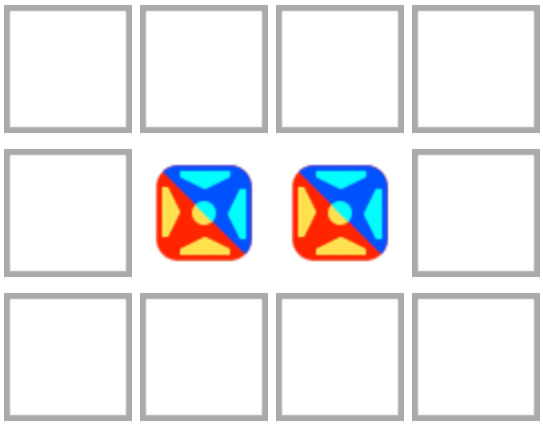
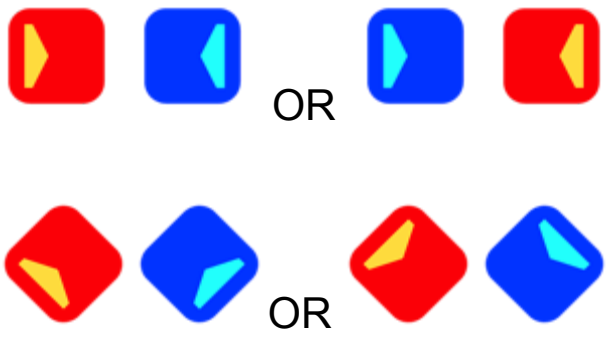
Guide created by Awfulnaut

Beat Saber Custom Mapping:
Best Practices for Block Placement

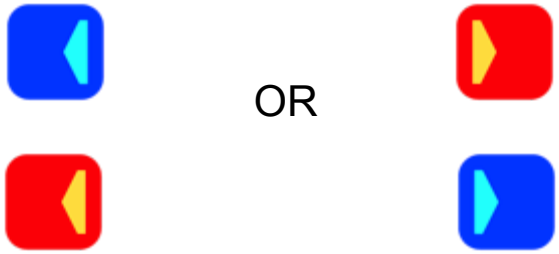
This guide is intended to help new mappers avoid common mistakes. To get started with custom beatmaps, visit the wiki, read/watch the tutorials, and download the Mediocre Mapper Editor. If you have any questions or comments about this guide, feel free to DM me on Discord @Awfulnaut #0325.

GOLDEN RULE: Rigorously playtest your chart *before* publishing to beatsaver! Get feedback from other players/mappers! Just because it feels right to you doesn't mean it plays well for others. If other people say it doesn't feel right, listen to their advice and make tweaks. **DO NOT SKIP THIS STEP!**

Don't do this	Explanation / solution
Vision blocks 	**Vision blocks**: 95% of the time, you should not place blocks in the middle two sections of the grid. **This is eye level and makes seeing blocks behind them nearly impossible**. Instead, place blocks elsewhere (usually on the bottom row). **Exception**: For the other 5% of the time, a good rule of thumb is to make sure the player is pushed to the side—either by barriers or by the pattern itself—or put it at the very end of a pattern so there is a calm spot after it. Always keep visibility in mind. **Protip:** The bottom row is where most blocks should go.
Controller smash 	Pointing blocks at each other may cause the player to **smash their controllers together** when playing for max points. **Don't do it, no exceptions**. **Note**: Vive wands are much longer than Oculus controllers, making them more likely to smash together. According to Steam, Vive is used by 44% of VR users, so you don't want to put nearly half your players at risk.
Impossible pattern 	Adjacent double notes facing away from each other like this are almost **impossible to hit**.

Incorrect* crossover position

↑ ***Note the pattern below is what **NOT** to do**



Generally speaking, when making a double crossover, you should **put RED on top when slicing left**, and **put BLUE on top when slicing right**. This is a best practice because you don't have to move your opposite hand as far.

Exception: Expert/+, but only if the flow of patterns leads to these placements naturally.

