# The Cromulent Guide to Crossovers

a guide on how to write things that will make FA players yell at you maintained by sorae (sorae#7138)

# **Preface**

If you haven't read <u>this</u> document before ("Beginner tips for improving charts!" or formerly known as "Why is my chart bad?"), I HIGHLY recommend reading it before even attempting to dive into this guide, otherwise everything I say will literally be word salad

(that document was what inspired this guide in the first place lmao)

There are many different flavors of crossover, but they are quite advanced, and an entire document can be dedicated to them.

For some further reading (before or after this document, the reading order doesn't matter too much since the concepts are intertwined), check out BrotherMojo's guide, <a href="Charting Beyond The Basics">Charting Beyond The Basics</a>.

This guide will be divided into 4 chapters:

- 1. Basics of Crossovers
- 2. How to Properly Write Crossovers
- 3. Advanced Shit
- 4. random stuff that doesn't fit anywhere else

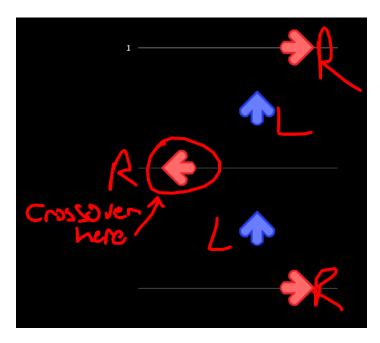
Also, this guide is BEST viewed with "Print Layout" *DISABLED* if you're on desktop (top bar -> "View" -> uncheck "Print Layout")

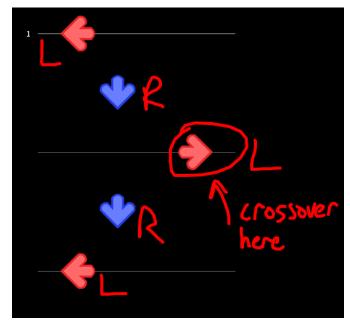
# The Basics of Crossovers

gotta start somewhere

In ITG/DDR/other dance games, a crossover is just a pattern that forces you to "cross over" and hit an arrow on one side of the pad with the opposite foot.

Assuming you're alternating feet (which you should be doing anyways, unless the chart is untrustworthy), a crossover will cause you to hit the *left* arrow panel with your *right* foot, or vice versa.





Examples of common crossover patterns, marked with which foot you use to hit each arrow.

Crossovers tend to be movement-intensive patterns - putting too many in a chart, or at too high of a speed will make your chart unfun!

So when do we use crossovers?

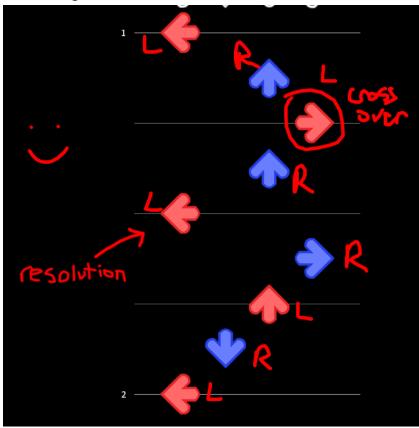
There are two main use cases:

- Accenting something significant in the song
- do it for the hell of it lmao

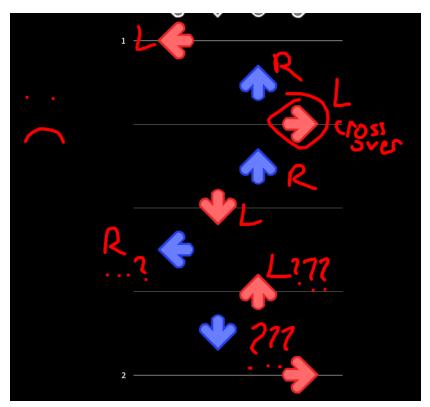
I'll go over the reasonings in more detail later on, but keep the first idea in your head

Writing crossovers isn't as simple as it looks though. It's important to think about *how* you intend the player to move throughout the chart, and if you're forcing them to move in a way that breaks chart flow (WITHOUT PROPER JUSTIFICATION), it will feel awkward and untrustworthy.

Crossovers should always be designed in a way where doing them properly (with alternating feet) doesn't interfere with chart flow at all - they should **"resolve."** 



Example of a properly written crossover that resolves.



Example of a crossover that doesn't resolve - the player ends up facing backwards and their legs turn into spaghetti.

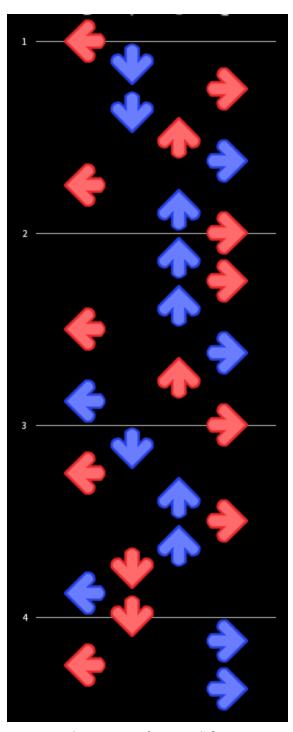
(this also makes the crossover not a crossover, and a doublestep instead)

Making a crossover resolve isn't too hard if you think about specifically how the player is stepping through your chart - the best way to visualize this is by stepping through the chart with your feet on the floor, or with your fingers on your table.

