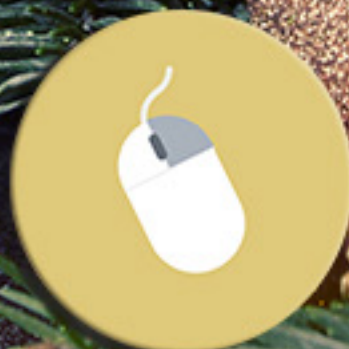


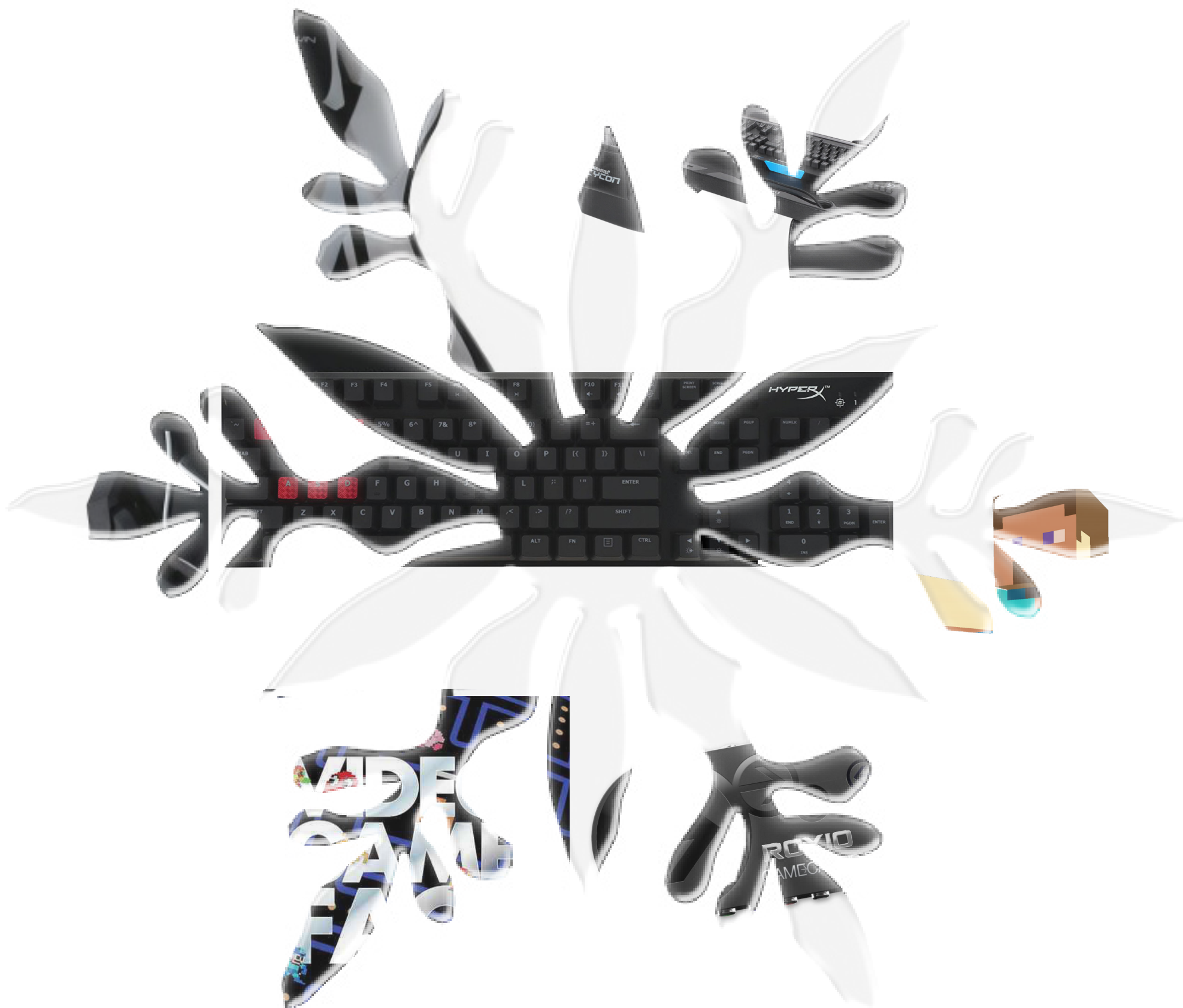
# GameOn

GAMEONMAG.COM - 2ND EDITION 2018

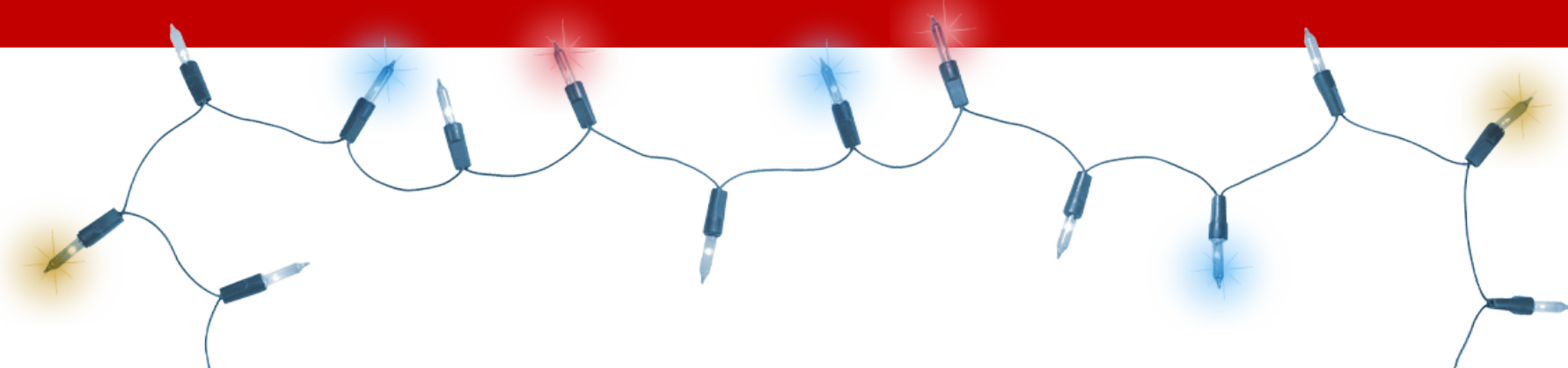
CHRISTMAS GIFT GUIDE











**W**elcome to The GameOn Christmas Gift Guide! We hope you'll find something to enjoy, whether it's for yourself, a friend, a co-worker, a special someone or a Secret Santa, there are plenty of options.

Having curated some of the hottest peripherals that have crossed our desks over the past 12 months, from mice to controllers and beyond, these were rigorously tested and reviewed. Hopefully our reviews will let you get a feel for how these things work in a real-world setting, rather than some kind of lab.

We've put in the recommended retail price (RRP) next to each item to give you a guide on

their pricing. Be sure to shop around to get the best deal for you, as with any purchase, especially with the "sale season" upon us.

Ultimately, we hope this guide goes a little way towards making that hectic festive time of year somewhat more manageable. Whatever you might be celebrating - Happy Holidays!

If you want to make sure you have the latest issue (updated regularly!) you can check at the following address:

<http://www.gameonmag.com/url/g2018v2>

- THE EDITOR

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# TURTLE BEACH ATLAS THREE HEADSET

It's been a while since I reviewed a headset, so when the opportunity arose to check out the Atlas Three from Turtle Beach, I jumped at the chance. It's a nice looking headset after all, and it's compatible with the PlayStation 4, Xbox One and Switch as well as the PC.

First off, I'll note that chat functionality on the Switch doesn't work with the headset, but it does work for the other two consoles and the PC. Also worth noting is that you have to charge it to use it for up to 40 hours.

In the box you get the headset, which has a cable ending in a 3.5mm jack. If your Xbox One controller doesn't have a 3.5mm port in it, then you need a Headset Audio Controller. The box also contains a PC splitter cable to plug it into your earphone/speaker and microphone ports. Finally, there's the micro USB charging cable, a quick start guide and a Turtle Beach sticker.

