

# *ElectroBall*

by Mike Littau (V1.0 2021)



For use on Atari 2600 and Atari 2600 Compatible Game Systems

**NOTE:** Always turn the console **POWER** switch **OFF** when inserting or removing the ElectroBall cartridge. This will protect the electronic components and prolong the life of your Atari 2600 or Atari 2600 Compatible Game System.

This game in ROM form may be used for personal use or for online/offline public use for free as long as no fees are directly charged to play the game. This game may not be directly sold or packaged with other items to sell in any form without prior permission from the author.

## 1. INTRODUCTION

Mount up in your Power Sphere on the field to compete against another person or "Daisy", an AI drone who makes up for lack of precision with enthusiasm. With 5 different selectable A.I. skill levels, you can even have two AI drones play against each other and cheer them on from the stands. Whoever scores the most goals within the time limit (or sudden death playoff in case of tie) wins! Play one of four seasonal variations (Spring, Summer, Fall, Winter) to find out who truly is the ElectroBall champion!

## 2. BASIC RULES

The basic rules of ElectroBall are:

At the beginning of the game, the ElectroBall will be randomly shot to one of the players. Move downfield and fire the ElectroBall into the opposing goal for a point. After a goal is scored, players are reset and the ElectroBall is fired to the player who did not score last. Whoever has the most points when the time counter reaches zero will win the game. If the game is tied when the time counter reaches zero, the game will enter sudden death, where the first player to score a goal will win.

## 3. USING THE CONTROLLERS

Use your Joystick Controllers with this game program cartridge. But sure the controller cables are firmly plugged into the **CONTROLLER** jacks at the back of your ATARI Video Computer System game. For one-player games, use the Joystick plugged into the **LEFT CONTROLLER** jack.

During play, move your Power Sphere with the Joystick by holding it in the direction you wish to travel. The shield on your Power Sphere will automatically shift to the current Joystick direction. The more you hold the Joystick in that direction, the more momentum your player will build up to move in that direction. To change directions, hold your Joystick in the new direction you wish to travel. Depending on how fast your Power Sphere is moving the change in the new direction may take some time ... so plan ahead!

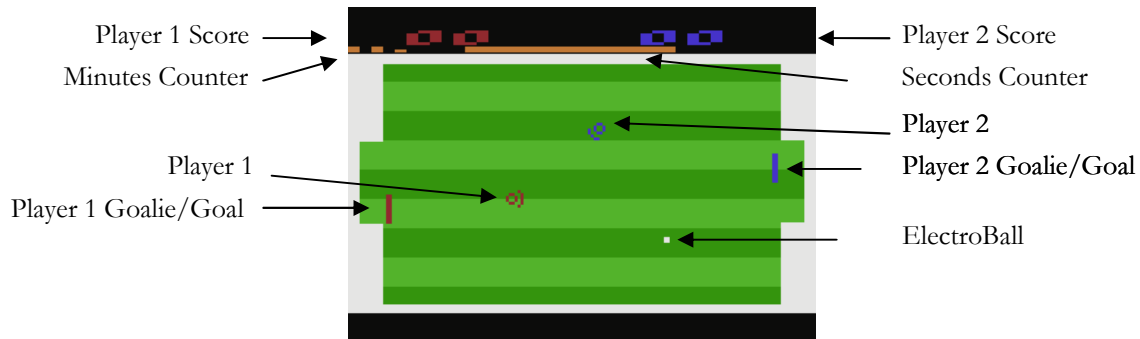
To fire the ElectroBall when you have control of it, aim your Power Sphere in the direction you wish the fire and press the Fire Button. The ElectroBall will be fired at a very high rate of speed in the direction you select.

## 4. GAME PLAY

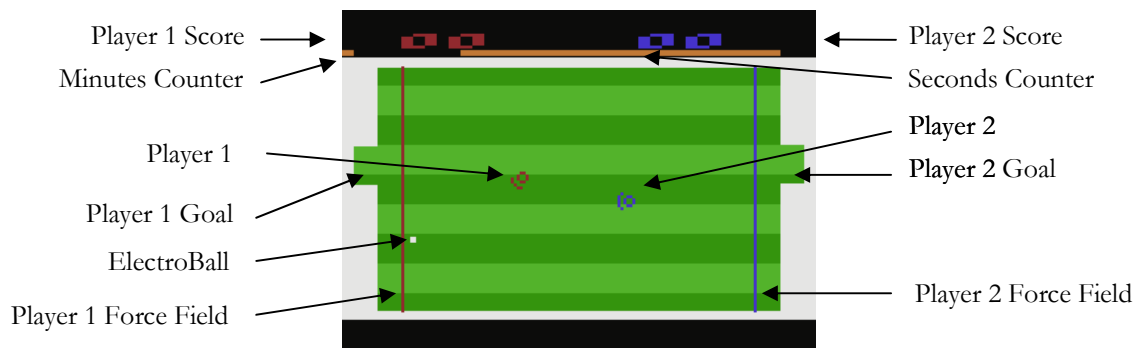
There are 4 overall variations to ElectroBall:

- **Spring:** Wide goals at a fixed position. Each player has a goalie which can be moved down or up with the joystick controller.
- **Summer:** Wide goals which move back and forth across the stadium. Each player has a goalie which can be moved down or up with the joystick controller.