Stressful drum rolls & streams

→ Progression of time →



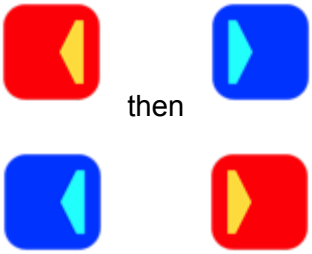
↑ dot/alternating directions ↑
with less than ½ beat between

On Hard and below, long strings of very fast repetitive notes of the same color are stressful, whether they're directional or not. **Make sure all notes are at least a half beat apart,** or alternate colors and position so it's an easier left-right-left-right pattern.

Exception: Expert/+ (but don't overdo it)

Rapid crossover

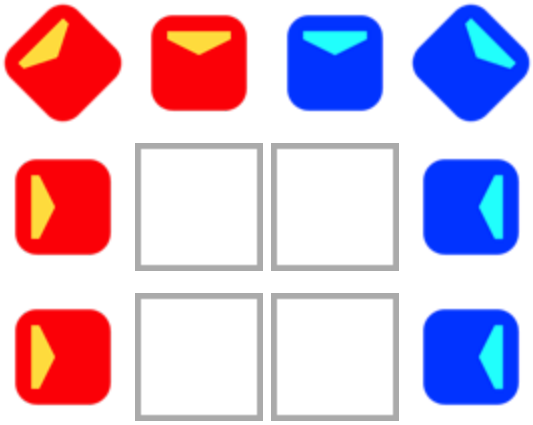
Very quickly:



or vice versa

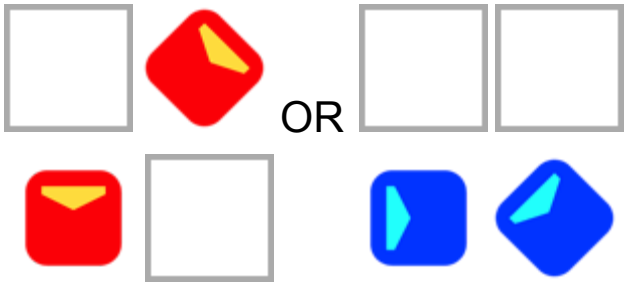
Give the player time to prepare, and don't make them cross sides too fast or too often. This pattern takes time to process and it's a larger motion in-game than it looks in the editor. Also, never put this pattern in the top two rows.

Wide inward doubles

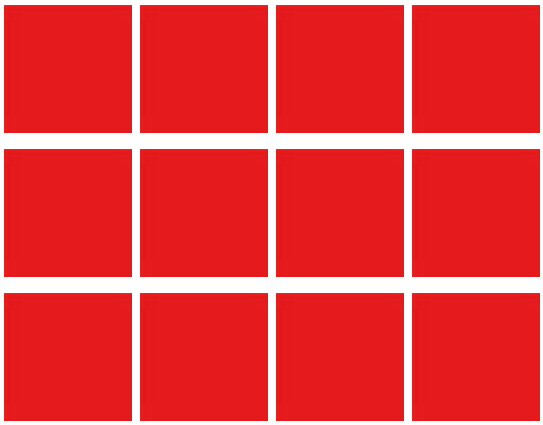


Inward facing double blocks on the edges are **very difficult to hit for small/short players, and uncomfortable for the rest**. This should generally be avoided.

Exception: Expert/+, but only if the flow of patterns leads to these placements naturally. If it's your first or second map, just don't do this at all.

## Excessive patterns  OR 	Placing 3 blocks of the same color, **vertically or horizontally**, may seem fun, but you can achieve the same “hard hitting” effect with just 2. **3 feels excessive in-game**. Even when using 2, don’t place anything directly behind them, since visibility will be low.
## Awkward curved swings Examples include, but not limited to: 	**Do not place two or more blocks of the same color together that do not face the same way**. It is harder to read, feels awkward, and undermines the scoring system. Often, these patterns are used as a way to introduce flair to a map, but it’s really just a crutch for unimaginative mapping. Instead, add flair by introducing original patterns that flow well together.
## Awkward directions 	Crossing hands is usually fine, but crossing hands *and* going in opposite directions vertically **causes the player’s arms to hit each other**. Reverse these colors and you’re good to go.
## Hammer hit 	Any directional block pointing towards a bomb on the same plane is **just evil** (and undermines the scoring system)**. Don’t do it. No exceptions.**

