

From the Vault: Arctos Switch Review

-ThereminGoat, 05/30/2020

Of all of the ‘From The Vault’ reviews thus far along, this definitely drug out with it the most cobwebs from the recesses of the vault. In probably the truest sense of the series, these modern switches have not only been forgotten by a large part of the community, but they never even reached any form of popularity out of the gate. These definitely rank among the most forgotten modern, MX style switches out there.

Switch Background

Late in 2018, a small keyboard vendor in California known as KeBo released their new, custom made pair of tactile switches to try and rival Ergo Clear and Zealio V1 switches, which were among the most popular tactile switches in the community at the time. Known as “Arctos” switches, this pair of blue tactile switches were named after the California grizzly bear, *Ursus Arctos*. In addition to naming these switches after the *Ursus Arctos* bear, KeBo even developed a very interesting logo, the likes of which hasn’t been done for many if any switches since.



Figure 1: Say what you want about the switches, the logo is actually pretty neat.

After their initial release, a few reviews of the Arctos switches popped up over the following months, though past that not much press was done on these switches. The majority of the reviews that were done (this one not included) appeared to have some influence by KeBo, who was offering these switches for free or reduced pricing in exchange for a review. The initial reviews of these switches, either supported by KeBo or not, were mixed with some people happy with the tactility of the switches and others unhappy about the factory lube consistency issues. Likely as a result of these mixed reviews, and some of the more vocal negative ones, these switches soon faded from the public attention in favor of the more popular Zealios tactiles, which were still doing groupbuy sales and pricing at the time.

Currently, these switches are still in stock on KeBo and are being sold at a “sale” price of \$0.70 per switch at the time of writing this article. The website leads the buyer to believe that this sale price is down from an initial sales price of \$1.00 per switch, though the earliest reviews state that the switches started out at a price of \$0.75 per switch, which matched the aforementioned Zealio groupbuy pricing. Additionally, at no point throughout the lifespan of these switches have they had a foreign proxy nor have they appeared on other sales sites with the exception of an extremely brief and poor performance on Drop in May of 2019, which consisted of less than 50 total sales.

Arctos Switch Performance

As previously mentioned, the Arctos switches are a pair of blue stemmed, tactile switches that come in two variants – 65g and 72g variants. While I have no hard numbers to support this, the few reviews and discussions of these switches that do exist appear to favor the 72g switches over the 65g ones.

Appearance

These switches boast a transparent clear, likely polycarbonate housing branded “ARCTOS” with identical gold-plated springs and leaves in both variants. While I have no testing kit at home to verify this, these are marketed on KeBo’s site as being plated with “rose gold” though they appear no different than any of the other gold springs I’ve seen in other switches prior. As well, these switches are plate mount only and do not have PCB mount variants. The differentiating factor between these switches comes in the stems – which are a cool light and dark blue for the 65g and 72g weights, respectively. The blue color in these stems is much closer to a denim blue color for both variants than other blue colored stems and housings of many of the other blue switches in my collection.



Figure 2: Other *quite* Blue colored switches. (L-R, Top-Bot: UnionBest Ink Blue, Tealio V1 67g, Gateron Ink Blue, Novelkeys Blueberry, Fosen Aquamarine, Both Arctos Switches, and a YOK Polar Panda.)

Where the appearance of these switches gets a bit more interesting, though, comes on closer inspection of the stems of these switches. First looking at the tactile bump on the stems, as compared to other popular tactile switches at the time of their release through a photo from KeBo’s website, you can see that they feature a significantly sharper mid-stroke tactile bump than nearly any other tactile switch. Additionally worth noting from these stems, that isn’t an interesting point in nearly any other modern switch I’ve looked at before, is the slider rails on them. Rather than featuring a typical flat surface, these stems have V-shaped slider rails that only contact the bottom housing rails at the corners, effectively leaving a gap between the stem and sliders towards the center of the rail. Regardless of the efficacy of this improvement to the stem slider rails, this certainly has an interesting design intent and I’d wish more newer switches would take design risks as such moving forward.

