



Manual

WARNING

If you experience any health issues from playing Pulsen, please refrain from playing further. By playing Pulsen, you agree to take full responsibility for your own health, and 4-Panel Footprint, Inc cannot be held accountable in any way.

BEFORE PLAYING

System Requirements

Please check your system to ensure that it is at or above the minimum system requirements to ensure Pulsen works properly.

Because of the differences in usage and models of Intel Atom Processors, please be advised that performance when using an Intel Atom processor depends on the individual computer configuration, not on Pulsen. Any x in a model number denotes any models in that series.

Minimum for Lowest Quality Setting

- Processor
 - 1.33GHz Intel Atom Z5xx (*results will vary*)
 - 1.60GHz Intel Atom N2xx (*results will vary*)
 - 1.40GHz Intel Celeron M
 - 2.20GHz AMD Sempron
 - 2.00GHz AMD Athlon XP
- 1GB of RAM
- Graphics
 - Intel Integrated 915G
 - nVIDIA GeForce 6600GS
 - AMD (*formerly ATi*) Radeon 9600Pro
- Operating System
 - Microsoft Windows XP
 - Linux using WINE (*not officially supported*)

Recommended Highest Quality Setting

- Processor
 - 1.66GHz Intel Atom 3xx or Intel Atom D5xx (*results will vary*)
 - 3.06GHz Intel Pentium D or Intel Core Duo
 - 2.00GHz Intel Core 2 Duo or Intel Core i3
 - 3.00GHz AMD Athlon II X2
 - Any AMD Phenom or Intel Core i5 or Intel Core i7
- 2GB of RAM
- Graphics
 - Intel GMA 4500X
 - nVIDIA GeForce 9400M
 - AMD (*formerly ATi*) Radeon HD3870
- Operating System
 - Microsoft Windows Vista/7/8
 - Linux using WINE (*not officially supported*)

NOTE: Hard drive space required: 80MB minimum and up to 80MB for each add-on installed.

Introduction to Pulsen

Pulsen is a music and rhythm game which relies on the ability to listen to musical beats and catch notes in accordance to those beats. Much like an electronic whack-a-mole, in Pulsen you time each and every note by tapping a key or pressing a button.

All keys and buttons on any device may be used with any of Pulsen's note receptors during gameplay. For example, the column containing notes pointing left may be mapped to the [A] key on the keyboard instead of the left arrow.

Getting more content

Pulsen provides a multitude of options for adding onto the game and customizing it for the user's specific tastes. Some types of DLC for Pulsen include having more songs to play and unlock, a large number of challenge levels, and a story mode complete with branching paths.

New paid content is released about once a month and occasionally there are some freebies given away to those who've already purchased older DLC packs.

Turning on the Computer

It is often not-so-well known that when playing Pulsen, the computer as well as the display device needs to be turned on beforehand. By performing these tasks before trying to play Pulsen, we ensure a greater chance that Pulsen will work for you without problems so long as your computer falls within the specified System Requirements.

Linux Support

While not officially supported, Pulsen works in Linux through WINE and has been confirmed and tested to fully function by simply installing it. The one issue that does occur on some setups is that fullscreen mode does not work. Luckily, Pulsen allows the window to be resized to any amount to compensate for this problem.

SELECTION

Introduction

If this is your first time starting Pulsen, you'll want to first play through the Tutorial which is currently not available at the time of release. If you are having trouble with responsiveness in the game, you may want to try the Calibrate Audio Sync selection found in the Options menu. For more information on calibrating Pulsen, see the Calibrating Pulsen section in the TROUBLESHOOTING section of the manual.

Selecting Music

For player one, use the Left and Right arrows to switch between songs and use the Up and Down arrow keys to shift between difficulties.

If using Player 2's side, which uses the number pad keys, use [4] and [6] for switching between songs and [8] and [2] for changing difficulties.

To toggle the unlocking of songs and saving of points, use [0] on the number pad or [/] to cycle between the available options for that play mode.

To leave this screen as Player 1, use the [ESC] key. As Player 2, hold [-] next to the top-most [0] key on a normal keyboard to leave this and other screens.

These controls may be changed using the Change Difficulty setting of the Game Settings area in the Options menu.

