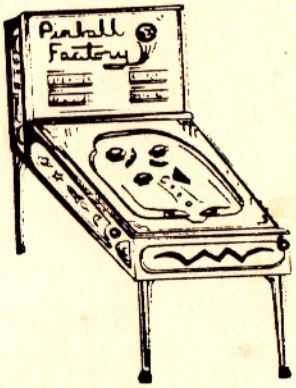
Pinball Factory



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The Color Computer Arcade Game

Table of contents

Making a backup disk 2
Loading your copy 2
Introduction 3
Playing a stored game 4
- Controlling the screen pointer 4
- Choosing a game 5
- Playing the game 6
  - Shooting the ball 6
  - Using your flippers 6
  - Using your tilt buttons 6
- Pausing or stopping the game 7

Designing your own games 8
- Rules 9
  - Choosing the physics 9
  - Choosing the number of balls 10
  - Setting up the scoring rules 10
  - Returning to the Design Menu 11
- Bumpers 12
  - Putting bumpers on the playing field 12
  - Removing bumpers from the playing field 13
  - Returning to the Design Menu 13
- Polygons 14
- Logo 15
  - Clearing the logo area 15
  - Reversing the video 15
  - Typing words on the logo 16
  - Drawing rays on the video 16
  - Drawing a line on the logo 17
  - Returning to the Design Menu 17
- New 18
- Test 19
- Done 19

Saving your game designs 20

Making a backup disk

Boot up the computer, then put your original MichTron disk into disk drive 0.

If you have two disk drives, put a blank, formatted disk into drive 1. At the flashing cursor, type:

BACKUP 0 TO 1 **ENTER**

If you have one disk drive, have a blank, formatted disk at hand. At the flashing cursor, type:

BACKUP 0 TO 0 **ENTER**

The computer will ask you to swap source and destination disks several times as it does the backup. Just follow the prompts.

When the backup is finished, you'll see the OK and flashing cursor back on the screen. **Put your MichTron original disk in a safe place;** use your copy for everyday play.

Loading your copy

Turn your computer on and put your working copy of ***Pinball Factory*** into disk drive 0.

At the flashing prompt, type:

RUN"PINBALL **ENTER**

No spaces are necessary. You will see the ***Pinball Factory*** opening screen. When you're ready, press the space bar to begin.

Introduction

Welcome to your own ***Pinball Factory***, a place that contains a delightful assortment of exciting arcade games just waiting for you. And you've just been made chief of new designs, so you're free to design your own special games, too.

You can play one of the already-designed games ten minutes after you open the package. Should you learn to beat those games, you can modify them to be more difficult. If little brother finds them too hard, you can change them to match his skills. You can even compete with your friends making up games to challenge each other.

Start from the games already designed, or branch out with your own unique creations. When you design your own game, you'll choose everything that goes on the basic playing field. The bumpers, the obstructions, the rules and the logo are all for you to select and place. Make your game as challenging as you like by changing the speed and bounce of the ball. Set your own requirements for scoring and extra balls.

You've just bought your own ***Pinball Factory***. Enjoy it!

Pinball Factory requires a 64K Color Computer with at least one disk drive. This game uses black-and-white graphics to increase screen resolution.

Playing a stored game

After you press the space bar to erase the opening screen, you'll see a new screen with a blank pinball playing field on the left, a set of command buttons (the Main Menu) on the top right and a list of stored games on the bottom right.

Controlling the screen pointer

Near the center of the blank playing field you'll see a screen pointer (an arrow) controlled by the keyboard arrow keys or your joystick. You use this pointer to push selector buttons and to place bumpers and the like on the playing field.

When the program starts, the keyboard arrow keys control the screen pointer. You may shift to joystick control by pressing the **J** key; you may shift back by pressing **K**.

In keyboard control mode, press the arrow keys to move the screen pointer about. Press **ENTER** to push a selector button you're pointing at.

In joystick control mode, you'll find a rectangle formed by four corner markers and four edge markers surrounding the screen pointer. You'll find the joystick can only move the screen pointer within the rectangle. This limit lets you more accurately place objects.

To move the screen pointer's rectangle so you can reach points outside the initial area, use your joystick to move the screen pointer onto one of the corner or edge markers, then press and hold the joystick button. The rectangle will move in the direction of the marker for as long as you keep the screen pointer on the marker and hold down the joystick button.

To press a selector button you're pointing at, press the joystick button.

Choosing a game

Begin by moving the screen pointer to the Main Menu's LOAD button. Then push the joystick button or **ENTER**.