(Editor's note: While it might be tempting to use something like ArrowVortex's Dancing Bot to check if a crossover resolves, it'll be better for you in the long run to practice playing these patterns out yourself! Dancing Bot doesn't account for more complicated patterns and is generally unreliable for this kind of thing.)

If you end up facing backwards for an extended period of time or have to do a spin to get back to facing forwards, your crossover probably didn't resolve properly.

Crossovers come in many different flavors, shapes, and sizes! We'll be exploring as many as I can think of in this guide.



An example stream of many different types of crossovers chained together that properly resolves at the end. Don't mindlessly copy-paste this pattern into your chart!

# **Properly Writing Crossovers**

woo boring time

Besides making your crossovers resolve like before, there are a couple guidelines to writing crossovers.

Note that these are only *guidelines*, but I'd stick to them unless you're more experienced/know what you're doing.

#### When do I use crossovers?

As mentioned before, crossovers are used mainly for accenting important sounds in the song. Crossovers are significant movements, so we want to make sure that they correspond to significant sounds in the song!

I can't really convey musical/pitch relevance with just images in this text document, but for some good crossover usage, I definitely recommend studying charts/packs from popular and well-established stepartists, and seeing how they use crossovers effectively.

Here's a small list of charts that I think use crossovers effectively:

- You're Beautiful by Fraxtil/Ash, from Fraxtil's Cute Charts
- How We Win by Loak, from Loak's Inferno
- Chatterbox by Benpai, from Notice Me Benpai 2
- G.O.A.T by Valex, from <u>dimocracy</u>
- Debug Dance by ITGAlex, from BemaniBeats 6
- Surf by Feraligatr, from <a>5</a>guys1</a>pack

(A playlist with short videos of these charts can be found here!)

By no means is this a comprehensive list - check out all of these packs (and more!) and study their crossover usage for yourself.

While studying charts, ask yourself a few questions as you go through:

- "What makes this particular crossover effective?"
- "If I think a crossover should have been at a certain place, why do I think that the chartist decided to not put one there?"
- "If I don't agree with the inclusion of a certain crossover, why do I think that the chartist decided to put one there?"

Thinking in the shoes of other step artists helps with your overall thought process in the future.

It's okay to disagree with a chartist's crossover usage - after all, crossover usage is subjective to a degree.

Crossovers can also be used just for the hell of it! If a crossover "feels good" and you feel like it fits the overall theme of the file, go for it! Just don't overdo it, and make sure you keep the overall use of the crossovers consistent (if you use it for a certain motif in the song, do it for every subsequent similar motif!)

Crossovers can also be used for what I'll refer to as "scaling".

Scaling is the act of introducing some form of progression, or contrast in intensity, throughout your chart. If a section repeats itself but is more intense, it might be wise to introduce some crossovers to accompany the intensity change in the music. A good example of this is Loak's How We Win (from Loak's Inferno)

(Scaling with crossovers is perfect when writing modfiles - you could keep the mods the same but introduce a harder chart that includes crossovers as it goes on. Just be sure that it's still readable and fun!)

#### Making your crossovers trustworthy and fun

You might have noticed that I've mentioned "don't overuse crossovers" at least once already - this is something important to keep in mind!

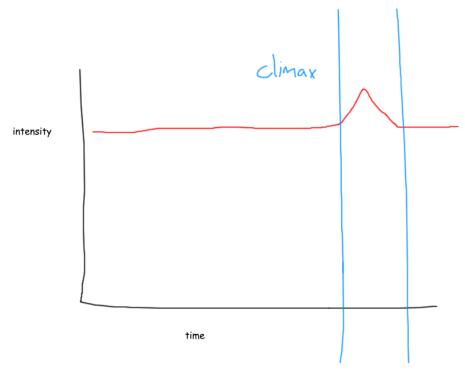
Again, crossovers are *intense* movements. You're encouraging the player to twist their body further than they normally would, which is why it's good to not overdo them, otherwise people won't be encouraged to play your crossovers properly (or even play your chart at all).

It's also worth mentioning that crossovers get exponentially harder as the speed of the pattern scales up (high BPM/bursts).

Consider if the player would get more value from playing the crossover properly, or just doublestepping it.

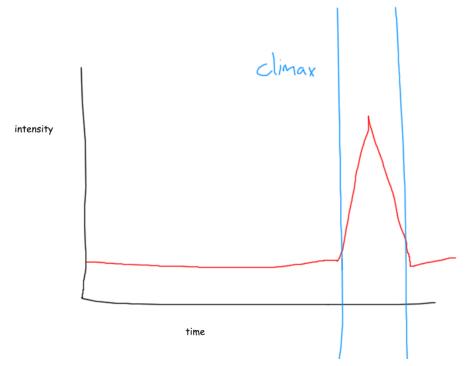
Furthermore, if your chart is filled with too many crossovers, your crossovers that land on impactful sounds will be a lot less impactful than normal.

Here's a few MS Paint graphs to demonstrate this concept:



If your chart is all intense movements, ramping up intensity for an intense part won't make much of an impact.

#### However:



If you keep your intense movements (crossovers!) to parts that really deserve that extra "oomph", it will stand out a lot more and feel more impactful!

Overall - really think about what sounds/motifs in your song *need* crossovers, and think about if playing that crossover would be more fun than not playing it properly.