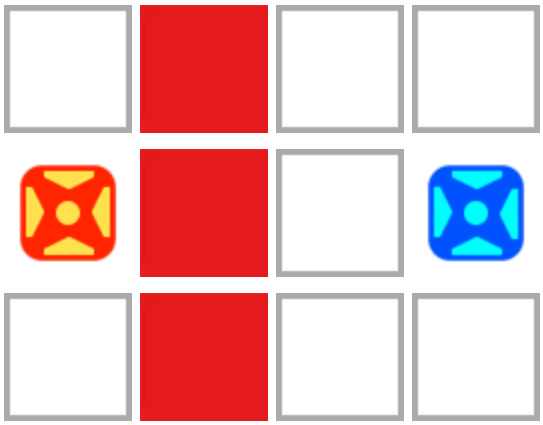
Detached walls



Combine your adjacent/ touching walls for a cleaner, less visually cluttered experience. Click and drag (left to right) to create walls *wider* than 1 column. Scroll to create walls *shorter/longer* than one beat (or whatever your cursor precision is set to) and click again to finish placing your wall.

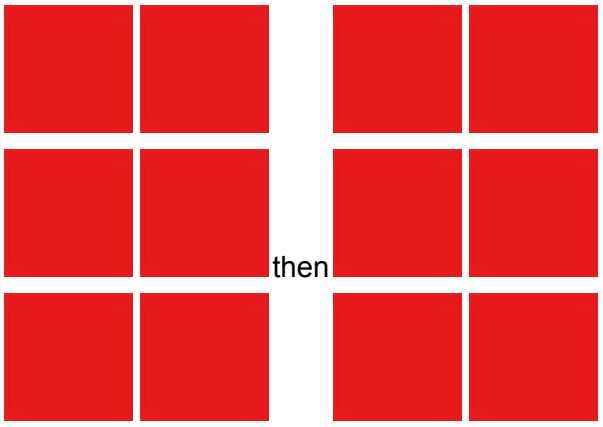
Note: The infinite vibration bug that was caused by these types of walls has been patched. Also, don't ever cover the entire grid with walls as depicted here.

Disembodied notes



Do not hide blocks on the other side (or inside) of walls. Most of the time, these are simple mistakes that people don't find because they don't adequately playtest their maps (refer to golden rule above)

Rapid head motion



Keep head movement slow and predictable. Do not force the player to very quickly move from one side of their play space to the other. Allow at least 1.5 beats for the player to switch sides for higher bpm songs. You don't want to risk them bumping into things or falling over.

Extended crouch

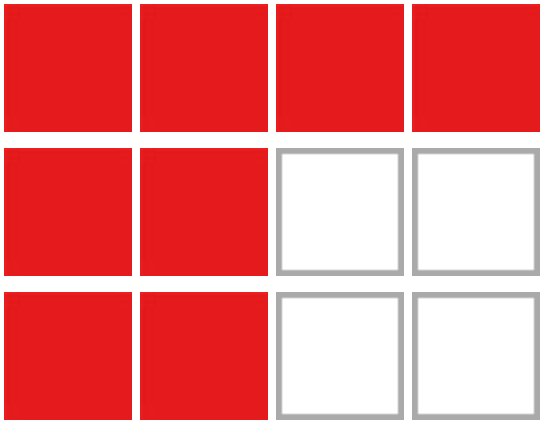


Consider your target audience when using extended sections of top walls. You can't predict all players' physical ability, so use this in moderation.

Protip: When placing blocks under a top wall, *always* place them on the bottom row with horizontal slice directions (or dots) and take visibility into account when placing them in the middle two blocks.

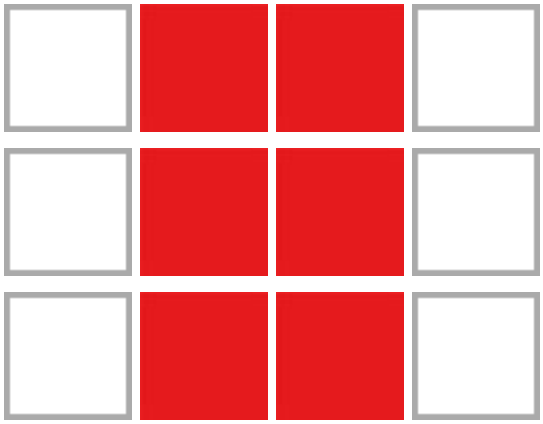
Protip #2: If you must have notes immediately following a crouching section, make the starting direction UP, and consider visibility due to the player's lower position.