Unlocking Songs

Only through purchasing a DLC Pack is it possible to unlock songs in Pulsen aside from a secret bonus song here and there. By going to the Unlock Songs selection from the main menu, songs may be unlocked per difficulty using points in your wallet for that DLC pack.

Costs of all charts are labeled on the unlock item and unlocking a higher difficulty level will unlock all lower difficulty levels for that song.

To change between selecting songs or changing difficulties and packs, press the [/] or number pad [0] key which will allow you to use the arrow keys up and down to show change between the five difficulties and left and right to shift between DLC packs provided you have more than one.

On certain songs, if you play the blue-colored chart and complete the song, it may unlock a bonus chart denoted by a white color. These are special compared to other charts in that they are usually much higher in difficulty and contain very challenging patterns and tricks.

Points System

Points are acquired by playing songs. Upon finishing a song for the first time, you are awarded the points in your wallet from the score you received on that song. If you made a new high score, the difference from your previous high score is added to your wallet.

It is possible to essentially cheat the game and unlock all songs at once for a specific song pack. This action is one-time-use and may not be reverted without resetting all of the songs already unlocked. To access this option, go to the Cheater selection from the Options menu. If this menu doesn't appear, first go to Game Settings and turn it on.

GAMEPLAY

How to Play

The basic play methodology of Pulsen is very simple; hit the correct directional key at the same time the note is passing over the receptors at the top of the screen in time with the music.

Note Types

There are a few note types which modify the way Pulsen is played. Each of these different note types will affect how you are to hit them when passing over the receptors at the top. Note types are designated by the row they are on with other similar notes.



Single Taps

The most basic note types, Single Taps are one normal tap note you are to hit as it passes over the receptors. There can be many of these on the screen at once so don't get confused!



Double Taps

When two Single Taps appear on the same row, they're called Double Taps. These have to be hit at the same time when they pass over the receptors or else they are both not counted.



Triple or Quadruple Taps

Similar to Double Taps, both Triple and Quadruple Taps require every note in the row to be hit at the same time or else they are not counted.



Holds

Hold these down until the entire hold has gone into the receptor. There are two scoring counts for holds, one is from hitting the head and the other is by holding it until it has completed. Like Double Taps, Double Holds or higher require all of the heads to be hit at the same time for them to be counted. If you are to hit a Double Hold and miss one of the two, you can still hold down the remaining Hold all the way and achieve a score for it.



Rolls

These are likened to drum rolls where you have to keep hitting them until they're completed. Much like Holds, Rolls are separated into two modes, one when you hit the head and one for sustaining it until it has completed.



Lifts

Lifts are a little tricky to hit at first because they require you to have the key held down before lifting up. The timing of lifts is the same as other note types, but the difference is that instead of pushing down, you are lifting up from a pushed-down state. Lifts are counted for successfully lifting up at the right moment. Double Lifts and greater combinations are counted in the same way as Double Taps, you need to lift up on all at the same time to have them counted.



Mines

Mines are to be avoided. Every time they are hit, your life is decreased a great amount. Hitting too many mines will cause your life to be depleted. Each mine hit will individually decrement your life. The only way around mines is by not holding down keys when they are passing those respective columns.



Fakes

By far the trickiest note types available, Fakes look exactly like normal Taps except that they cannot be hit and don't affect your score or life in any way.

They are essentially noise on the screen. In almost all cases, it is somewhat evident which notes are fake, but remember: they still look like Taps!

Scoring

There are two scoring methods available in Pulsen, Casual and Intricate. At the time of release, Intricate scoring may not be available.

Casual

Casual scoring is reliant simply on you hitting or missing a row of notes. There is a window of opportunity at which notes may be hit in order to catch them and the Hit Combo will increase when you do.

Anything out of that window will be proclaimed as a miss and the Miss Combo will display and increase for each successive miss after that one.

Each hit counts as one point toward the final score. Hitting mines will decrement the score by one point. It is possible to get zero points for a song from hitting more mines than notes.

Each note type except mines and fakes is counted as a point toward your final score. You will be awarded half a point for sustaining a hold or roll completely in addition to the point made from hitting the row of them. As fakes cannot be hit, they do not contribute toward your score.

Intricate

To play with Intricate scoring, the window of opportunity from Casual scoring still exists, but the way points are distributed is completely different. In this method, how on-beat the hit affects the score. More information will be available for Intricate scoring after it's implemented in a patch after release.