In short: Don't overdo it bro

#### Keeping crossovers straightforward

Unless you're trying to send your players to the chiropractor, don't overcomplicate crossovers. I need to say this before I go over the many different types/variants of crossovers later, otherwise some of you are going to overuse them without regard for what situations and types of files they fit in.

This also goes back to making your crossovers trustworthy - if your crossover patterns are too complicated, some players won't be obligated to properly do them.

Keep it simple and straightforward! (But you can write more complex crossovers whenever it fits for the situation, which is subjective, or when building a chart around them)

#### Crossovers in mods

Regarding using crossovers in modfiles: Keep it to a minimum, please, especially with hard mods. Crossovers will make mods harder to read because a significant chunk of mod reading skill relies on the chart alternating feet. Adding crossovers disrupts that natural flow unless you know that crossover is there (which most people won't see on a sightread, or even on subsequent plays).

Additionally, variances in rhythms, high speed/movement, and whatever mods are already going on at that moment (especially columnswaps), when combined with a crossover, can cause a significant spike in difficulty. Take caution when adding crossovers to mods, and don't be afraid to nerf your chart if the mods and rhythms call for it.

Too many crossovers in mods will just make your file unfun.

ESPECIALLY try to leave crossovers out of transition sections unless it's a simple and easily readable transition.

However, like I said earlier, crossovers are a particularly effective way to scale mods! It can test a player's mastery of reading a certain effect.

Horse (Bouncecore Edit) from Mods Rush Couples 2 is a really good example of this (shameless plug huehueheuheuheue)

#### Stamina?

The modern meta of "stamina" rarely features any tech (including crossovers), if any at all outside of break sections (and even then, it's extremely rare). Modern stamina charts test a single skillset - physical endurance on long runs of normal stream patterning (which doesn't include crossovers).

Adding crossovers to streamy charts ultimately depends on what audience you're shooting for - if you're making charts similar to those seen in ECS/SRPG's base pack, then it's best to not add crossovers at all. On the flip side, if you're more interested in targeting the tech/FA community and writing stamtech-like charts (or just really tiring tech charts), then by all means go ahead and add crossovers to your streams!

# **Advanced Shit**

iceberg.png

There's so much to talk about regarding crossovers, so I'll be splitting this chapter into a couple of mini sections.

### The Wonderous World of "Bullshit Crossovers"

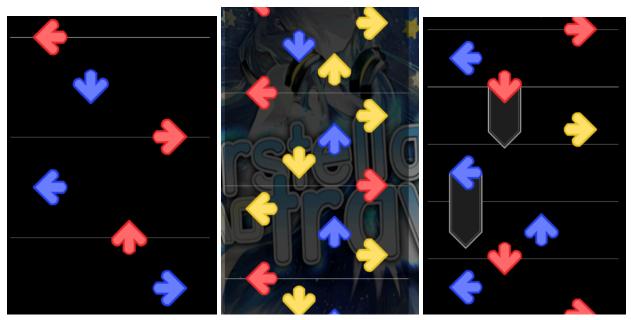
FA players will sue

Fun fact: Did you know LDRDL and its cousins are not the only type of crossover? This is a fact that I totally haven't said throughout this entire document multiple times already!

Crossovers come in many different types of flavors, but they're all pretty spicy if you ask me

#### Laterals

Basically a crossover, but both feet touch opposite panels (R foot touches L panel, and L foot touches R panel). Also referred to as a "scooby" in some communities because it makes you run like Scooby-Doo (???????? LOL), or as an "afronova" (specifically the leftmost example) by veteran DDR players.



Examples of laterals. From left to right: The most basic example of a lateral, Interstellar Travel (SX14) from ITGAlex's Compilation 4, Artificial Intelligence Bomb (Mods 14) from Mods Rush 3

#### **Extended Crossovers**

Like a crossover, but you're crossed over for longer.

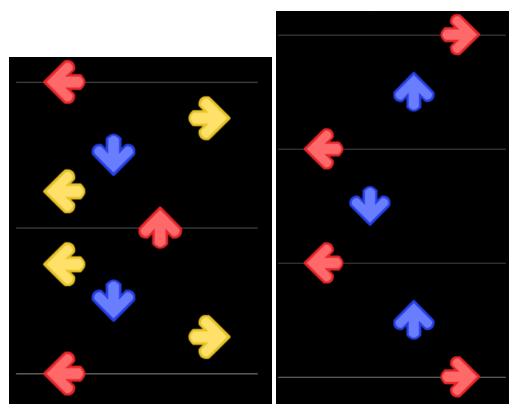
I guess I'll also lump anchored crossovers in here too since it's an "extended" crossover



Examples of extended crossovers. From left to right: Anchored crossover in Pon-Pon-Pompoko Dai-Sen-Saw!! (SX13) from dimocracy 2020, extended crossover in Chronoxia (SX12) from TYLR's Technical Difficulties

#### 270s

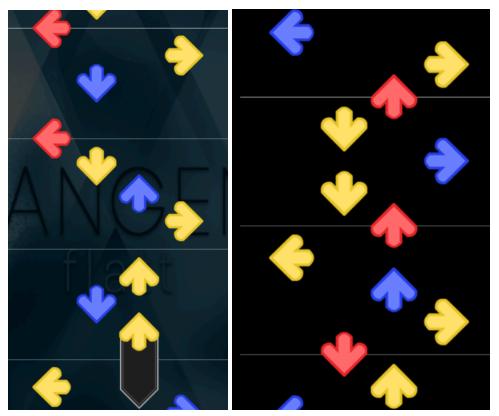
A crossover that causes you to face completely backwards. Don't try these at home. Not many people use these seriously or even play them properly.