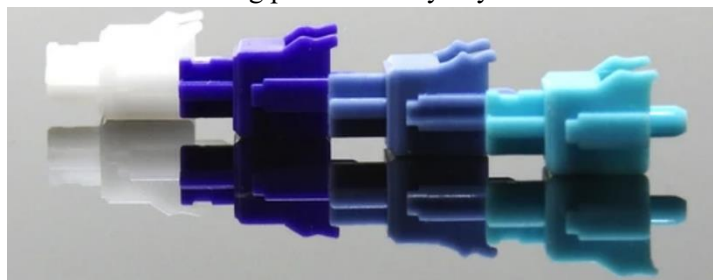


Figure 3: Picture of previously popular tactile stems. (L-R: Cherry Clear, Zealio, Arctos, and MOD-M)

Push Feel

Taking to the easier quality to discuss first – the few Arctos switches that I have to test are actually decently smooth and appear to have consistent factory lube application. Lubed with a blend of Krytox GPL 206 and VPF-1506 lubes, the application was a point of discontent for a lot of the reviews that I have seen, with many people stating that they had many switches with little to no lube at all. Since I have none of these switches with this issue, I can't comment on how they feel without consistent lube.

Now onto the slightly more difficult nuance to parse through, the tactile feel of these switches is *interesting* to say the least. First of all, both weightings of these switches start with an ever so slight linear pretravel which is definitely noticeable if idly setting your fingers on tops of keycaps containing these switches. Immediately after this roughly 0.4-0.5 mm linear pretravel region, the sharp tactile bump is reached and cleared quite quickly, falling into the linear post-travel region after the bump. In both of the weightings, the bump is extremely quick and relatively harsh compared to the rest of the stroke, though overall the 'strength' of the tactile bump is definitely near the low end of the mid-range of tactility compared to other stuff on the market currently.

Strangely enough, as I was testing these switches it appeared to me across multiple different tests that the tactile bump on the 65g switches actually felt stronger than the 72g switches. While I have no force curve to consult to verify that I'm not going insane, I do believe that this may make some sort of counterintuitive sense. When approaching the tactile bumps in these switches, there is a sharp increase in weight past the 65g and 72g listings (which are bottom out force), requiring a greater amount of force to push past this bump. If the force to push past this bump is some arbitrary value of say 100g, then the difference in force between a ~65g starting force to a 100g bump is going to feel much more harsh and noticeable than the difference between a ~72g starting force to 100g bump. Either this is a half decent explanation as to why I am observing this counterintuitive behavior in these sharp tactile bumps or I've started to truly slip from reality.

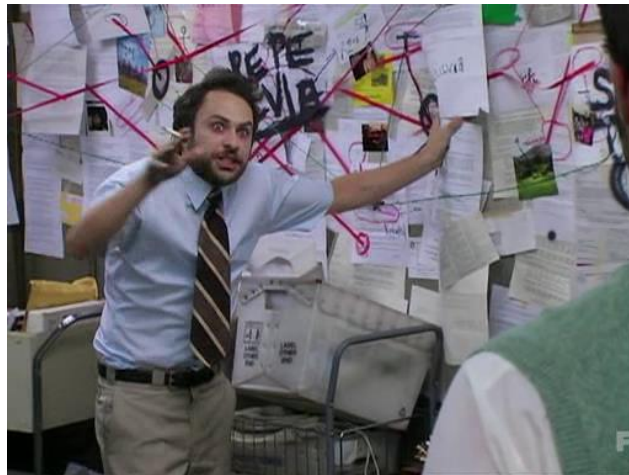


Figure 4: A typical look inside my mind when discussing and/or testing switches for reviews.