Combo

As you consecutively hit notes, your Hit Combo will increase. Your combo increases for each note you hit after another. Hitting a Double or Triple or Quadruple note type will increase your combo by the amount of notes hit at the same time. Missing any notes will cause the Hit Combo to reset to zero and the Miss Combo to appear. As long as you are missing notes, the Miss Combo will continue to increase.

Life

Your in-game life is defined by two different indicators. One is a line in the middle of the note receptors which gradually shrinks to the side of the screen as you are doing poorly and fills up to the end of the receptors if you are playing well. If it shrinks all the way to the edge, your life is depleted and the line no longer returns. From here, you are considered to have failed the song. Unless either player is playing on an orange or yellow difficulty, the song will end immediately when both players have depleted their life.

The other indicator is a colored oval behind the receptors. This changes colors from light purple to dark purple to pink to dark pink until it turns black when your life has been depleted. Like the line, this no longer changes from black once you have completely depleted your life.

Song Timer

At the very top of each players' Notefield is a Song Timer. This shows you, from left to right, the song as you are playing it filling up with purple as the song is playing.

White colored tick marks mean there is a stop or delay present. With Stops, you have to hit notes before the field stops, but with Delays, you have to hit the notes after it begins moving again from a stopped position.

Dark purple tick marks denote speed changes where the entire song will increase or decrease speed. Pink ticks define when the speed of the Notefield changes, not the song itself. This changes how the notes are colored and spaced relative to the speed of the song itself.

Dark grey ticks proclaim a switch occurs at that moment. This means what's shown in the Notefield may or may not be the same as you see them when the Song Timer hits the dark grey area. Usually, very strange things occur when dark grey areas are visible in the Song Timer.

Assistance

Pressing [F7] during gameplay will enable a clap sound that plays for Player 1 detailing when to hit the notes. Using [SHIFT] in combination with [F7] will result in a clap sound every four beats to assist with staying on beat during more challenging passages of certain songs. Both of these modes are optional and are only best used to make play easier when the rhythm isn't entirely obvious by looking at how the notes are laid out.

MODIFICATION OPTIONS

Before playing a song, it is possible to hit the START button twice to bring up the modification screen. From here, you are able to choose from a number of options to change how the game interprets the field of notes as they come up to the receptors at the top. From here, it's also possible to change the position of the receptors from top to bottom and to angle the Notefield so it is at a different angle.

Some of the rows of options allow you to select multiple ones at once and some allow you to only select one because of the nature of the effect. Rows that allow you to select multiple items require you to press START to select the items you want to enable on that row and press START again to disable those items. It is also possible to press: Left, Right, Left, Right, Left, Right for resetting all of the modifiers back to their defaults for that player. This combination also works when selecting a song.

Note Scroll Speed Multiplier

These numbers define a multiple of the Note Scroll Speed. At 2.00, this would be 2 times the BPM value. If the song's BPM value is 180, then this value would be 360 meaning the notes would scroll as if the song was at 360BPM instead of 180 which causes them to be spaced out twice as much as normal. This method allows them to read more condensed areas of notes. It can also create more of a challenge by picking 0.50 or 0.75 which scrunches up the notes closer together.

The BPM values in this line are multiplicative. They try to match the song's speed to the marked BPM value with a 600BPM cap. So if you are playing at 550BPM, then you have a 50BPM variation available. It is similar to making everything 550BPM but it allows for some variation in the scroll speed of the notes relative to the special arrangement by the chart designer.

Note Look

These options change how the notes appear on the screen. There are a few styles and then some shapes. The Emphin notes are pastel-colored; designed to be brighter and high-contrast. Bolden notes look very bold and full in color and are darker than the Emphin notes as a whole.

Other than the colors, each note look responds differently to the beats in the song. Dynamic notes change colors per beat while Static notes are colored one-color to the rhythm of the song much like how music notes on a staff are defined. On easier difficulties, Dynamic notes offer more variation and color to make play more exciting.

Stable notes are colored by the column they are in; these are a little troubling when there are Double, Triple, or Quadruple Taps involved, but they allow for easier play with certain other modifiers and do offer a more-modern feel when playing. The colors of the Stable notes match those of the drum heads on all USB drum kits compatible with Pulsen.