The headset's construction is very solid, though I did notice some creaking in the left earcup when I adjusted it on my head. The headband is adjustable, and is unlikely to shift around on your head as it is nice and stiff. The earcups and headband have a nice, soft cushion covering which is softer where spectacles might be, to make them comfier for glasses wearers.

The right earcup has the volume control for both the earphones and the microphone (which is for you to hear yourself, not the output), as well as the flip-up microphone itself. The sturdy microphone moves to three points, with all the way back muting it. It's quite short, but nice and clear. There are also the power and audio preset buttons.

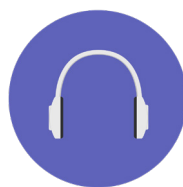
While the headset isn't uncomfortable to wear for long periods, I have noticed that it's not as comfortable as my previous headset. It's difficult to explain how it feels different, maybe it's because the material is felt instead of leatherette? I've still been able to wear it for hours at a time without discomfort.

One issue I do have, however, is that the headset turns itself off automatically. Of course, this is a power saving measure, but I'm not sure what it looks for before powering down. It's happened after a few minutes of not being used, but it's also happened several times despite there being sound playing. Whether music, the Twitch app or a game, and after different periods of time, it gives a tone and turns off. Even more curious, I had turned the volume dial on the headset only 30 seconds prior to one of the shutdowns.

The headset boasts some audio boosting options, such as being Windows Sonic Surround Sound Ready, and having the aforementioned Audio







Presets. These are audio equalisers, and pressing the button rotates between the three: Turtle Beach Signature Sound, Treble Boost, and Vocal Boost.

I'll admit that I'm not much of an audiophile, so the difference in the three wasn't very noticeable. Perhaps if I listened to music at a higher volume?

The Atlas Three had no problems with any audio I threw at it, whether songs, music, videos or games. All were perfectly clear and audible, though after my last headset they do seem quiet. My old headset required the PC to be set to volume two, or risk deafening me. The Atlas Three, even with the volume dial turned all the way up, I could comfortably

listen to things at volume 16 or above. That's not a negative, just an observation.

At £69.99, the Turtle Beach Atlas Three is a decent headset that works well with consoles and PC alike. If you're in the market for a non-USB headset, then you can do worse than this.

**RRP: £69.99  
/ \$79.95**

### ***Suitable for:***



Handhelds



Smartphones



Tablets



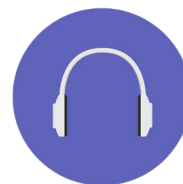
PC



PlayStation 4



Xbox One





# ROCCAT KHAN AIMO HEADSET

**H**aving recently reviewed a Roccat mouse, I was eager to check out more of their products, if only to see what the AIMO lighting system did with multiple peripherals connected. So when I was offered the Khan AIMO headset, I definitely wanted to check it out. It certainly helps that my old headset seems to be on its way out.

The Khan boasts a 7.1 sound card built into the headset, a 275g weight, and easy access earcup controls. One of those is false, which I'll get into in a moment.

In the box you get the headset and some disposal information. The braided USB cable is about two meters long, which doesn't quite give me the range that my old wireless headset did, but is certainly long enough for comfortably plugging into the rear of my PC tower. The microphone is attached to the left earcup, and the right one has the volume wheel, and 7.1 mode toggle button.

Now back to what I was saying a couple of paragraphs ago - the earcup controls are definitely not "easy access". Both the wheel and button are very small and difficult to locate. I've been wearing this headset for upwards of eight hours a day for about two weeks, and I still can't find the button very easily. I suppose it doesn't say they are easy to use, but man...

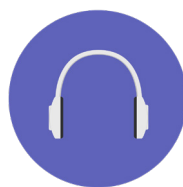
That said, the sound quality - which is the important bit - is quite good. It's clear and certainly loud - I have to have my system sound turned down as low as it can go, to avoid getting my ears blown off, even with the 7.1 turned off. I already have tinnitus, so I haven't dared to turn them up past half way while wearing them - and even then it was an accident. I'd also like to add that the memory foam around the earcups, and the shape of them, make them comfortable to wear for extended periods.