Examples of 270s. From left to right: For You (SX12) Technical Showcase 4, Rap de Chocobo (SX11) from Postmodern Technology

#### **Backwards Staircase**

Looks like a normal staircase in isolation, but is actually a lateral-extended crossover-"dear god why did you put this in a chart" fusion.



Examples of backwards staircases. From left to right: Estrangement (SX13) from Skittles Selection 7, Smoked Turkey Rag (SX13) from BemaniBeats 6. Wow I am giving a lot of hard charts as examples for this section what is going on

## **Distinctions between Crossovers**

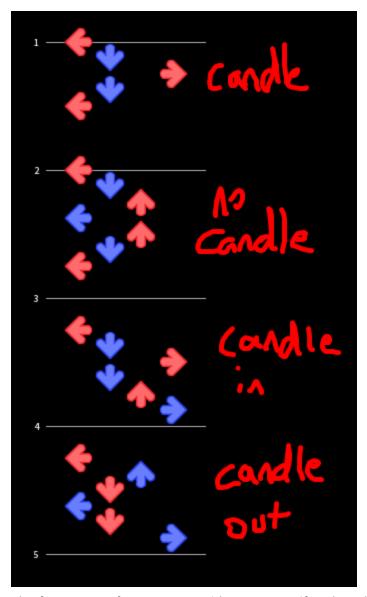
call that shit a crossword puzzle 😂 😂

Not all crossovers are built equally. Some are more intense movement-wise than others, some require you to twist your body in different directions, and some might use your right foot more than your left foot.

#### **Candling in crossovers**

To recap, a "candle" is a pattern where one of your feet moves over the center panel. This applies to crossovers too!

Some crossovers candle, while others don't, and some do both.



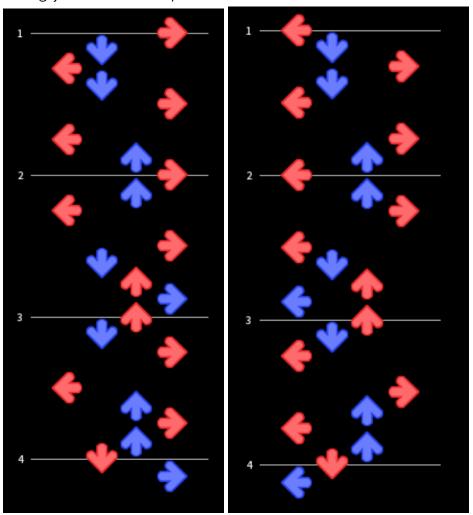
The four types of crossovers, with respect to if a player's foot candles or not during the crossover, and if so, where during the crossover. Patterns can be mirrored horizontally/vertically.

This distinction is important for a few reasons:

- Using candly crossovers in calm sections can be a bit awkward for musical relevance, since it's a more intense movement than a not-candly crossover. On the flip side, using candly crossovers makes more sense in drops/climaxes/intense parts of the song.
- Doing a candle crossover at fast speeds is really uncomfortable and not desirable
- If you're thinking about foot-candle balance (not covered in this document), you can rework your crossovers to preserve foot-candle balance if too many candles are on a particular foot

#### **Crossover facing direction**

Crossovers are a type of pattern that never faces forward, so every crossover will either be right facing or left facing. Thinking about facing direction with crossovers is really important, because crossovers cause you to turn to one direction more strongly than a normal pattern.



In order from left to right: examples of crossovers facing LEFT, and examples of crossovers facing RIGHT.

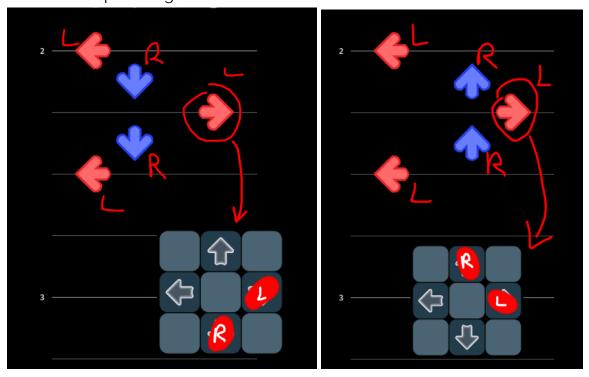
Crossover facing directions should be balanced with the rest of the chart, but also with themselves as well! Having 10 crossovers in a row that all face left can leave a bit of an itch that you can't scratch, even if the rest of the chart is balanced direction facing-wise (unless you have a really good reason to do so!).

An exception to this would be to reduce the intensity of back-to-back crossovers by making your crossovers monodirectional (and therefore reducing movement).

#### Cross... unders?

Crossovers also have another distinction in how they're performed: your foot crossing *over*, or crossing *under*!

Here's a few quick diagrams to demonstrate:



Example of a cross "over" and a cross "under", respectively from left to right.

If you try playing both of these patterns on a pad (or on your floor, or with your fingers, or whatever), you'll notice that the foot doing the crossover motion (your left foot in both examples) is interacting with your other foot in different ways.

In the left example, your left foot moves *over* your right foot, which is why we call it a crossover.