Grey notes are entirely grey and slightly transparent to make it easier to discern them from one another. There are no other differentiations between columns or beats besides the animation since the grey color is not very descriptive.

Blockpad, Blockie, Coin, and Japanese Lantern are all shape-defined notes using the Static-style of rhythm coloring. Blockpad is similar in color to Static Bolden while the others have their own unified color scheme. Each of these is defined by one shape, a cube, a square, a circle, and a sphere respectively.

Receptor Effects

Affect how the receptors at the top of the screen change or move around.

All-Turn

The receptors rotate around in a circle

Upside-Down

Instead of the notes going up toward the receptors, they will move down from the top of the screen because the receptors will be at the bottom of the screen.

Centered

The receptors are in the center of the screen so notes move toward the center from whichever direction they are coming from. This can be used in combination with other Receptor Effects too add more variation such as the right two notes coming down from the top and the left two coming up from the bottom.

Split

The right two receptors are at the top-right and the left two at the bottom-left.

Alternate

At the top, left and up receptors, at the bottom, down and right receptors.

Cross

The side two receptors are at the top and the middle two at the bottom.

Squished

The receptors are close together.

Spread

The receptors are far apart.

One

All of the receptors are in one column.

Two

The receptors form two columns.

Three

The receptors form three columns with the middle two matched and the left- and right-most ones further apart.

Notefield Effects

Change how the Notefield and columns move around.

Float

Each column goes up and down randomly

Sway

The columns move together slowly from left to right in a wavy pattern

Beat

Much like Sway, Beat moves the columns to the left and right, but it does it very quickly and only per-beat.

Grow 'n Shrink

The Notefield will grow and shrink as a whole while the notes approach the receptors.

Stop 'n Go

The Notefield will periodically have stops in it and then the notes will return to their normal motion. It's similar to Grow 'n Shrink, but it works per-row of notes instead of as a whole. Cannot be used at the same time as Come Back. Come Back will take precedence if both are selected at the same time.

Come Back

Notes will spring-board over the receptors and then fall into it. Cannot be used at the same time as Stop 'n Go. Come Back will take precedence if both are selected at the same time.

Come 'n Go

Notes come down in a sort of boomerang motion where they're first going in the opposite direction then in the normal direction where they approach the receptors.

Get Faster

The speed of the notes increases as they get closer to the receptors.

Get Slower

The speed of the notes gets slower as they get closer to the receptors.

Slanted

Slants the entire Notefield to the middle. This will overlap the other players' Notefield. Cannot be used at the same time as Slanted Mirror. Slanted Mirror will take precedence if both are selected.

Slanted Mirror

Slants the entire Notefield to the outsides. This is best used when using a higher aspect ratio than 16:9 because some of the arrows will be slightly cut off the screen otherwise. Cannot be used at the same time as Slanted Mirror. Slanted Mirror will take precedence if both are selected.

Mirror

Swaps the position of all columns in the chart itself so what was normally left is now right. Note, this is not a visual modification; it mirrors all of the notes in the chart itself. It has the same effect at the Notefield through a mirror.

Flip

Flips the entire Notefield around. Everything is now on the opposite side it normally is.

Note Effects

Change how the Notefield changes and moves around.

Turn

Notes will rotate clockwise. Cannot be used at the same time as Spin. Spin will take precedence if both are selected.

Spin

Notes will rotate clockwise very quickly. Cannot be used at the same time as Turn. Spin will take precedence if both are selected.

Roll

Notes will roll toward the receptors.

Twirl

Notes will twirl around in their respective columns.

Less Bouncy

Notes will bounce somewhat off the Notefield and back onto it. Cannot be used at the same time as Bouncy. Bouncy will take precedence if both are selected.

Bouncy

Notes will bounce high off the Notefield and back onto it. Cannot be used at the same time as Less Bouncy. Bouncy will take precedence if both are selected.

Cone

All notes bunch up at the bottom randomly and head for the receptors sometimes from challenging locations. Cannot be used at the same time as Funnel. Funnel will take precedence if both are selected.

Funnel

All notes bunch up at the bottom randomly and take their time heading for the receptors sometimes from very challenging locations. Cannot be used at the same time as Cone. Funnel will take precedence if both are selected.

