ROBOSOCCER

Problem Statement:

Build two bots that can kick a 6cm diameter plastic ball into the opponent's Goal Post following the rules.Use your creativity and come up with innovative kicking mechanisms to smash the ball into the goal post.

Arena:

1. The soccer field is **80 in x 40 in**
2. Blue field is **20 in x 20 in**
3. Goal post is **16 in** in length and **12 in** in height.
4. Boundary of the field will be covered by 6 in high wall.
5. There are two regions in the field, green field and blue field.
6. Plastic 6 cm diameter ball will be used.

Bot Specifications:

1. Each team is allowed to have a maximum of two bots.
2. Bot must fit into a cube of (25 X 25 X 24)cm at all times. It may not expand beyond these dimensions during any point of the match. Violating this will cause immediate disqualification.
3. 10% tolerance will be allowed in any one dimension.
4. A battery with the voltage rating not exceeding 12 volts at any point in the circuit is allowed. This is an on-board power supply.

1. The weight of the bot should not exceed 3 kgs(this is including battery, motors etc., except spare components and the remote to control)
2. The remote control for the bot could be a wired or a wireless one. Grabbing the ball is not allowed. So, any such mechanisms are not allowed.
3. In case of a wireless Bot, you must be able to control it with two different frequencies.
4. Fans or any other windage setup is NOT allowed.

RULES for game play:

1. Every match is 5 minutes in the first round. The duration for the matches in the next rounds will be decided by the organizers.
2. In case of a tie, an extra time of 90 seconds will be given, the winner will be the one who first scores a goal. If no one scores a goal, another tie breaker of 90 seconds will be held. Still if no one scores, the team with more negative points will lose.
3. Match will start from the center of the field with the ball kept in the yellow circle.
4. A goal will be considered only if the ball crosses the goal line completely.
5. Two manual bots of each team can enter into the green field at any time, once the match starts.

Fouls and Penalties:

1. Any kind of intentional damage to the opponent bot(s) will be considered as a foul.
2. Two bots should not be in contact for more than 5 seconds, in any case, otherwise a penalty of –2 points will be awarded to the team which blocked the other bot.
3. Two manual bots of the same team should not enter into any of the blue fields together. Only one at a time from each team can enter into the blue field. In the blue field, it is entirely one on one match.
4. If more than 50% of the second Bot enters the blue region a penalty of -5 points will be given, and opponent bot which is outside blue region gets the ball, and the game is continued from the same position. If one Bot gets 'pushed' into the blue region which already has another Bot of the same team, penalty won't be given.
5. The bot should not cross the opponent's field before the start of the match. Violation leads -5 points.
6. Teams have to take care of their wirings. The wirings should be at the height of at least 30 cms from the game field. Wirings shouldn't touch the game field. If any team tries to disturb the game intentionally using wires or if wires are in contact with the arena for 5 seconds continuously penalty of -2 points will be given, and the opponent gets the ball and the game is continued from the same position.

7. None of the bots should grab the ball and hold it for more than 5 secs. If it holds more than the prescribed time ball a penalty of -5 will be awarded, and the ball will be passed to opponent team and game restarts from center.

Rules:

1. At the starting of the match, one of the bots should be in the blue field. The other Bot of the same team should be in the green field.
2. For every goal, 20 points will be awarded.
3. Any bot can score a goal from anywhere on the game field following all the above mentioned rules.
4. If the ball goes outside the field then opponent will start the match from that point without any timeout.