Sound

Relative to the sounds produced from the tactile bump, the Arctos switches have virtually no bottom out nor 'top out' sound when the stems make contact with the top and bottom housings of the switches. As well, due to the relatively consistent factory lubing there is no audible scratching sound to the switches. The main source of sound in these switches is the downstroke and upstroke tactile events. As the tactile bump is passed in either direction, an audible but deep, muted, and slightly fuzzy 'bump' sound can be heard with the upstroke being slightly more clear and higher pitched than the downstroke noise. Under average typing speeds up to rapid activation however, a slightly tinny metallic noise, likely

from the leaf making contact with the tactile leg bump, begins to accompany the bump noise. Overall, though, these are surprisingly solid options with respect to the sum of their sound components.

Wobble

The wobble on these switches is honestly a high-point in terms of their performance. Both the N/S and E/W directions have almost no discernable wobble both with caps on and in hand. In fact, the switches that come to mind in terms of having this little wobble in the stems are the newer C³ Tangerine V2s, which supposedly have their own factory line and top housing tolerances specifically designed to fit the stems as snugly as they do. While it's likely that Arctos switches also had their own top housing molds carved due to the custom nameplate on them, it's still refreshing to think that this kind of tolerances for wobble had been achieved years ago by a still unknown switch manufacturer.

Comparison Notes to Other Notable Tactile Switches

Note – These are not aimed at being comprehensive comparisons between all factors of these switches as this would simply be too long for this writeup. These are little notes of interest I generated when comparing these pieces to the Arctos switches side by side.



Figure 5: Switches for comparison. (L-R, Top-Bot: Gateron RGB Brown, Cherry MX Clear, Zealio V1 (62g), Box Crystal Royal, Massdrop x Invyr Holy Panda, and Novelkeys Blueberry.)

Crystal Box Royal

- Why not the normal Box Royal you ask? I'm not entirely sure – I just like the way the new crystal housings look, I guess.
- The tactile bump on the Box Royal is significantly punchier and is felt through much more of the stroke than the short tactile bumps of either of the Arctos switches.
- In terms of sound, however, there is a noticeable amount of pinging in the spring of the Box Royals as compared to the Arctos and they overall sound marginally worse because of it.

Massdrop x Invyr Holy Panda

- Completely estimating, the tactile bump of the 65g Arctos switch (which feels stronger than the 72g bump), feels as if it is about half the strength of the Massdrop Holy Pandas.
- There is significantly greater wobble in the Holy Pandas in both the N/S and E/W direction than either of the Arctos switches.
- While describing the sound of switches is always difficult to do, the Massdrop Holy Pandas appear to have a much more 'full bodied' sound than the Arctos in terms of a deeper, more well-rounded sound. Compared next to each other, the Arctos sound relatively thin and hollow.

Zealio V1 (62g)

- While the bump sound from the Arctos switches is a bit louder than the Zealio V1 switch, these two sound pretty similar in tone and even feature the same metallic leaf noise.
- While having comparable E/W wobble, the N/S wobble on the Zealio V1 switches is significantly greater than the Arctos switches.
- In a pretty much blind testing of these switches, it's honestly a bit hard to tell a difference between them purely based upon feel. They are a decent comparison point to each other if you have only tried the other ones.

Novelkeys Blueberry

- Compared side by side, the insanely large tactile bump on the Novelkeys Blueberry switches almost make the Arctos switches feel linear on their own.
- While the wobble is marginal in both the N/S and E/W direction in the Blueberry switches, it is still greater than the wobble present in the Arctos switches.
- Due to the differences in housing material, the Arctos switches have a much higher pitched sound to their tactile bumps than the relatively bass-heavy sound of tactile bump through the POM Cream housings.

Gateron RGB Brown

- The Gateron RGB Browns feature both a heavy amount of scratch noise and a reduced, fuzzier sounding bump as compared to the Arctos switches.
- These switches have the greatest amount of wobble out of any of the switches listed here for comparison.
- Both the 72g and the 65g Arctos switches have a similar length of tactile bump as the Gateron RGB Browns, but they are much more sharp and precise feeling than the relatively rounded and hazy bump of the Browns.