White

Notes are colored white so only the outline of the shape remains. Cannot be used at the same time as Ghost. Ghost will take precedence if both are selected.

Ghost

Notes are a transparent white so only the outline of the shape remains. Cannot be used at the same time as White. Ghost will take precedence if both are selected.

Random Note Speeds

Much like float, the notes in each column are moving differently, but the columns themselves aren't moving. This is essentially the same as enabling a different type of Note Scroll Speed Multiplier on each note itself.

Note Size

These values change how large the notes and receptors are. The more to the left of Normal, the smaller the notes become and the more to the right, the greater in size they are. The larger the notes, the less you're able to see on the screen at a time, it is the opposite when they shrink, there are far more that fit on the screen.

Object Visibility

Modify the visibility of notes and the receptors.

Hide Bottom

The bottom area of notes will be hidden from view until they appear at the top section.

Hide Top

The top area of notes will disappear from view until just before they are at the receptors.

Blink Notes

Notes will blink on and off going from completely visible to completely invisible.

Hide Receptors

Hide the receptors out of view.

Music Rate

This affects the speed of the song itself which affects the speed of everything else. The song will be faster if to the right of 1.00 and slower to the left of it. Flux makes the song play faster as you perform better and slows the song down as you begin to do worse. If one player is keeping up better than the other, Flux will use that player to gauge the speed changes.

Crazy

Anything crazy designed specifically to make it more challenging to play and read what's going on.

Random Modifiers

Random modifiers are randomly selected at random while playing. There are more random modifiers than are selectable on the modifiers screen so there are a lot of difficult variations.

Modifier Mines

Instead of causing you to lose life, mines are switched to enable various random modifiers.

One Middle

Notes are colored white so only the outline of the shape remains. Cannot be used at the same time as Ghost. Ghost will take precedence if both are selected.

Two Middle

Notes are a transparent white so only the outline of the shape remains. Cannot be used at the same time as White. Ghost will take precedence if both are selected.

Three Middle

Much like float, the notes in each column are moving differently, but the columns themselves aren't moving. This is essentially the same as enabling a different type of Note Scroll Speed Multiplier on each note itself.

Hidden Beats

Much like float, the notes in each column are moving differently, but the columns themselves aren't moving. This is essentially the same as enabling a different type of Note Scroll Speed Multiplier on each note itself.

Remove

These modifications allow handicapping the chart by removing all of certain note types.

Perspective

Change how the Notefield appears at different angles. Normal is a top-down overhead view where everything appears in 3D generally as it would in 2D. In Wide->Narrow, the bottom is pushed back further into the screen so it is as if the notes are coming toward you. Narrow->Wide is the opposite effect where it's as if the Notefield is laying down on a slope and notes are travelling away from you.

Difficulty

This is a second chance to change your difficulty after selecting the song. Both the chart names and difficulties are displayed together to make it more apparent which is which.

STATISTICS

Evaluating your performance

When finishing a song, your performance is shown in detailed statistics of what note types you hit and how well you did throughout the song.

Note Types

The bar graphs on the left of the screen show how many of each note type you hit with the exception of the mines column which shows you how many you avoided.

The numbers below the graphs show you exactly how many you hit in purple out of how many were possible in grey. Again, mines here are showing how many were avoided.

Grade & Percentage

Depending on your percentage for that round, you are awarded a grade. An E grade is awarded for effort only when failing a song. Even if you were unable to complete the song, if you were playing with another player that did, your percentage will be representative of how you did, but your grade will remain an E.

Grades and percentages vary depending on the scoring mode chosen. The casual scoring mode is a lot more lenient than the intricate method and will result in higher scores overall.

Points Awarded

Only available when using Pulsen with a DLC package, this will show you how many combined points were earned for both players in the match and the current size of the wallet now with the awarded points added to it.

If unlocks are disabled, then the points awarded will not show up because there are no points awarded. If unlocking is disabled for only one player, then the points awarded will only count for the player which unlocks are still enabled.

Life & Combo Graphs

On the right are the Life and Combo graphs. The life graph starts at 100% from the bottom of the screen and the end of the song is at the top of the screen. This shows you your life percentage as you played the song. 0% is represented on the side closest to the Combo graph.