Move the screen pointer down to the name of the game you'd like to try and press the joystick button or **ENTER**. The display on the left will be replaced by the playing field of the game you've selected.

Move the screen pointer to the PLAY button and press the joystick button or **ENTER**. (If you were using the joystick, you won't need it again until you've finished playing the game you've chosen.)

Playing the game

The program will ask how many players there are. You may choose one, two, three or four by pressing the appropriate key. As soon as you make your selection, the first ball for the first player will move to the launching spring and the right-hand side of the display will show the game's logo and a scoreboard.

Shooting the ball

To cock the spring, press and hold **DOWN ARROW**. If you pull the spring tighter than you want, press and hold **UP ARROW** to release some of the tension.

When you're ready, press **SPACE BAR** to shoot the ball into the playing field.

Using your flippers

Your flippers are controlled by the outermost keys on the second row of the keyboard: **UP ARROW** for the left flipper, **RIGHT ARROW** for the right flipper.

Just press and release these buttons to make the flippers move. If you hold them down, the flippers will stop at the end of their range of motion.

Using your tilt buttons

The tilt buttons are located on the **Z** and / (**?**) keys so you can use your thumbs to tilt.

> The left tilt button (**Z**) gives the ball a jolt to the left; the right tilt button (/) jolts the ball to the right. If you press both together, the ball gets a jolt upward.

Playing tips:

This game cannot be tilted out. Feel free to use your tilt buttons to change the ball's trajectory. You may hold the buttons down for as long as you like to maximize the redirecting effect.

It's possible to get a ball stuck atop an object in the playing field. Punching the appropriate tilt button a few times will free it. (It's possible, of course, to design playing fields in which the ball can be permanently stuck.)

If the ball is irretrievably stuck, or if you want to be rewarded for getting a ball stuck, press **H**. The ball will move back to the spring and you'll keep the points you've made so far.

Pausing or stopping the game

If you need a break, press **SHIFT P** to pause. Press **P** to continue the game from the pause.

If you want to quit a game, press **SHIFT BREAK**. You'll return to the Main Menu.

To start a new round of the same game after you've finished one, press **SPACE BAR**.

To stop the ***Pinball Factory*** program after a game is over, press and hold **BREAK**.

Designing your own games

From the Main Menu, select CREATE. You'll see the lower right-hand side of the screen fill with the Design Menu. The most important of the selector buttons are those for the main design divisions: Polygons, Bumpers, Rules and Logo.

To design a new game, you'll want to use each of these principal functions of the Design Menu. You may use them and the other Design Menu functions in any order you find convenient and you may use them several times if necessary to refine your design.

The Rules function lets you choose how many balls a player gets, how many points he must make to earn an extra ball, how many he scores for various targets, and the physical characteristics of the playing field.

The Bumpers function lets you choose and place the active, scoring bumpers for your game.

The Polygons function lets you choose and place the passive, non-scoring obstructions for your game.

You may place up to 90 objects, any mixture of bumpers and polygons, on the playing field.

The Logo function lets you design the (non-functional) display that decorates the scoreboard.

The New function clears the playing field and resets the Rules values to their defaults.

The Test function lets you quickly check your design.

The Done function sends you back to the Main Menu.

Rules

When you use your screen pointer to press the Rules selector button on the Design Menu, the right-hand portion of the screen will fill with a list of rule categories and the current value of each rule in the list.

To change any of the values, use your screen pointer to point to the digit you want to change. Push the joystick button or **ENTER**: you'll see the digit increase by one (**9** "increases" to **0** or **1**). Just keep pressing until the number you want shows on the screen. For the scoring categories, only the first two digits can be changed; the trailing zeros are fixed.

Choosing the physics

The first three rules categories, Gravity, Elasticity and Speed, govern the physical behavior of the ball on the playing field.

You may select a relative value for each of these categories between **1** and **9**.

The larger the value of gravity, the faster the ball will drop toward the bottom of the playing field.

The larger the value of elasticity, the faster the ball will bounce from any surface, whether the surface is an active bumper or a passive obstruction.

The larger the value of speed, the faster the ball will move in any direction.

Design tips:

If you use a large elasticity value but a low gravity value, it will be relatively easy to keep the ball on the upper part of the playing field. Reverse these values to make it hard to keep the ball in play.

You can make any game easier or more difficult by adjusting the speed. Try designing a fair but challenging game with an intermediate speed; other players of different skill levels can then adjust the game simply by changing the speed.

Choosing the number of balls

Next, decide how many balls you want to give each player. You may choose a number between **1** and **6**.