Cherry MX Clear

- The tactile bump feels extremely similar between the Cherry MX Clears and the 65g Arctos switches, both in terms of size and clarity.
- As with most Cherry switches, there is a significant amount of pinging in the spring that sets the sound of these switches at a complete tier lower than the Arctos tactiles in terms of sound.
- Much like with the Novelkeys Blueberries, the Cherry MX Clear switches have a much deeper and bass-heavy sound to the tactile bump than either of the Arctos switches.

Final Conclusions

After having thoroughly reviewed these switches that I don't think I've messed with pretty much since I put them in my tester in the first place, I can see both sides of the argument surrounding them. Do I think that Arctos switches are as poor as some of the early reviews have made them out to be? No. In fact, I think that these switches, mechanically, prove an interesting low-mid tier tactile switch that could easily appeal to somebody trying to move past beginner tactile favorites such as Cherry or Gateron Browns or someone who prefers small tactile bumps. As well, they have a relatively interesting design on the slider legs that may actually be an innovation slept on by other switch designers out there. However, do I think that in the context of everything that Arctos are deserving of a reconsideration by the community at large? No, in fact I think that the context of the Arctos' history is what ultimately led to their downfall. Not only were these switches attempting to take on rather popular switches in Ergo Clears and Zealios V1 at the time of their release, they weren't really marketed, weren't proxied anywhere, and came in trying to be competitive at the same price as Zealios at the time. Their fade into obscurity has only been worsened by the fact that the prices haven't changed at all and they are now simply outclassed by cheaper and better modern options due to a failure to upgrade future production runs.

Overall, I truly feel like the Arctos switches had some good intention and ideas and with a proper captain steering the ship and making improvements they really could have made themselves something still used to this day. However strong an initial switch design is, though, this only goes to show that without proper exposure and a willingness to improve over further design iterations, even the best switch ideas will slowly become relegated to the vault.

Further Reading

Kebo Store Arctos Sales Page

Link: <https://kebo.store/collections/all/products/arctos-switches>

Wayback: <https://web.archive.org/web/20200519013302/https://kebo.store/products/arctos-switches>

Drop Arctos Sales Page

Link: <https://drop.com/buy/kebo-arctos-switches/talk?sort=newest>

Wayback: <https://web.archive.org/web/20200519013340/https://drop.com/?origin=%2Fbuy%2Fkebo-arctos-switches%2Ftalk%3Fsort%3Dnewest>

Tested.com's short Arctos Switch Review

Link: <https://www.tested.com/tech/858311-custom-keyboard-spotlight-kebo-arctos-switches/>

Wayback: <https://web.archive.org/web/20200519013413/https://www.tested.com/tech/858311-custom-keyboard-spotlight-kebo-arctos-switches/>

u/Split_Shift's Arctos Switch Review

Link:

https://www.reddit.com/r/MechanicalKeyboards/comments/adkfdh/arctos_switch_review_kebolas_satisfying_prelubed/

Wayback:

https://web.archive.org/web/20200519013522/https://www.reddit.com/r/MechanicalKeyboards/comments/adkfdh/arctos_switch_review_kebolas_satisfying_prelubed/

u/Iredeus7's Arctos Switch Review

Link:

https://www.reddit.com/r/MechanicalKeyboards/comments/a2w1ph/thoughts_on_arctos_switches_not_quite_up_to_par/

Wayback:

https://web.archive.org/web/20200519013555/https://www.reddit.com/r/MechanicalKeyboards/comments/a2w1ph/thoughts_on_arctos_switches_not_quite_up_to_par/

ManofInterest's Arctos Switch Review

Link: <https://www.youtube.com/watch?v=CCZgge6u45w>

TheBoardPodcast's Arctos Switch Review

Link: <https://www.youtube.com/watch?v=O5FaOGTcieI>