In the right example, your left foot moves *under* your right foot, so we call this variation a cross*under*.

(Editor's note: People use "crossover" to refer to both types of crossovers in a general context, unless the distinction between crossovers and crossunders needs to be explicitly stated.)

Crossunders also pivot around the up arrow, versus crossovers pivoting around the down arrow - this is an easy way to tell if a crossover crosses under or over.

Another difference between crossovers versus crossunders is that crossunders are hit with the heels of your feet, while crossovers are hit with the toes of your feet. (This specific difference doesn't apply on index/keyboard because fingers don't have toes or heels.)

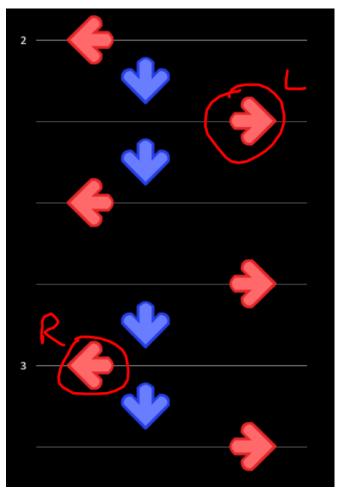
Some people have more trouble hitting crossunders versus crossovers because a crossunder will require you to turn further (relative from the bar). While this is a player-to-player bias, it's still good to have a good mix of crossunders and crossovers in your chart, especially for the sake of overall balance.

One way to apply the distinction of crossunder vs crossover is to provide some contrast in the chart - for example, if a song repeats itself multiple times, but does something slightly different on the last time it repeats, you can represent that by using crossovers on each repeat and then use a crossunder on the last repeat.

If you've been paying attention to detail, you'll notice that in the diagrams above, changing the crossover into a crossunder also changed what direction it was facing, but I'll get into that later...

#### **Crossover footing**

There's another major distinction to be aware of when writing crossovers, and that's what feet your crossovers land on.



Two crossovers that both cross over, but the foot doing the crossing is different.

In the diagram above, the first crossover lands on the *left* foot, while the second crossover lands on the *right* foot.

This distinction is important to know mostly for balancing reasons - charts that put all of their crossovers on the same foot every time feel awkward to play.

This is also something to consider heavily when writing techstam, as you won't be working with varied rhythms to "offset" your patterns and force a crossover to land on the other foot while lining up exactly with a sound cue. Instead, you might have to compromise a bit and have a crossover be a 16th off from that sound cue in order to preserve crossover footing balance. It's not pretty, but it's a lot less awkward than having every single crossover be on the left foot in a run.

Again, if you've been keeping a keen eye, you might have noticed that changing what foot the crossover was on also changed the facing direction of it, which brings me to...

# **Lin's Crossover Parity Law**

What? I wanted to name something cool for once.

Basically, this law that I'm coining states that:

When you change one attribute of a crossover, between the three attributes of facing, footing, and pivoting, another will be changed naturally.

(Editor's note: "Pivoting" is just a word I'm using to refer to the distinction of whether a crossover crosses over or under, for efficiency's sake.)

What do I mean by this?

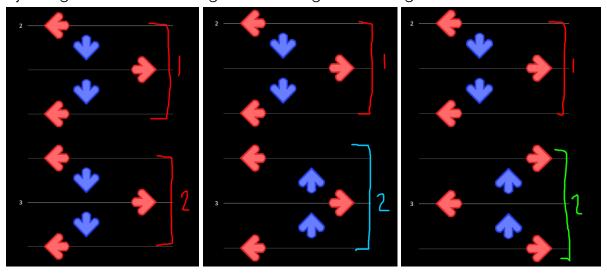
Well, if you had two identical crossovers that both...

- a) faced right
- b) crossed over
- c) landed on the left foot

... attempting to change one of those properties would force you to change one of the other two as well.

Here's a diagram to demonstrate using the aforementioned crossovers - in this example, I want to change one of the crossovers into a crossunder (in short: changing its pivoting).

By doing so, either the facing or the footing **must** change as well.



From left to right:

Original crossovers, as described above.

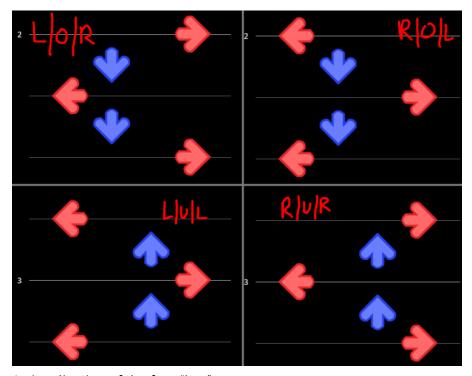
Crossover 2 now crosses under, but it now faces left, while still landing on the left foot. Crossover 2 now crosses under, but it now lands on the right foot, while still facing right.

By extension of this law, we can deduce that certain crossovers simply cannot exist and are **impossible** to write.

If I wanted a crossover that pivoted under, faced right, and landed on the left foot, that's just simply not possible. Try it yourself, and you'll find that it won't work!

By even further extension, there are a finite amount of types of crossovers we can write. Therefore, we can put every crossover into *four* distinct classes of crossovers, which I'll call the "key" crossovers...

facing	pivoting	footing
left	over	right
left	under	left
right	over	left
right	under	right



A visualization of the four "key" crossovers.

While this looks really restrictive, remember that each crossover has other distinctions to work with, such as if it candles and where! There's also the entire library of advanced crossovers to work with.

Think of the concept of the "key" crossovers as simplifying a daunting topic down into something simpler that can be categorized more easily.

I hope this more-than-shallow dive into crossover theory helped you in some way or another.

#### **Even More Advanced Crossovers (feat. Other Tech)**

wait, crossovers aren't the only pattern in this game?

Did I mention that there's more ways to spice up crossovers?

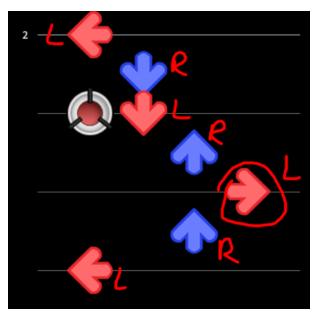
ITG is a game that requires you to use your feet. Even with just four panels, chartists have somehow managed to make you use your feet in creative and unorthodox ways. This is what we call "tech".

But what if... we combined "tech" with "crossovers"? (implying crossovers weren't already a form of tech LOL)

#### **Crossovers + Footswitches**

A fairly recent development in the FA world.

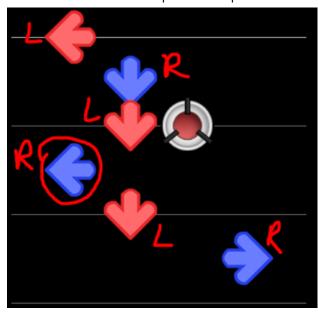
There's multiple ways to combine crossovers and footswitches (hitting a crossover out of a footswitch, or into a footswitch, and where the footswitch is relative to the crossover), but this seems to be the most popular kind of pattern (at least in 2020/2021):



Example of a basic "footswitch into crossover" pattern. Looks like a regular staircase if you hit the footswitch as a doubletap, but watch out.

Some notable charts that use this pattern are Midnight Hour from Technical Showcase 4 and Frustrate from dimocracy.

A less common variation that still pops up from time to time is the more cramped version of "footswitch into crossover" - it's less common because hitting this pattern feels a lot more cramped on a pad than the other variant.



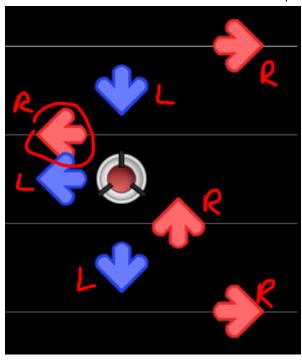
Example of an alternative "footswitch into crossover" pattern.

A notable chart that uses this pattern is Critical Crystal (brz\_remix) from BemaniBeats 6, although that chart uses the inverse of this variant (footswitch out of crossover). NGFK from Technical Showcase 4 utilizes triple footswitches into crossovers.

#### Sideswitches...?? Crossovers + Footswitches 2???

What if we combined a footswitch and a crossover and had people do them at the same time haha that would be fucked up right

You do a footswitch on the side of the pad. That's the basic gist of a sideswitch.

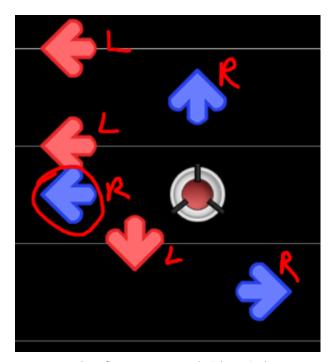


A basic example of a sideswitch,

A very infamous chart that uses sideswitches frequently is Smoked Turkey Rag from BemaniBeats 6.

One major distinction to be aware of when writing sideswitches is that they can start crossed over (as seen in the above example), or they can start uncrossed over (referred to as an "uncrossed" sideswitch).

Uncrossed sideswitches tend to see infrequent use in charts, mostly because of how awkward and ambiguous they can be to hit if not led into properly.

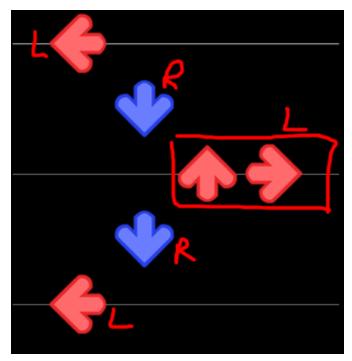


An example of an uncrossed sideswitch.

Notable charts that use uncrossed sideswitches are Harpoon from Mojo's Bizarre Tablature, and Elevator by ITGAlex.

#### **Crossovers + Brackets = Crossover Brackets??**

It's like if you had to do a crossover but also hit two panels at once with one foot haha wouldn't that be fucked up or what



A basic example of a crossover bracket - the [UR] note in this image is intended to be hit with your left foot on both the up and right panels at once.

