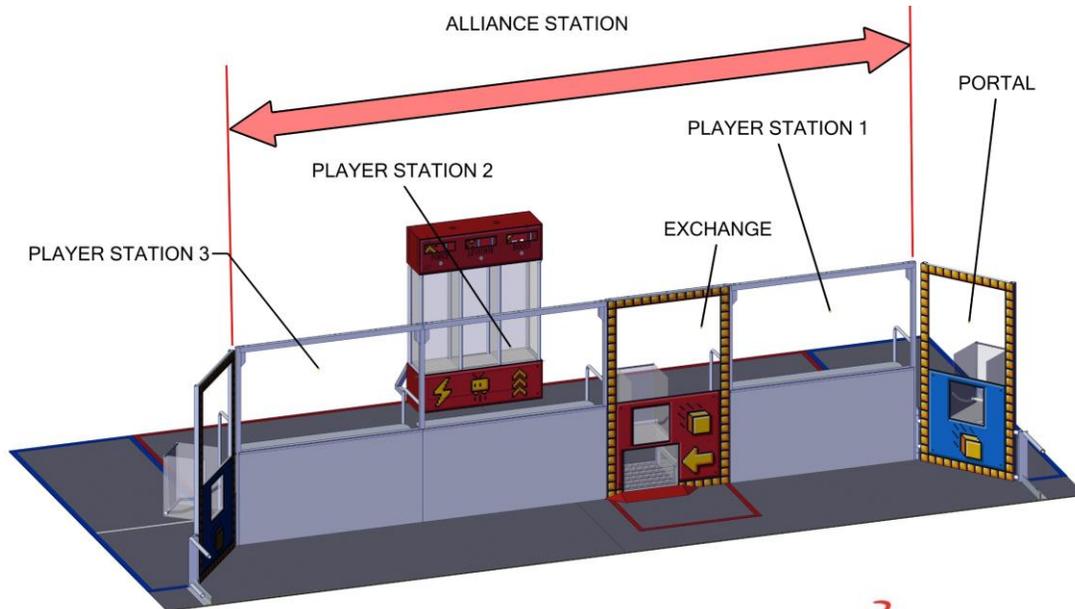


3.6 ALLIANCE WALL

The ALLIANCE WALL is the structure that separates ROBOTS from DRIVE TEAMS (except the TECHNICIAN) and consists of three (3) PLAYER STATIONS, and an EXCHANGE wall.

Figure 3-17: ALLIANCE STATION



3.6.1 PLAYER STATION

A PLAYER STATION is one (1) of three (3) assigned positions in an ALLIANCE WALL from where a DRIVE TEAM operates their ROBOT. Each PLAYER STATION is made from a 3 ft. (~91 cm) tall diamond plate panel base topped with a 3 ft. 6 in. (~107 cm) tall transparent plastic panel. An aluminum shelf is attached to each PLAYER STATION to support the DRIVE TEAM'S OPERATOR CONSOLE. The shelf is 5 ft. 9 in. (~175 cm) wide and 1 ft. (~30 cm) deep. There is a 4 ft. 6 in. (~137 cm) long by 2 in. (nominal) wide strip of hook-and-loop tape ("loop" side) along the center of the support shelf that may be used to secure the OPERATOR CONSOLE to the shelf.

Each PLAYER STATION contains the following components for Teams:

- One Ethernet Cable: attaches to the Ethernet port of the OPERATOR CONSOLE and provides connectivity to the FIELD Management System.
- One 120VAC NEMA 5-15R power outlet: located on each PLAYER STATION shelf and protected by its own 2-Amp circuit breaker. It can be used to power the OPERATOR CONSOLE. DRIVE TEAMS are responsible for monitoring their power consumption as a tripped breaker in the outlet does not constitute an ARCADE fault.
- One Emergency Stop (E-Stop) button: located on the left side of the PLAYER STATION shelf and should be used to deactivate a ROBOT in an emergency.
- One Team sign: displays the Team number and located at the top of each PLAYER STATION.
- One Team LED: indicates ALLIANCE color, ROBOT status, and E-Stop status and centered at the top of each PLAYER STATION. Team LED states include:
 - Solid: indicates that the ROBOT is connected and enabled. This will only happen during a MATCH.

- Blinking: indicates that either the Field Management System is preset for the MATCH or it's during a MATCH and the corresponding ROBOT has lost connectivity.
- Off: indicates that the MATCH has not started yet, but the ROBOT is linked and disabled. – If the amber LED is on, the E-stop button has been pressed.
- One Timer (in the PORTAL adjacent to PLAYER STATION 1): displays the official time remaining in AUTO, TELEOP, and TIMEOUTS and marked with white tape along the bottom edge.
- Field Management System hardware and wiring: mostly located below the center PLAYER STATION shelf.

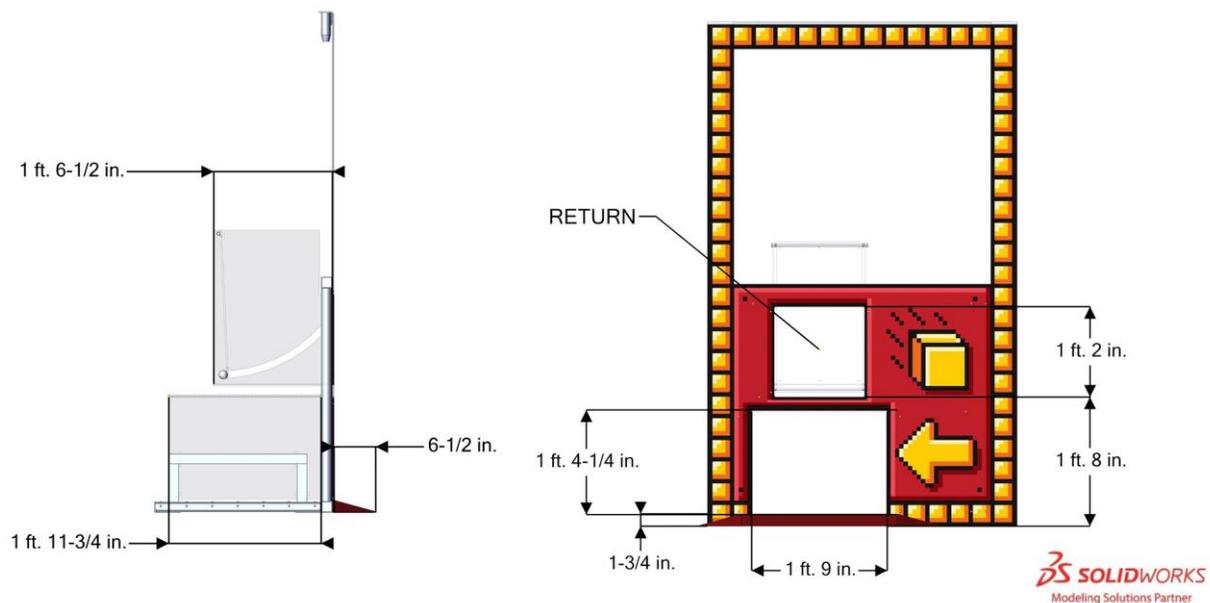
3.6.2 EXCHANGE

An EXCHANGE is a polycarbonate wall 6 ft. 5 ¾ in. (~197 cm) tall by 4 ft. (~122 cm) wide located between PLAYER STATION 1 and PLAYER STATION 2 and used by ROBOTS to deliver POWER CUBES to HUMAN PLAYERS. HUMAN PLAYERS can then either place POWER CUBES in the VAULT or feed them back to the ROBOT through the RETURN.

Each EXCHANGE has a lower opening 1 ft. 4 ¼ in. (~41 cm) tall and is 1 ft. 9 in. (~53 cm) wide used to deliver POWER CUBES to the HUMAN PLAYER. A small ramp, 1 ¾ in. (~4 cm) tall by 6 ½ in. (~17 cm) deep, leads to a series of conveyor rollers. The conveyor rollers are spun by the HUMAN PLAYER to move the POWER CUBE through a polycarbonate tunnel that is 1 ft. 11 ¾ in. (~60 cm) deep.

Each EXCHANGE also features a RETURN used to deliver POWER CUBES to ROBOTS. The RETURN opening is a 1ft. 2 in. (~36 cm) square, centered above the lower opening and is located 1 ft. 8 in. (~51 cm) above the carpet. Behind the RETURN opening is a 1 ft. 6 ½ in. (~47 cm) deep polycarbonate chute. The chute features a swinging wall designed to push the POWER CUBE onto the FIELD.

Figure 3-18: EXCHANGE



3.6.3 VAULT

The VAULT is an aluminum and plastic structure used by HUMAN PLAYERS to turn POWER CUBES in to POWER UPS. There are three (3) columns within the VAULT. Each column is 1 ft. 1-1/2 in. (~34 cm) wide by 3 ft. 3-1/4 in. (~100 cm) tall with the bottom located 1 ft. 3-1/2 in. (~39 cm) above the carpet. Each of the three (3) columns in the VAULT correspond to a POWER UP. When standing in the