

**Team Objective:**

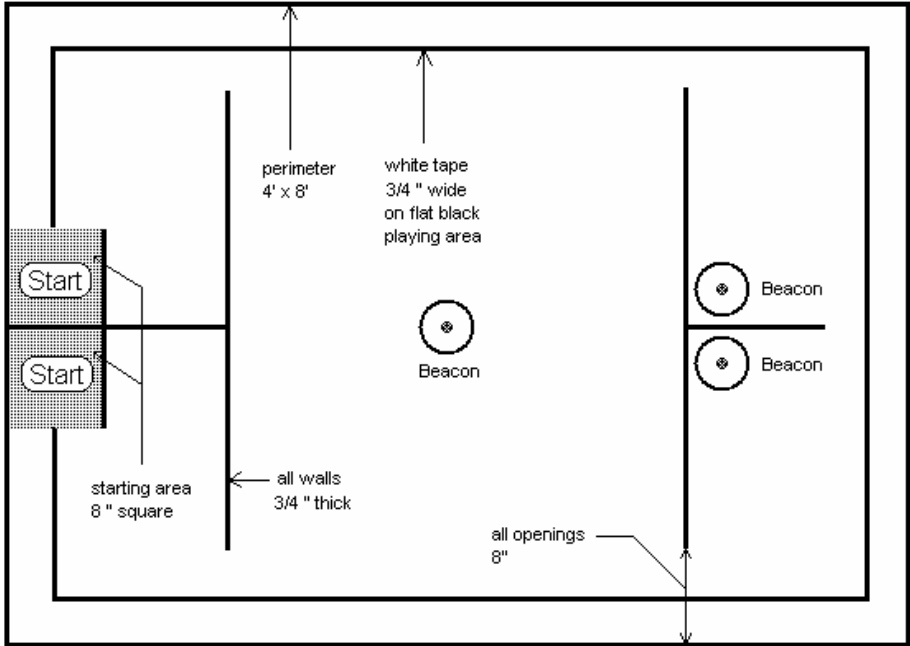
A team's objective is to score points by having their vehicle navigate through openings and contact the active beacons.

**Contest Play:**

Each team will compete for points against another team in a double elimination contest. A camera flash directed at the players will signal the start of the contest. The beacons will indicate their state by illuminating a visible LED. Any time a beacon's LED is illuminated the beacon's modulated IR LEDs will be active. To eliminate problems with background noise (light) the beacon's IR LEDs are modulated by a 4khz electrical signal. When an active beacon is contacted it will become inactive and it will award points to the contacting vehicle. A contacted beacon will indicate the points awarded to the contacting vehicle by the state of the three LEDs before the contact and by beeping after the contact. The green, yellow, and red LEDs indicate that the beacon will reward 30, 20 and 10 points respectively. Three beeps, two beeps, and one beep indicate that the beacon has just awarded 30, 20 and 10 points respectively. When a beacon is contacted for the first time, 30 points will be awarded to the contacting vehicle. A beacon that is inactive due to a previous contact will stay inactive when contacted and the inactive time will be extended. At least 20 seconds must elapse after a contact before a beacon will become active again. When a beacon becomes active after the first inactive period, the beacon will cycle between a 2 second active and a 2 second inactive period. Thus, the beacon will be semi-active. A team's vehicle that contacts a semi-active beacon that is in the active phase will be awarded points indicated by the beacon. Beacons can only award 30 points (first contact), 20 points (second contact), or 10 points (third contact) for a total of 60 points. The contest will end when all beacons have awarded 60 points or 5 minutes has elapsed from the starting time, whichever comes first.

**Scoring:**

A team can only score points if their vehicle contacts a beacon that is active. A beacon will indicate when it is active by illuminating one of three LEDs. An active beacon will indicate the points awarded to the team with the contacting vehicle by beeping. Each beep represents 10 points scored. An official will determine which team's vehicle initiated the contact. The official will award the points to both teams if it is determined that both teams simultaneously contacted an active beacon (*unlikely*). A team will be penalized 20 points if their vehicle moves out of the starting area before the initiation of the starting signal.



Contest Arena