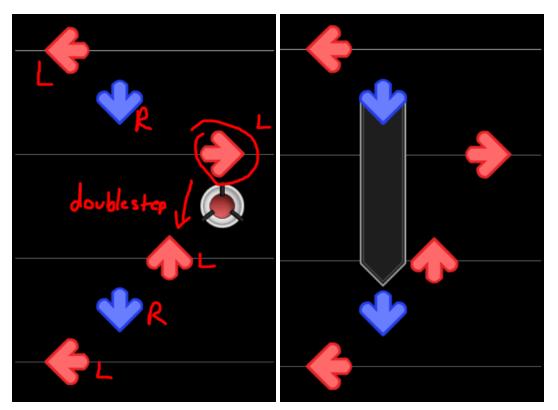
These are rarely used in modern tech charts, due to how your feet need to twist uncomfortably to properly hit a crossover bracket on a pad. However, some of the charts that do utilize them do so very effectively - Chpinklez from Technical Showcase 4 is one of the best charts that showcases this niche pattern. (Chpinklez is just a really good chart that shows off good crossover usage in general but I didn't include it at the start of the document because it's a really complex chart)

#### **Crossovers + Doublesteps**

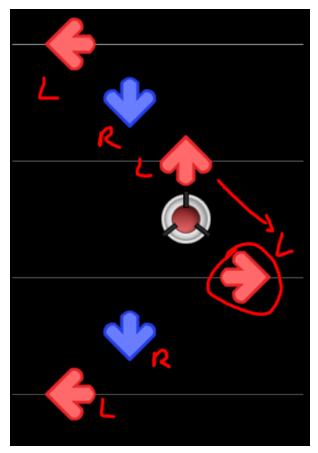
Oh no. These get really confusing to read if you're unfamiliar with modern tech

Crossovers and doublesteps have a major distinction when combined: doublestepping into a crossover, or doublestepping out of a crossover.

Remember that doublesteps can be marked with either holds or mines! Holds are usually preferred because they're less punishing if you screw up when playing the pattern, give you more reaction time, and indicate that you don't need to shift your weight off the foot that's not doing the doublestep.



From left to right: A doublestep out of a crossover, and the same pattern but marked with a hold instead.



A doublestep into a crossover marked with a mine.

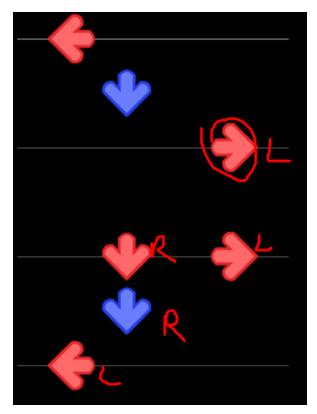
Notable examples of these patterns are & Intelligence from BemaniBeats 6 (showcases doublesteps out of crossovers) and Upshift (Yunosuke Remix) from Skittles Selection 8 (showcases doublesteps into crossovers).

Raindance from dimocracy also utilizes chains of crossover doublesteps in one section.

#### **Crossover jumps??**

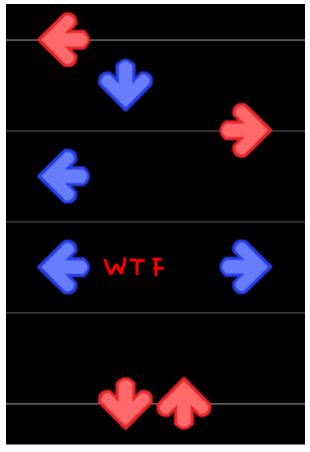
Do jumps even count as tech?

A crossover jump is similar to a crossover in the sense that you're hitting either the left or right panel with the opposite foot, but now you're also hitting another panel at the same time with your other foot - thus, it's a crossover jump.



Basic example of a crossover jump - the DR jump is hit while crossed over.

There are also "lateral jumps," but these are much, much more uncommon because it's a really mean pattern to put into any chart without good reason.

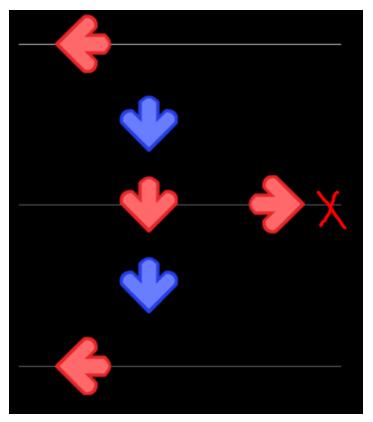


Example of a "lateral jump" - the LR jump is hit with your right foot on the left panel, and your left foot on the right panel.

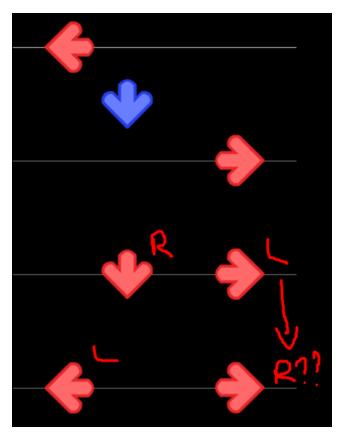
Resolving crossover jumps can involve a series of jumps after the crossover jump, or just a standard series of steps afterwards. Both examples are shown in the above images.

Be sure to walk through the chart yourself to make sure that your crossover jumps are led into well and are resolved intuitively!

Some patterns just don't work as a crossover jump because they're much more comfortable being played as a normal jump.



Not a crossover jump - this would be much easier to play as a normal jump instead.



Improper resolution of a crossover jump - the movement between the two jumps is just too big to be fun or playable at any mid to high speed. Additionally, your left foot travels across the entire pad in one jump motion here.

Notable charts that use crossover jumps are Wandering VIP from Club Fantastic Season 1, Wipeout from Club Fantastic Season 2, and Summer Days (Haywyre Remix) by Talkion.

#### Overall...

By no means are any of these examples comprehensive - there are still many ways to write all of these types of patterns. Get creative!