Corner crouch



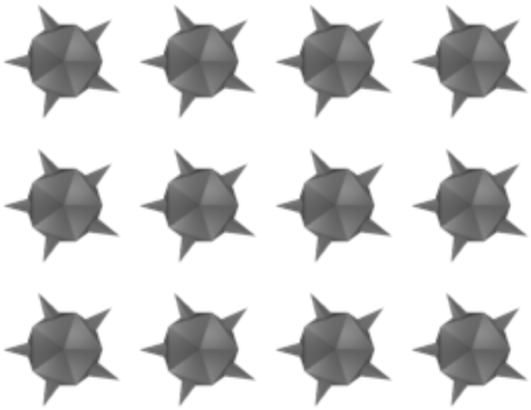
Consider your target audience when forcing the player to crouch in one corner. As stated above, crouching sections should be kept short because you can't predict all players' physical ability. Forcing the player to additionally move left/right while crouching increases the threshold of full-body range of motion. While this tactic may be fun for some, you don't want to ostracize the players that are incapable of this motion.

Danger dash



Never force the player into the far edge of their playspace with 3-width walls or a 2-width wall in the middle. Walls that encompass the two middle columns gives the player very little room to play, and you don't know how large their play area is or how far they will dash in response to these walls.

Overuse of bombs



Bombs are good for forcing precision, or for punctuating silence, but **overuse of bombs should be avoided**. Also note that most people hate bombs in general, so they should be used sparingly.

Protip: Precision bombs should be used no more than once per beat.

Protip #2: Bombs are hard to see when there are no lighting events active. Make sure your map isn't dark when bombs are coming up ("track ring neons" and "bottom/back/side lasers" add the most ambient light).

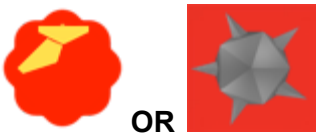
Protip #3: Bomb hitboxes are the same size as note hitboxes (which are larger than the models you see), and you can still hit them *behind you*.

Wide precision (fat boi)



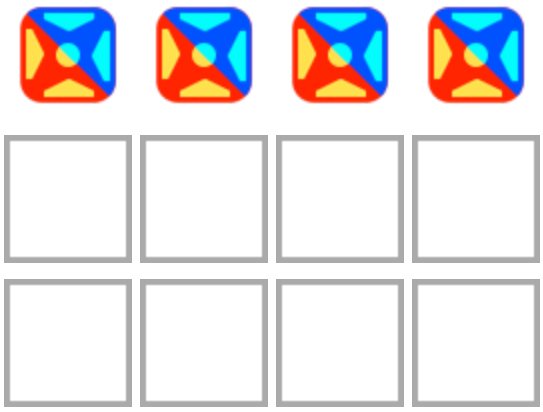
These bombs are incredibly hard to avoid for players with short arms. When the player swings through these blocks, their arms come inward, and hit the bombs. Consider using a different pattern entirely.

Stacked or hidden blocks



Blocks should never be stacked on top of one another. Any combination of blocks are stackable in the editor (including bombs and walls). Sometimes these are hard to spot if two identical blocks are stacked.

Repetitive top row blocks



Avoid repetitive use of blocks in the top row. This causes shoulder strain.

Protip: If you want to stay consistent with the Vanilla maps, blocks in the top row are **always** dot blocks, and they are **very** infrequent.

Visual clutter

In any direction or any color:



OR



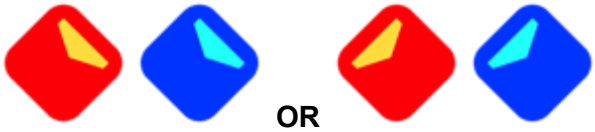
Avoid unnecessary visual clutter. Having a directional block point towards/away from a dot block does not serve any functional purpose, and it's hard to read at a glance. If you're telling the player to slice in a particular direction, be consistent and make both blocks directional to increase readability.



