operates their ROBOT
<b>ENSEMBLE</b>	a scoring achievement in which an ALLIANCE has at least 10 STAGE points and at least 2 ONSTAGE ROBOTS

Term	Definition
<b>FABRICATED ITEM</b>	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
<b>FIELD</b>	an approximately 26 ft. 11¼ in. (~821 cm) by 54 ft. 3¼ in. (~1654 cm) carpeted area bounded by inward facing surfaces of the ALLIANCE WALLS, SOURCES, AMPS and AMP pocket walls, and guardrails
<b>FIELD STAFF</b>	the collective group of people working on or near the FIELD responsible for making sure the MATCHES are cycled through efficiently, fairly, safely, and with a spirit of cooperation, Gracious Professionalism, and generosity of spirit
<b>FMS</b>	the FIELD Management System
<b>FOUL</b>	a credit of 2 points towards the opponent's MATCH point total
<b>FRAME PERIMETER</b>	the part of a ROBOT contained within the BUMPER ZONE and established while in the ROBOT'S STARTING CONFIGURATION, that is comprised of fixed, non-articulated structural elements of the ROBOT
<b>FTA</b>	<i>FIRST</i> Technical Advisor
<b>GAME PIECE</b>	a NOTE or a HIGH NOTE
<b>HARMONY</b>	a state when more than 1 ROBOT is ONSTAGE via the same chain
<b>HIGH NOTE</b>	the same size, shape, and material as a NOTE but also has 3 equidistant pieces of white gaffers tape that wrap around the circular cross-section
<b>HUMAN PLAYER</b>	a NOTE manager
<b>INSPECTOR</b>	a person determined by <i>FIRST</i> to accurately and efficiently assess the legality of a given part of a ROBOT
<b>KOP</b>	the Kit of Parts (KOP)
<b>LINEUP</b>	the 3 teams participating in the MATCH and their selected DRIVER STATIONS
<b>LEAVE</b>	a scoring accomplishment in which a ROBOT'S BUMPERS must completely clear its ROBOT STARTING ZONE at any point during AUTO
<b>LRI</b>	the Lead ROBOT INSPECTOR
<b>MAJOR MECHANISM</b>	a group of COMPONENTS and/or MECHANISMS assembled together to address at least 1 game challenge: ROBOT movement, NOTE

Term	Definition
	manipulation, FIELD element manipulation, or performance of a scorable task without the assistance of another ROBOT.
<b>MATCH</b>	the 2-minute and 30-second in which a ROBOT is enabled to play CRESCENDO
<b>MECHANISM</b>	an assembly of COMPONENTS that provide specific functionality on the ROBOT. A MECHANISM can be disassembled (and then reassembled) into individual COMPONENTS without damage to the parts.
<b>MELODY</b>	a scoring achievement in which an ALLIANCE has at least 18 (15 if <i>Coopertition</i> Bonus) AMP & SPEAKER NOTES* for Regional & District level events or 21 (18 if <i>Coopertition</i> Bonus) AMP & SPEAKER NOTES for District Championship events
<b>MICROPHONE</b>	a vertical post centered above each TRAP and mounted to the top of the core structure
<b>MOMENTARY</b>	describes durations that are fewer than approximately 3 seconds
<b>MXP</b>	myRIO Expansion port, the expansion port on the roboRIO
<b>NOTE</b>	an orange foam torus with a 10 in. (~25 cm) inside diameter, 1 ft. 2 in. (~36 cm) outside diameter, and 2-in. (~5 cm) thickness
<b>ONSTAGE</b>	<p>The state of a ROBOT at the end of a MATCH provided it's only contacting:</p> <ul style="list-style-type: none"> <li>D. their truss legs (pink shaded elements in Figure 6-3) via ROBOT BUMPERS,</li> <li>E. GAME PIECES,</li> <li>F. chain-facing vertical surfaces of their core or the nearest flap (with regards to the chain used by the ONSTAGE ROBOT, green shaded elements in Figure 6-3),</li> <li>G. carpet-facing surfaces of their core (blue shaded elements in Figure 6-3), and</li> <li>H. a single STAGE chain (on their STAGE) (highlighted in orange in in Figure 6-3),</li> <li>I. another ROBOT qualified for ONSTAGE points,</li> <li>J. another ROBOT awarded the ENSEMBLE RP because of a G424 infraction, and</li> </ul> <p>an opponent ROBOT.</p>
<b>OPERATOR CONSOLE</b>	the set of COMPONENTS and MECHANISMS used by the DRIVERS and/or HUMAN PLAYERS to relay commands to the ROBOT
<b>PARK</b>	a state in which a ROBOT'S BUMPERS must be partially or completely contained in the STAGE ZONE at the end of the MATCH (more