# Misc. Stuff

what else is there to talk about?

Honestly I have no idea what else to write but if there's anything that I should be including here (possibly clarifications on various topics?) please contact me

#### Doublestepping crossovers?

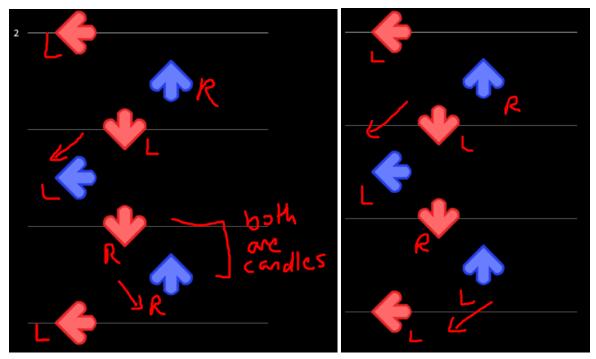
Here's a slightly fun fact:

Candleless crossovers are harder to doublestep than candled crossovers. (obviously this is less true if your crossovers are slow)

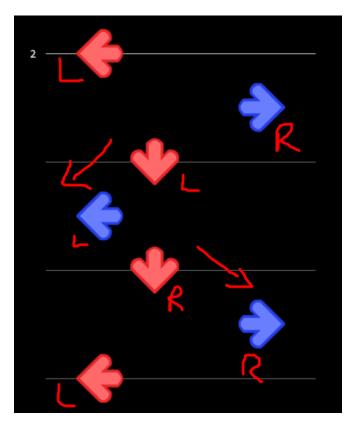
Why? Well, with a candleless crossover, the player has to do a triplestep, or two candles on the same foot, or doublestep later on after the crossover in order to resolve the pattern.

With a candly crossover, resolving it with doublesteps is much more straightforward.

Technically there's more than two ways to resolve a candleless crossover, but the point I'm trying to make is that it requires more brain cells to doublestep than a candly crossover.



Two ways to doublestep a candleless crossover.



The easiest crossover to cheese.

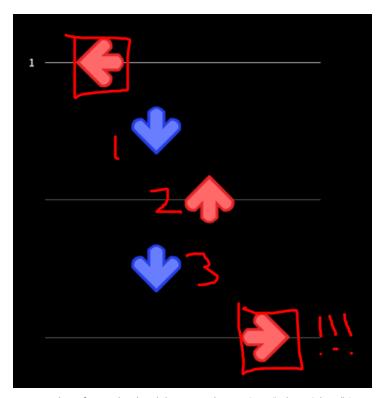
#### Doublestep detection "algorithm"

Thanks to TaroNuke for providing this method to me (and everyone reading this)!

Essentially, Taro's method for figuring out if you have a (unintentional) doublestep in your chart is:

- 1) Find a left or right arrow
- 2) Count the number of arrows in between that arrow and the next arrow opposite of what you chose for 1 (if your first arrow was left, count the arrows in between that and the next right arrow, and vice versa)
- 3) If your count for 2) was odd then there's a doublestep and you should either make it a crossover that resolves (by placing the same few arrows again in reverse), or fix it so it's no longer a doublestep

This method assumes that all of your jacks are footswitches (if there are any).



Example of Taro's doublestep detection "algorithm" in practice.

#### Here's the exact wording from Taro:

the simplest doublestep detection algorithm (not factoring in jacks, but assuming they are all footswitches) is

Left
<odd number of steps that aren't left or right>
Right

is automatically a doublestep (edited)

This is relevant to this crossover discussion because a lot of new charters who want to write crossovers end up writing doublesteps instead.

#### Easy ways to resolve doublesteps??

To build off of the last section, the method that takes the least amount of brain cells for resolving a doublestep is to select the offending note and the rest of the chart after it, and then mirror everything horizontally (swapping L/R).

(A vertical mirror might be needed as well, just to preserve facing directions.)

Alternatively, you can select all the notes before the doublestep and then mirror those notes.

Jumps are also a great way to "reset" foot parity (LR jumps especially). Just make sure they fit in with the rest of your chart.

You can also straight up change the amount of notes in between your given left arrow and right arrow (or vice versa) that you looked at in the doublestep detection algorithm - adding or removing a single note should fix it, but again, be sure that this fits in with the rest of your chart (and the rhythms that you're charting to)!

#### One last thing

Reminder that pretty much every "guideline" and "suggestion" and everything that I say should be done for the sake of comfort or playability or whatever can be broken, if you REALLY know what you're doing and have a REALLY good reason to do so and know your target audience well

(we get some hella cool charts this way, if done correctly :>)

# How do I write an outro to this document oh god oh fuck help

Go write crossovers or something I don't know they're fun and cool and you should put them in more charts (provided that they're properly justified)

Thanks for reading my (almost) 5000 words about a pattern in some weird arrow game, and also thanks to Ky\_Dash, mirin, bkirz, Aura, BrotherMojo, Carter, TaroNuke, and rrwoods for providing some feedback/suggestions/content on this thing

Hopefully this guide helped you in some way or another! If you need anything else clarified or explained, please contact me.

Also, if there's anything else that you'd like to suggest, please message me for that too! I'm always willing to update this document whenever! The best way to contact me is through public ITG community servers (mostly UKSRT, dimo's dojo, Stamina Nation, and ITC), although I'll accept any friend requests on Discord if I recognize you/see that we're in mutual servers.