Setting up the scoring rules

Now choose how many points a player must collect in order to earn an extra ball. You may choose between 10,000 and 99,000 points.

Finally, you must select a value for hitting each of the scoring bumper types. (All bumpers of the same type score the same regardless of their location on the playing field.)

For the round bumpers, you may choose any value between 100 and 990 points. The players will earn the point value you assign any time they hit the bumper from any angle.

For the linear single-rail bumpers, you may also choose any value between 100 and 990 points. The players will earn the point value you assign any time they hit the bumper on its active upper surface. They get nothing for hitting the ends or bottom of these bumpers.

For the linear multi-rail bumpers, you may choose any value between 100 and 990 for **each** rail. The players will earn the point value you assign the first time they hit each of the rails.

The active rails are along the bottom of these bumpers. Players get no score for hitting the ends, top or previously hit rails. These bumpers are reset whenever a new ball goes into play or when a player has hit all the rails with a single ball.

You may also choose the bonus score to be given for hitting all the rails of the multi-rail bumpers. You may assign any value between 1,000 and 99,000. The players will earn the bonus if they hit all the rails on a single ball.

Design tip:

Be sure your scoring rules reflect the difficulty of hitting the various bumpers. If the multi-rail bumpers are easy to hit yet carry a high bonus, for instance, players will think your game too easy.

Returning to the Design Menu

When you have set the values as you like, move the screen pointer to the Done selector button at the bottom of the screen and press the joystick button or **ENTER**. You'll be returned to the Design Menu.

Bumpers

When you use the screen pointer to choose this selection from the Design Menu, the right-hand side of the display will fill with images of the five available bumpers at the top and a set of selector buttons at the bottom.

The principal selector buttons are Put and Remove, which let you place bumpers on the playing field or remove them.

Putting bumpers on the playing field

To place a bumper, use your screen pointer to press the Put selector button. (It will show up in reverse video.)

Then move the screen pointer up to the style bumper you want to put on the playing field and press the joystick button or **ENTER**. Your selection will show up in reverse video.

Move the screen pointer into the playing field. The screen pointer will take on the bumper's shape when it reaches the playing field.

If you're using the keyboard to control the bumper, just move it into position and press **ENTER** when it's located correctly.

If you're using the joystick, no bumper will be placed on the playing field as long as you keep the joystick button pressed.

When you've got the pointer rectangle in the right area for your bumper, release the joystick button. You'll be able to move the bumper around inside the rectangle.

To place the bumper, press the joystick button and release it. The bumper will appear on the screen.

The screen pointer (still shaped like the bumper) is still alive. You may place as many bumpers of one style as you like by moving the screen pointer and pressing the joystick button or **ENTER**.

When you've finished with one bumper style, move the screen pointer back to the right and pick the next style you want.

Design tip:

Hitting bumpers is the only way to score. The more bumpers you have and the easier they are to hit, the easier it will be to score points. Be especially careful that the multi-rail bumpers are not too easy to score from.

Removing bumpers from the playing field

If you decide to remove a bumper for any reason, use the Remove selector button.

When this button is active, you'll see the last bumper you placed highlighted on the screen. To remove that bumper, use your screen pointer to press the **!** selector button.

To remove other bumpers, use your screen pointer to press one of the arrow selector buttons beside the **!** selector button. Each time you press one of those buttons, a different bumper is highlighted. When the one you want to get rid of is marked, use your joystick button or **ENTER** to press the **!** selector button.

Returning to the Design Menu

When you've finished, use your screen pointer to press the Done selector button at the bottom of the screen. You'll be returned to the Design Menu.

Polygons

When you use your screen pointer to choose this function from the Design Menu, you'll see the right-hand part of the screen fill with a display of 29 different polygons and the same selector buttons described in Bumpers above.

To place the polygons, use the same method as you used to place the bumpers.

Use the Put selector button to place polygons where you want them on the playing field, the Remove selector button to erase your mistakes.

When you've finished, use your screen pointer to press the Done selector button at the bottom of the screen. You'll be returned to the Design Menu.

Design tips:

Remember that the polygons are passive surfaces the ball bounces off of without scoring. Only the bumpers score points for the player.

Be careful not to create obstacles that could trap the ball so effectively that the tilt buttons couldn't get it out.

Logo

When you use the screen pointer to choose this function from the Design Menu, you'll see the current logo in the middle of the screen, 20 predefined shapes on either side of the logo and a set of selector buttons at the bottom of the screen.

You'll use the selector buttons to draw your new logo into the reserved area.