Overlapping hitboxes

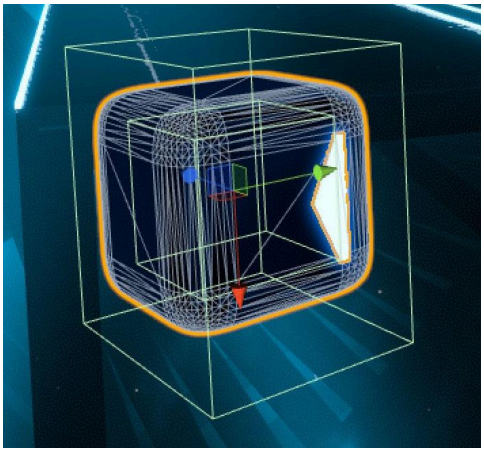


OR



OR

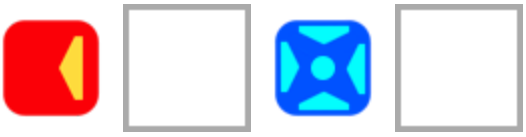
Note: This pattern won't make your map unrankable, but it's good to keep in mind.



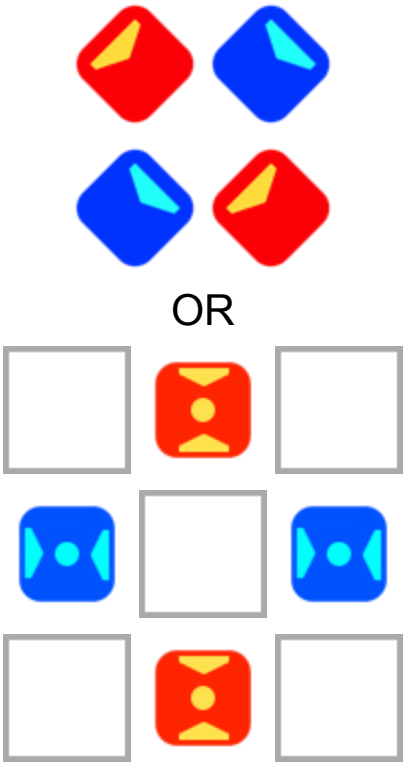
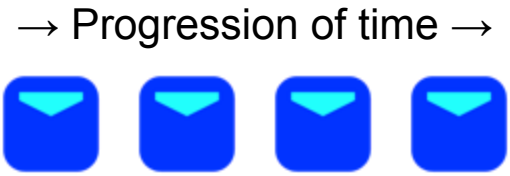
Inadequate room for swing



OR



Leave room for the player to swing at each block. In the patterns depicted here, there is not enough room for the saber to slice the outer block without hitting the inner block if the player swings in the direction indicated (horizontally). Indeed, it is still possible to hit, but only by coming in at an angle, and if you have to come in at an angle, you may as well **change the direction of the outer block to match the way the player will swing anyway and/or move the inner block to the outside edge.**

Cross  	**This large, awkward pattern is difficult to read and can lead to smashed controllers and tangled arms.** Players will likely not read it correctly the first time they see it, but even if they do, it's not a satisfying motion anyway. Consider using a different pattern altogether.
Repetitive unidirectional sequences  	**This sequence has bad flow** because the player has to swing downwards, then bring their hand back up to swing downwards again, which is a lot of unnecessary motion. Alternate the direction of every other block for better flow.

Additional Tips:

- Get familiar with how the scoring system works. Each individual block should have space available for a full 150-degree swing in the direction indicated.
- Deliberately place blocks that *match the music*. Don't place more blocks than necessary just for the sake of making the map difficult.
    - Map difficulty should come from pattern complexity with a great deal of attention given to how well they flow together.
- Don't leave the lighting track empty. At the bare minimum, use Lightmap (video), and then add in ring rotation/zoom and track ring neon events (these are not added by Lightmap).
- When mapping very fast Expert+ maps, make sure you increase the Note Jump Speed. This will make the notes come at you faster with more space in between them, increasing readability.
- Do not use bluetooth headphones while mapping or playing Beat Saber. Especially if you're the mapper, all of your block placements will be off by however much latency there is between your headphones and your computer.
- Do not make edits to the json file to generate unconventional effects without making a note in the map description explaining what you did and how it works. These effects break the core functionality of the game. It goes without saying that it is best practice to present the player with maps that are consistent in functionality to the main game.
    - Examples include but are not limited to: putting 0s or negative values in the json for walls or block placement timestamps.

Blocks:

