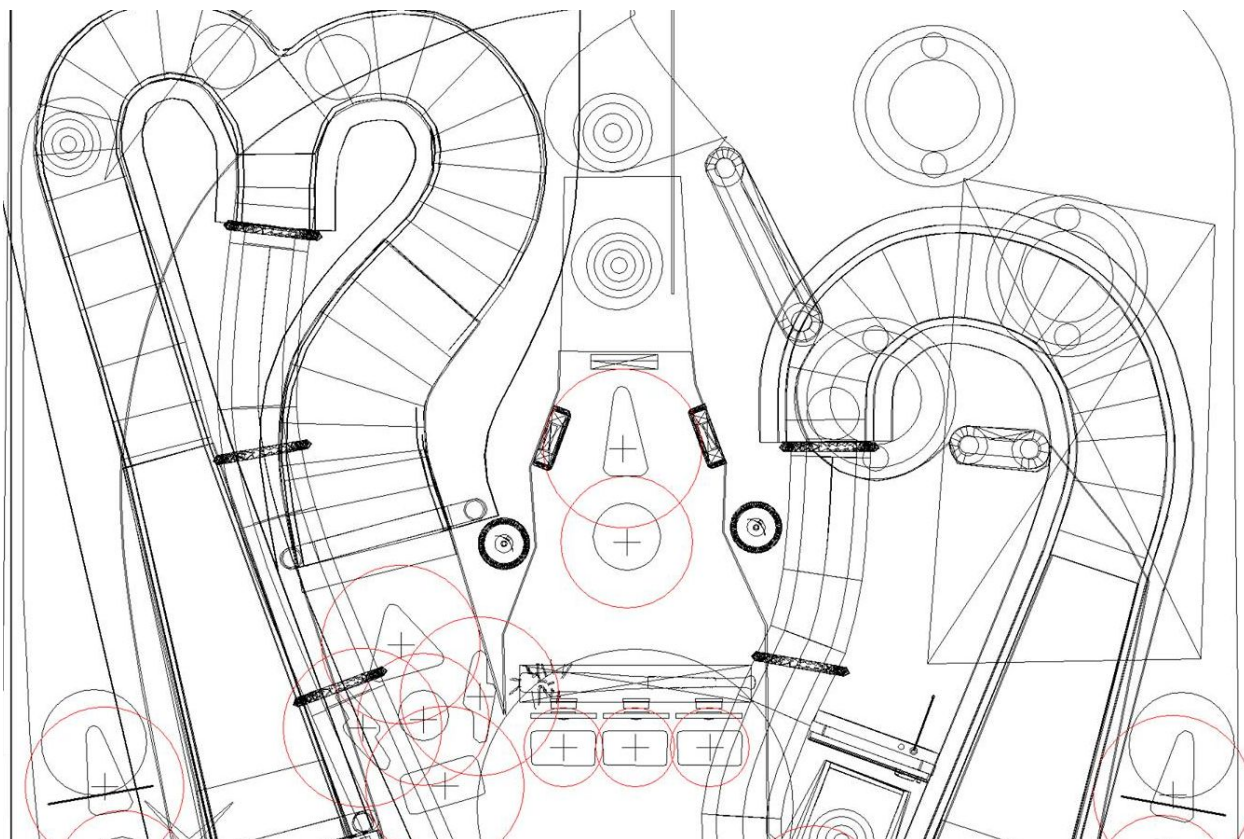




Pinball Table Planner

Orbital Framework | Modern Table Design Plan

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Version 0.1

Overview

The goal of this document is to help you plan your pinball table design. The key to a great table is getting a good plan set out from the start. Thinking through how your theme will be able to make a smart and enjoyable game.

For this exercise we are going to plan around building a modern era pinball table. This will be anything from the time of DMDs forward. This will mean a bit more complex rules and table structure, this can definitely still be used for a more simple EM/or 70s era table, but you won't need to be as detailed.

Pick a Theme

When choosing a theme you have two options.

- Original story. Generally based on folklore or made up: think Medieval Madness. These are much more difficult as you will start with nothing., but in turn they can be very rewarding as you get to create the story yourself. Also they require no licensing if you ever wanted to actually sell it.
- Fan/Popular Table. This is the easier route, choosing a table based on a movie, band, tv show, etc. For a first time table builder this will be the best route as you should have endless options and material to work with, but obviously a roadblock if you ever wanted to produce it.

Fit Your Theme to Ruleset Needs

It's important to plan on fulfilling the needs of a pinball table with your chosen theme. We will break this down into must-have (in my opinion) items and nice to have items.

Must-have Ruleset Items

These should have some relevance to the story of your theme.

I. Modes

These are side objectives, most tables will have between 3-6 modes, but it's not uncommon to see more modes than 6. These should be side objectives from your story or maybe song modes for music based tables. Usually completion of these will be a way to an extra ball being lit or activating a multiball chance.

II. Multiballs

These should be pretty key goals. Most players will go for these. I suggest having between 2-4 different multiballs for players to shoot for.