The Combo graph, like the Life graph, goes from the bottom of the screen to the top of the screen showing your performance on the song. Colored tick markers show where you were able to sustain your hit combo. The longer you sustained a combo, the taller the colored area.

The highest sustained combo is represented by the area with a number showing what the highest combo was. It is possible to have multiple numbered areas when, in many places, you retained the same combo and this combo was the highest you received.

SETTINGS

Game Settings

Settings which modify the game's workings.

Sound Volume

Modify the volume of all music and sound effects in Pulsen by changing between various percentages of volumes. 100% volume would mean Pulsen is playing audio at as loud as it can with respect to the volume of the operating system.

Automatically Set Controls

Set whether Pulsen automatically configure controls when a controller is plugged in or not. This is useful when the auto-mapping of buttons is not correctly configured for the controller type.

Window Mode

Change between fullscreen and windowed. By setting fullscreen, Pulsen will automatically configure itself to the desktop resolution of your primary display. In windowed mode, Pulsen is able to be made larger or smaller by clicking and dragging on the sides or corners or by maximizing the window.

Automatic Resolution in Fullscreen

Turning this setting off prevents Pulsen from automatically setting the resolution to the desktop resolution of the primary display. This is useful when running into performance problems while Pulsen is in fullscreen but still wanting to enable all of the eye-candy. After turning off this setting, go into the %appdata%\Pulsen\Save\Preferences.ini file in a text editor such as Notepad and manually modify the DisplayWidth and DisplayHeight settings to the desired values. These are integer value at or above 0. Pulsen is resolution and aspect ratio independent so any setting here will work properly with Pulsen so long as the aspect ratio matches. It is recommended to have Pulsen already set to start in fullscreen mode or it will not save this setting.

Automatic Aspect Ratio in Fullscreen

Turning this setting off prevents Pulsen from automatically setting the aspect ratio to the desktop width divided by the desktop height of the primary display. This is useful when using a composite or s-video cable on a widescreen TV to allow the image to fill the entire screen without stretching it. After turning off this setting, go into the %appdata%\Pulsen\Save\Preferences.ini file in a text editor such as Notepad and manually modify the DisplayAspectRatio setting to the desired value. In the example of a composite or s-video cable on a widescreen TV that is stretching to the full screen, this value would be 1.777777. It is recommended to have Pulsen already set to start in fullscreen mode or it will not save this setting.

Visual Calibration

Adjusting this will change the visual latency to be either ahead or behind gameplay to compensate for display unit latencies. This setting is most-likely best left at zero and is provided only in the most extreme cases where this would be apparent. In all cases, audio needs to be calibrated and this may fix the problem originally perceived to be caused by visual latency.

Cheater

Cheater is not available without owning any Pulsen DLC packages containing new songs. Turn this on to enable the Cheater options menu. Included are the ability to add or remove points from the wallet, unlocking songs, and resetting the wallet and unlocks. These can all be done on a per-pack basis.

Personal Settings

Specifically settings which are only personal-preference to customize the game for the player.

Unlocking Enabled

This option is only visible when DLC packs have been purchased. Unlocking Enabled controls the setting for enabling or disabling the acquiring of points from playing songs on a per-player basis. It can also be cycled through while selecting music by using the Unlock Toggle key which is either forward-slash or the number pad's zero by default. There will be an indication in the top-right corner of the screen which shows up for a second explaining if unlock points are enabled or not and for which player.

Music List & Difficulty Changing Style

When selecting a song to play, this setting allows customizing the key combinations needed to change between songs and difficulties. Single Tap is the same as Double Tap but required only one press to change difficulties. Rotated Single Tap switches the Up and Down directions with the Left and Right directions for changing difficulties and switching between songs.

Scoring Type

Casual scoring is the Pulsen default and is what the Unlock System and numerical scores are based on. It is based merely on hit or miss. Changing to Intricate scoring will change to a more precision-oriented scoring methodology where each note is graded on accuracy.

Rotate Notes

For the noteskin which have a direction, it is possible to make it so they are not rotated to better-resemble typical play when using a drum or guitar style controller.

Intro Video

This setting disables the 4-Panel Footprint, Inc intro video from appearing when Pulsen is started.

Performance Settings

Settings which affect the performance of Pulsen on your machine as well as ones which may be appealing for preferential reasons.