- **Fall:** Narrow goals which move back and forth across the stadium. No goalie is present, but a moving force field can be enabled with the difficulty switch to severely impede the progress of anyone who tries to enter it (best to take your shot before hitting the force field!)
- **Winter:** Narrow goals which move back and forth across the stadium, and the goal itself shrinks and expands. No goalie is present, but a moving force field can be enabled with the difficulty switch to severely impede the progress of anyone who tries to enter it (best to take your shot before hitting the force field!)



*Figure 1 - Spring and Summer ElectroBall*



*Figure 2 - Fall and Winter ElectroBall*

The score for each player is displayed at the top in their color (Upper right hand for player 1, upper left hand for player 2). The time remaining in the game is displayed by the minutes and second bars just below the score. Up to 10 minutes are displayed in the minutes counter (each full block being 2 minutes). The seconds remaining is displayed in the seconds counter, which removes 1 block every second that has elapsed. During game play, the clock will stop after a goal is scored and will resume when the ElectroBall is once again sent into play.

Players can grab control of the ElectroBall by hitting it with their player, or have a good chance of stealing it from the other player by colliding with them. When the player has control of the ElectroBall, it will automatically attach itself to the shield of their Power Sphere.

If the ElectroBall strikes the goalie in Spring and Summer variations, the ElectroBall will be bounced in the opposite direction at an angle dependent on where it hit the goalie. The force field in Fall and Winter variations will not affect the ElectroBall (only the player!)

Players striking the edges of the stadium will bounce in the opposite direction and retain their built up momentum. If the player currently has control of the ElectroBall and runs it into the stadium wall, there is a good chance it will come loose. Angling your Power Sphere's shield away from the stadium wall before you hit will prevent the ElectroBall from coming loose.

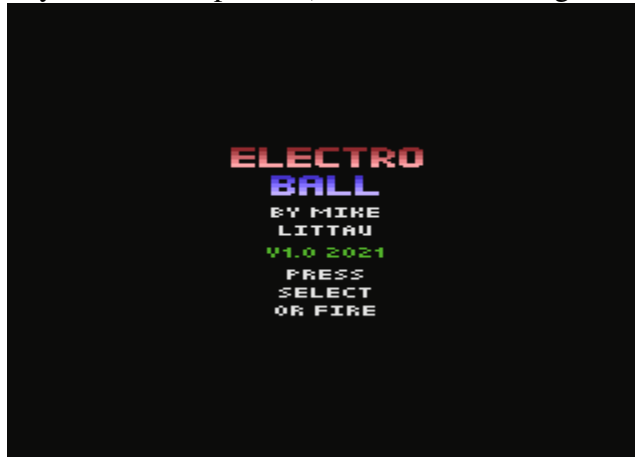
If the player strikes their Power Sphere against a goalie in Spring and Summer variations, they will be bounced away from the goalie. If the player strikes their Power Sphere against a force field in Fall and Winter variations while travelling at a high rate of speed, they will be bounced away. If the player strikes their Power Sphere against a force field in Fall and Winter variations while travelling at a low rate of speed, it may be possible to enter into the force field with sustained effort ... but by the time you do your opponent will be well down field with the ElectroBall.

Due to friction, the Power Sphere for each player will eventually slow down and stop if the Joystick controller is not used to build/maintain momentum. The ElectroBall, being made up of pure energy, will never stop moving but if not collected by a player will eventually slow down and move around the stadium at a low rate of speed.

## 5. CONSOLE CONTROLS

### GAME SELECT SWITCH

The **GAME SELECT** switch can be pressed when the title is displayed (or the fire button on player 1's Joystick can be pressed) to advance to the game options screen.



*Figure 3. Title Screen*

On the options screen, the **GAME SELECT** switch can be used to change the currently selected option (which will be flashing). During game play the **GAME SELECT** switch can be used to stop the current game and go back to the options screen. After a game has

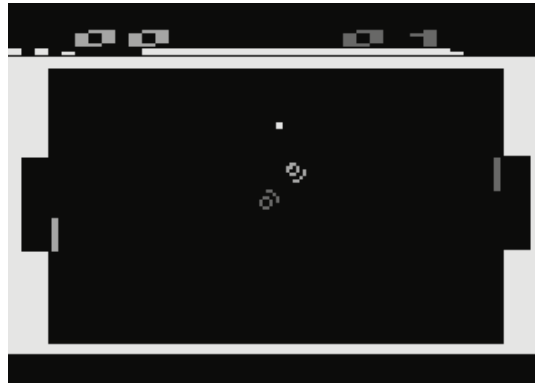
completed and after a short period of time the Joystick for player 1 or player 2 can be moved in any direction to go back to the options screen.