Term	Definition
	specifically, per criteria described in item C of Section 6.5 Scoring) and does not meet the criteria for ONSTAGE
<b>PASSIVE CONDUCTOR</b>	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.)
<b>PCM</b>	Pneumatics Control Module
<b>PDH</b>	Power Distribution Hub
<b>PDP</b>	Power Distribution Panel
<b>PH</b>	Pneumatic Hub
<b>PIN</b>	an action by a ROBOT that is preventing the movement of an opponent ROBOT by contact, either direct or transitive (such as against a FIELD element)
<b>PODIUM</b>	an ALLIANCE colored HDPE panel attached to the STAGE leg facing the ALLIANCE WALL
<b>RED CARD</b>	a penalty assessed for egregious ROBOT or team member behavior or rule violations which results in a team being DISQUALIFIED for the MATCH.
<b>REFEREE</b>	an official who is certified by <i>FIRST</i> to enforce the rules of CRESCENDO
<b>REPEATED</b>	describes actions that happen more than once within a MATCH
<b>ROBOT</b>	an electromechanical assembly built by the <i>FIRST</i> Robotics Competition team to play the current season's game and includes all the basic systems required to be an active participant in the game – power, communications, control, BUMPERS, and movement about the FIELD
<b>ROBOT STARTING ZONE</b>	a 6 ft. 4 $\frac{1}{8}$ in.-wide by 23 ft. 8 $\frac{1}{8}$ in.-long (~193 cm by ~721 cm) infinitely tall volume bounded by the ALLIANCE WALL, AMP ZONE, opponent's SOURCE ZONE, and black tape. The ROBOT STARTING ZONE includes the black tape and excludes the AMP ZONE and SOURCE ZONE tape.
<b>RP</b>	Ranking Points
<b>RPM</b>	Radio Power Module
<b>RS</b>	Ranking Score
<b>RSL</b>	ROBOT Signal Light

Term	Definition
<b>SIGNAL LEVEL</b>	a term used to characterize circuits which draw $\leq 1$ A continuous and have a source incapable of delivering $>1$ A, including but not limited to roboRIO non-PWM outputs, CAN signals, PCM/PH Solenoid outputs, VRM 500mA outputs, RPM outputs, and Arduino outputs
<b>SOURCE</b>	an assembly through which HUMAN PLAYERS feed NOTES into the FIELD
<b>SOURCE AREA</b>	a 5 ft. $\frac{3}{4}$ in. wide by 15 ft. $10\frac{1}{2}$ in. long (~154 cm by ~484 cm) infinitely tall volume bounded by the SOURCE wall, the edge of the carpet, and ALLIANCE-colored tape. The SOURCE AREA includes the tape.
<b>SOURCE ZONE</b>	a infinitely tall parallelogram shaped volume bounded by the SOURCE wall, the opponent's ALLIANCE WALL, and ALLIANCE-colored tape. The SOURCE ZONE is 1 ft. $6\frac{3}{4}$ in. deep (~48 cm) with respect to the SOURCE wall and includes the ALLIANCE-colored tape.
<b>SPEAKER</b>	consists of a SUBWOOFER and all elements above and behind the ALLIANCE WALL
<b>SPIKE MARK</b>	1 of 11 1 ft. 1 in. (33 cm) marks used to identify placement of NOTES before the MATCH.
<b>SPOTLIGHT</b>	a scoring achievement for a HIGH NOTE on a MICROPHONE
<b>STAGE</b>	a 3-legged structure and 10 ft. 1 in. (~307 cm) from its corresponding ALLIANCE WALL. Each STAGE consists of truss feet, truss segments, truss junctions, aluminum framing, and polycarbonate sheets.
<b>STAGE ZONE</b>	an infinitely tall 6-sided volume surrounding the STAGE bounded by and including the ALLIANCE-colored tape
<b>STARTING CONFIGURATION</b>	the physical configuration in which a ROBOT starts a MATCH
<b>STARTING LINE</b>	a white line spanning the ALLIANCE AREA and adjacent SOURCE AREA that is parallel to and located 2 ft. (~61 cm) from the bottom square tube of the ALLIANCE WALL to the near edge of the tape.
<b>STUDENT</b>	a person who has not completed high-school, secondary school, or the comparable level as of September 1 prior to Kickoff
<b>SURROGATE</b>	a team randomly assigned by the FMS to play an extra Qualification MATCH
<b>TECH FOUL</b>	a credit of 5 points towards the opponent's MATCH point total
<b>TECHNICIAN</b>	a resource for ROBOT troubleshooting, setup, and removal from the FIELD
<b>TELEOP</b>	the Teleoperated Period

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<b>TRAP</b>	the volume bounded by the 4 square tube segments highlighted in Figure 5-10 and the plastic panels covering the volume's front and back
<b>VENDOR</b>	a legitimate business source for COTS items that satisfies criteria defined in <a href="#">Section 8 ROBOT Construction Rules</a>
<b>VRM</b>	Voltage Regulator Module
<b>WING</b>	an infinitely tall volume bounded by the ALLIANCE WALL, opponent's SOURCE wall, guardrail, the ALLIANCE colored line that spans the width of the FIELD, and AMP wall.
<b>YELLOW CARD</b>	a warning issued by the Head REFEREE for egregious ROBOT or team member behavior or rule violations