III. Wizard Mode

This will be the highest achievable goal, the finale, the big objective that players will play your game over and over in hopes to achieve. Most players will never complete this, but great/determined players will and it's the mark of a great table.

Additional Must-have items

- Extra ball(s)
- Skillshot
- High Scores
- Dmd / active backglass

Nice to have Ruleset Items

- Bonus
- Playfield multiplier
- Video mode
- Combos
- Bumper/Jet levels
- Mode/ Alternate High Scores
- Replay
- Mystery

Understanding the Playfield : Rules for the Road.

Here are some loose rules which I use to think about my playfield that might be helpful as you begin. At this point though we have exited safe harbour, so feel free to do as you please.

1. Modern Playfields usually have 6-10 shots on the playfield. Go check out some of your favorites. Target bays count as one. You will count somewhere between 6-10 shots on the playfield.
2. Ramps will usually be in the "strong" flipper angles. Your ramps need to be steep enough to go over the top of your plastics, meaning these need to be somewhere in the strongest flipper areas to make the shot easy for players. So try not to put a really steep ramp on the far flipper angles.
3. If a dugout/kicker is used for multiple things, your coding life will be much harder, so keep them simple or add more if possible. Think if a player has an extra ball, mystery and multiball all lit in the same kicker that's a pain to code. So keep it easy on yourself to begin with.
4. Are your shots "pass" shots or "loop" shots? This is good to understand. A great player should rarely be put in a position to have a loose ball if they hit the shot they meant to, other than hitting a bash target. So are your ramps and orbits "pass" shots, meaning by hitting this shot i will send the ball to the other flipper, or are they "loop" shots, meaning it will return to the same flipper. Ramps are the easiest way to give players these options. Many early 90s tables had loop ramps (Hook,CFTBL,Bad Cats), but recent tables have opted for more "pass" ramps.
5. Shots through bumpers are hell. Yes it is possible to make it work, but in general you will be making you life harder if you attempt. In addition, lower right and lower left bumpers/jets are also very difficult for players as you will many times get random drains that players can't control. So if you choose to go this path, plan accordingly. Best recent example of making this work is Iron Maiden.
6. Be generous with your shot room. In visual pinball a ball = 50(size). SO making your ramps 100 (or double ball) makes ramps that are medium difficulty, 130 = easy. Tables like Ghostbusters had ramp shots that were in the 70-80, and in my opinion, those just aren't very fun. Unless you stand and play that table over and over it'll be hard for you to just jump in and hit those ramps consistently.
7. Diverters are your friend. Many designers will see the 6-10 shots as too little, but remember you can add a diverter to make one shot go in multiple directions based on where the player is at. Don't forget diverters.

Playfield Planner

Ok let's get to the heart of the matter. What is this playfield going to look like? This is one of my favorite processes and many times i'll noodle over a playfield for much too long, but it's just fun, so enjoy it.

Your 6-10 Shots

As discussed earlier a modern playfield will have 6-10 shots in it. Here is a rough guide of what most tables fill those with.

- 1-3 ramps
- 1-3 dugouts/kickers
- 1-2 hit/drop target bays
- 2-4 orbits

Additional Playfield Must-haves

- 2 slingshots
- Bumpers/Jets
- Flippers
- Outlanes / inlanes
- Plunger
- Gates
- Light inserts
- General Illumination

Fun to have playfield Items

Don't miss out on the opportunity to add in some unexpected surprises.

- | | |
|-------------------------------|--|
| • Magnets | • Spinners |
| • Turntables | • Vuk (a kicker scoop to pop the ball onto a ramp) |
| • Upper flippers | • Barricade |
| • Upper playfields | • Popup hit targets |
| • Lower playfields | • Popup dugouts |
| • Diverters | • Playfield spinning hit element |
| • Upper Lanes/Bonus lanes | • Raising / lowering ramps |
| • Bash Target | • Moving bash Target on a rail |
| • Kickbacks | • Second plunger / launcher / gun |
| • RGB lighting | • Ramp/Lane Targets "End Caps" |
| • 3d models & toys | • Flashers |
| • Playfield screens | |
| • Captive ball | |

Stranger Things: Stranger Edition Diagram



9 PLAYFIELD SHOTS

- 3 RAMPS
- 2 ORBITS
- 2 KICKERS
- 1 TARGET BAY
- 1 BASH TARGET

TOTAL LIST OF ELEMENTS

- 3 RAMPS
- 2 ORBITS
- 6 KICKERS
- 1 TARGET BAY
- 1 BARRICADE
- 1 BASH TARGET
- 4 END CAP TARGETS
- 6 TOYS
- 6 FLASHERS
- 2 SPINNERS
- 2 GATES
- 1 LOWER PLAYFIELD
- 4 FLIPPERS
- 5 LANES
- 1 KICKBACK
- 2 SLINSHOTS
- 1 DIVERTER
- 2 BEACONS
- LED GI
- LED INSERTS

RULESET GENERAL ITEMS

- 4 MULTIBALLS
- 4 MODES
- 1 WIZARD MODE
- MYSTERY
- EXTRA BALLS
- HIGH SCORE
- WAFFLE HIGH SCORE
- KICKBACK