One of the Draw or the Erase buttons will be active (indicated by reverse video) at all times. You may change which is active by using your screen pointer to press the other one. Draw produces black characters or symbols; Erase produces white ones. Which you want to use depends on the current background color.

The other buttons determine what kind of symbols will appear on the logo.

Clearing the logo area

If you use your screen pointer to press the New selector button, the old logo will disappear and you'll have a blank screen to work on.

Reversing the video

If you use your screen pointer to press the Flip selector button, the logo will change from regular to inverse video, or the reverse.

Typing words on the logo

If you use your screen pointer to press the Bigtype selector button, you'll be able to type large letters onto the logo. Pressing the Smalltype selector button will let you type smaller letters onto the logo.

After you've chosen a type mode, move the screen pointer into the logo area and place it where you want. (The pointer will become an **A** when it moves into the logo area.)

Press the joystick button or **ENTER**; you'll see an underscore character on the screen. Type in what you want and press **ENTER**.

To type more, move the screen pointer to the next location and press the joystick button or **ENTER** again.

Either type mode remains active until you use your screen pointer to press another function selector button.

Drawing rays on the logo

If you use your screen pointer to press the Ray button, you'll be able to draw lines radiating from a central point.

Move the screen pointer to the spot you want to start at in the logo area and press the joystick button or **ENTER**.

When you move the screen pointer again, a ray fills in between the current location and the starting point. To make it permanent, press the joystick button or **ENTER**.

To make many rays spring from one point, move the screen pointer and press the joystick button or **ENTER** repeatedly.

To draw rays from a second location, you'll have to use your screen pointer to press the Ray selector button again.

Drawing a line on the logo

If you use your screen pointer to press the Line button, you'll be able to draw boxes and the like.

Move the screen pointer onto the logo area and press the joystick button or **ENTER** when the screen pointer is at the location you want the line to start.

When you move the screen pointer again, a line fills in between the current location and the starting point.

When you make the line permanent by pressing the joystick button or **ENTER**, the finishing point for the current line becomes the starting point for the next line.

You may draw as many connected lines as you like by repeatedly moving the screen pointer and pressing the joystick button or **ENTER**.

To start a new line not connected to the previous line, you'll have to use your screen pointer to press the Line selector button again.

Returning to the Design Menu

When you've finished your logo, use your screen pointer to press the Done selector button at the bottom of the screen. You'll be returned to the Design Menu.

New

When you use your screen pointer to press the New selector button on the Design Menu, you'll see the playing field become empty.

Design tip:

If you just want to modify an existing game, it may be easier to load the previous game, change the playing field or the rules, then save the result under a new name rather than start from scratch.

You're automatically returned to the Design Menu as soon as the playing field is emptied.

Test

To check the basic mechanics of your game, use your screen pointer to press the Test selector button. A ball will appear on the launching spring. You may play just as if the game had been called from storage except:

no pause will be recognized.

no score will be kept.

BREAK rather than **SHIFT BREAK** will stop the test and return you to the Design Menu.

Use the test to decide if the game seems to be of the right skill level. You'll keep getting more balls until you press **BREAK**.

When you do, you'll be returned to the Design Menu.

Done

When you're happy with your new game, use your screen pointer to press the Done selector button.

You'll be asked for the name of your newly designed game. Type it in and press **ENTER**.

Then you'll be returned to the Main Menu.

Saving your game designs

When you've finished designing and testing your game, you'll want to save it to disk. To do so, use your screen pointer to press the Save selector button on the Main Menu.

Probably you will save your games on your program disk, but you don't have to. You may use the drive selector arrow buttons on the Main Menu to choose a disk in a different drive if you want.

Warning: ***Pinball Factory*** uses its own storage scheme. Use only a blank, formatted disk to save your games. ***Pinball Factory*** will write over other files.

After you've pressed the Save selector button, move the screen pointer down to the list of saved games. Set it at an empty location or at a game you don't want any more and press the joystick button or **ENTER**. The program will save your design under the name you specified when you finished creating it.

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: If you return your information card, we will notify you if upgrades to ***Pinball Factory*** become available. For minor upgrades and fixes, return the original disks to us with $5.00. For major revisions, the upgrade fee is typically 15-20% of the original suggested retail price.

FEEDBACK

: Customer comments are VERY important to us. We think that the use, warranty and upgrade policies outlined above are among the fairest around. Please let us know how you feel about them.

Many of the program and documentation modifications we make result from customer suggestions. Please tell us how you feel about ***Pinball Factory*** - your ideas could make the next version better for all of us.

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