### GAME RESET SWITCH

On the options screen, the **GAME RESET** switch can be used to choose the current configured option and advance to the next option for configuration. The up or down direction on player 1's Joystick can also be used to move to different configuration options or the *Start* option. When the *Start* option is flashing, press the **GAME RESET** switch (or the fire button on player 1's Joystick) to start the game with the configured options. During game play the **GAME RESET** switch can be used to start a new game with its current configuration. After a game has completed and after a short period of time the fire button on player 1 or player 2's Joystick can be pressed to start a new game with its current configuration.

### TV TYPE SWITCH

Set this switch to **COLOR** if you are playing on a color television set. Set it to **B-W** to play the game in "night mode" (black and white) on a black and white television set.



*Figure 4 - "Night Mode" (Black and White)*

### DIFFICULTY SWITCHES

The difficulty switches establish the difficulty level for each player and the behavior changes based on the season of ElectroBall being played:

**Spring and Summer:** The **A** (advanced) switch makes that player's goalie move at half the speed of the **B** (beginner) switch.

**Fall and Winter:** The **A** (advanced) switch will make the opposing player's force field move in and out from the goal line. The **B** (beginner) switch leaves the opposing player's force field fixed at the goal line to make for an easier shot.

If one player is more skilled than the other, they can be more evenly matched by having the skilled player play at difficulty mode **A** and the other player at difficulty mode **B**.

## 6. GAME OPTIONS



*Figure 5. Options Screen*

On the options screen the player can configure the game in 4 possible ways for 1000 different game configurations!

### PLAYER 1 / PLAYER 2

For player 1 and player 2, the following 5 options are available:

**Human:** The player will be controlled by a human with the Joystick. Player 1 is controlled by the Joystick in the **LEFT CONTROLLER** jack while player 2 is controlled by the Joystick in the **RIGHT CONTROLLER** jack.

**AI Hard:** The most challenging A.I. mode available. In addition to being the best A.I. on offense, the defensive capabilities of the goalie in Spring and Summer modes are improved.

**AI Medium:** The player will be controlled by the A.I. in "Medium" mode. The "Medium" mode can score goals about 2/3rds as well as the A.I. on "Hard" mode.

**AI Easy:** The player will be controlled by the A.I. in "Easy" mode. The "Easy" mode can score goals about 1/3rd as well as the A.I. on "Hard" mode.

**AI Adapt:** The A.I. will attempt to match its difficulty level with your current level of play. If the A.I. is ahead, it will play in "Easy" mode. If the A.I. is tied, it will play in "Medium" mode. If the A.I. is behind, it will play in "Hard" mode.

**AI Random:** The A.I. will randomly choose between "Easy", "Medium" or "Hard" every time it comes into possession of the ball.

### GAME LENGTH

The length of the game can be changed from 1 to 10 minutes of play.

### GAME SEASON

The game season can be configured to **Spring, Summer, Fall** and **Winter**. Description of each of these seasons is in section 4.

All of these options can either be selected using a combination of the **GAME SELECT** switch or **GAME RESET** switch, or using the Joystick in the **LEFT CONTROLLER** port.

## 7. HELPFUL HINTS

- After turning **ON** the **POWER** switch, the fire button on the Joystick in the **LEFT CONTROLLER** port can be pressed several times to quickly advance to the options menu.
- Use your momentum in your favor. If your opponent is coming at you at a high rate of speed, you can move in a perpendicular direction to evade them.
- The ElectroBall cannot be captured by a player for a brief moment after being fired by either player, when it hits a goalie in Spring and Summer variations, or when being newly acquired by a player.
- Practice your sharp shooting skills and shoot the ball at an angle towards the goal for a higher chance at scoring.
- "Daisy" the AI drone is equally good at Spring, Summer and Fall game variations. The Winter game variation will prove to be a tougher game to score in due to the constantly changing goal size.
- Patience comes to those who wait. Especially at the beginning of play when the ball is fired towards you.
- For the ultimate single player challenge (the hardest combinations to play), play against **AI Hard** with your difficulty switch set to **A** and the other difficulty switch set to **B**. If you can beat all four game seasons with these settings, you are a true ElectroBall Champion!

## 8. ACKNOWLEDGEMENTS

How wonderful it is to have so much information and help available for people to develop their own homebrew games for the classic Atari 2600. This game would not be possible without the following:

Thanks to Gustavo Pezzi for his 6502 Assembly language course for the Atari 2600 on Udemy.com, Andrew Davie's "Atari 2600 Programming for Newbies" book, and Darrell Spice Jr's "Collect" game tutorial for my introduction to the world of 6502 assembly language programming for the Atari 2600. In addition, thanks to the many people who posted code samples on AtariAge.com demonstrating tips and tricks for 2600 game development.

Thanks to all of the people on AtariAge.com who helped test the game while it was a Work In Progress (WIP). In particular, ZeroPage Homebrew, Philsan and Bomberman94 for their extended testing on PAL50, PAL60 and/or NTSC editions, particularly on doing stability testing on live hardware.

Thanks to Al Yarusso and AtariAge.com for providing a vibrant place for discussion of playing and development of games for classic systems.

A special thanks to my wife Shellie for her encouragement and feedback as I developed the game.