Settings Display Mode

Change between an automatic settings change and an individualistic one. These two modes are independent so if you're on easy mode, then only the Easy mode options will be active. Changing the Easy mode settings will not modify the settings on the Advanced mode page.

Computational Power

This will change Pulsen's performance settings to better suit the hardware. If Pulsen is choppy when played, it is best to first try Medium quality and then go down to Low if Medium had not fixed the performance issues.

Music List Zoom

This modifies how many song items show up when selecting music and how large in size the list is on the screen. The less items that show up, the higher the performance output of Pulsen when selecting music.

Note Look Style

This setting only affects performance during gameplay by changing all 3D notes into 2D ones. There is a very minimal impact on quality and the only downside is that any gameplay modifiers that twist and turn the notes will suffer from the 3D rotation of flat 2D objects. Changing this setting is one of the most determining factors in making gameplay acceptable if there are performance issues.

Animations

While more of a personal preference, the disabling of animations has been noticed to have a notable impact of the performance of Pulsen as a whole. This does not affect gameplay at all but does have a noticeable impact on general in-menu performance.

Color Depth

This changes the amount of colors which appear on the screen. There is a severe quality impact by switching to a 16-bit color depth because of the removal of millions of colors but this is a tradeoff in overall Pulsen performance. In many cases where 3D notes are causing performance degradation, switching to a 16-bit color depth has solved these problems without requiring a change to 2D notes.

Frame Rate Locking

This will keep the frame rate at a value divisible by 2 or 3 (depending on graphics driver settings) of the display's refresh rate. This should only be enabled when there is noticeable tearing on-screen. In most cases, leaving this off has no visual degradation and increases performance greatly especially on lower-end systems compared to it being enabled.

TROUBLESHOOTING

Calibrating Pulsen

Because of the vast differences in computer hardware from the types of speakers used to the keyboards or controller devices, manual synchronization is required for the best Pulsen experience. The ability for the audio to synchronize with the controller inputs is required for this to happen. In the Options menu, the Calibrate Audio Sync selection allows playing notes in time with what is heard, not what is seen, to allow the audio to match up with the controlling device. This ensures players will no longer experience responsiveness issues related to timing differences.

NOTE: Each time a controlling device or audio device is changed such as changing from speakers to headphones or keyboard to gamepad, Pulsen will need to be recalibrated.

Keys Not Responding

Some keyboards don't support the pressing of more than 2 or 3 keys at once in certain combinations. These are most-usually found when using the arrow keys. A few ways around this are to try playing at Player 2 using the number pad or by using the letter keys. Sometimes picking keys away from each other on the keyboard will yield a better play. Using any controller with Pulsen will almost always allow the pressing of all the buttons at the same time and should not have this issue rampant in most keyboards. The only other solution is to purchase a keyboard which has anti-ghosting capabilities allowing the pressing of more than 3 keys at once.

Missing Unlocks

When you go to Unlock Songs and notice a blank screen, this is caused by a version mismatch between any DLC package and Pulsen itself. Downloading the newest versions of Pulsen and the DLC packages should correct this issue immediately.

Performance Issues

When running Pulsen, you may experience slowdown or choppy animations. To ensure your Pulsen experience is as smoother as possible, you may consider modifying some Performance Settings to adjust Pulsen for the system. Please check under the MODIFIABLE SETTINGS section of the manual to find out more about modifiable Performance Settings in Pulsen.

Make sure to also check the System Requirements in the BEFORE PLAYING section of the manual to find out if your system meets the requirements to play Pulsen and ensure it is configured accordingly.

Commonly referred to as the ultimate fix-it method, simply restarting the machine will prove to solve all problems. This does not always work, but depending on the issue, it could prove a very useful tool in troubleshooting performance problems.

Blinking Graphics or Artifacts

When there are graphical distortions or other problems experienced when playing Pulsen on certain machines, it may be the cause of old graphics drivers. These are very easy to update by going to your graphics card manufacturer's website and both downloading and installing the latest driver. Listed *below* are some links to the most-common manufacturers' websites to assist you.

- Intel - <http://downloadcenter.intel.com/>
- nVIDIA - <http://www.nvidia.com/Download/index.aspx?lang=en-us>
- AMD (*formerly ATi*) - <http://sites.amd.com/us/game/downloads/Pages/downloads.aspx>