The 7.1 mode is good for adding bass to music, and depth to games, but it causes voices to be kind of echoey. Also, for reasons I literally cannot explain, toggling it turned my condenser microphone down to 60%, meaning I had to go into the settings and manually correct it. I got sick of it, and ran through Windows Troubleshooting, which fixed whatever was causing it.

The headset microphone is bendable, and moves up and down. When up, it activates the auto mute function, and the box boasts that it has noise cancellation. I didn't really get to test that, but the audio quality from the mic is very clear in recordings, and when talking to people over Discord.

Build quality on the headset is very good. It's solid and none of the moving parts feel loose.





The earcups rotate 95 degrees, and of course expand from the headband in case you've got a big head. I thought the default setting would be too small, but it fits me perfectly.

One final note, the AIMO lighting system. If you've got Roccat Swarm installed, basically it allows the colours to sync between your Roccat devices. This means that the colours roll from greens, to blues, yellows and reds, across both the headset and my mouse. If I had a Roccat keyboard as well, it would also roll across that. Unless you're really into colour coordinating your system, it's not really a selling point.



The Khan is a well constructed headset with a good quality sound, and a decent microphone. If you already have Roccat peripherals, then there's nothing saying that you shouldn't add the Khan to them. If you're just looking for a decent headset, then it certainly fits the bill if it's in your price range.

**RRP: £119.99  
/ \$119.99**



***Suitable for:***



PC



PlayStation 4



Xbox One







# ROCCAT KHAN PRO HEADSET

**H**earing high quality audio is never the same once you experience it with a good headset. It's one of those things that you don't understand how much of a difference it makes until you try it and think "How have I managed without this until now?". It was with the Roccat Khan Pro headset that I experienced one of these moments and knew I could never go back.

The Roccat Khan Pro headset is designed for 'epic moments' and aimed at the esports market with the tagline of 'Raise Your Level'. The notion of wearing them should make you feel in the zone and ready for whatever challenge you might face next and though I didn't see my win rate go up, my enjoyment skyrocketed. From the moment I unboxed them to many hours later I still find myself amazed at how good the headset holds up while its audio output and noise cancellation continues to astound.

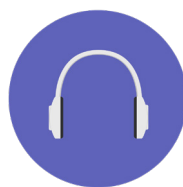
The first thing you will notice with the Roccat Khan Pro headset is just how solid and light the headset feels. Coming in at only 230g in weight you might think it is lacking in build quality but thankfully the headset is solid and flexible, complete with hardened hinges and feels as though it can handle a beating or two. I can also confirm that it will survive a number of drops without taking even a dent or scratch which ensures it will withstand even the most heated of rage quits.

This is accompanied by leatherette memory foam earpads ensuring you not only have a solid and light headset but also one that is super comfortable even after hours of use. One benefit to this - though only to those with glasses - is that the design and lightweight nature of the Roccat Khan Pro means you don't feel much pressure on your glasses. Other headsets can put pressure on the wearer's glasses resulting in a need for regular breaks. The Roccat Khan Pro does not suffer from this issue and even after a long period of use is still comfortable to wear and enjoy.

Even right out of the box the sound quality is impressive and a noticeable difference over other headsets and in-ear headphones, include Apple's own earbuds. After testing them with a number of games, films and different genres of music, across multiple devices, it is easy to acknowledge how good the sound quality of this headset is. With dynamic, high resolution audio that allows you to hear even the most subtle of noises, there is a rich range of sounds to enjoy. When playing a game such as Destiny 2 for example, you are able to notice the sounds of the ground under your feet, the tap of metal when reloading and even the rain pattering against the ground and your helmet.

Once more the headset comes complete with an adjustable microphone that features an auto mute function when raised to an upright position.





This small but reliable microphone means that you are able to communicate with your team with crystal clear audio that ensures a natural sound is delivered. Even when used outside of gaming the microphone is a robust stand-in when recording audio for other uses such as podcasts. Not only that but it is compatible with consoles, computers and mobile and is equipped with two 3.5mm jacks (Input and output) with an included adapter to allow for both input and output through one connector.

Whether you are sitting down to play a few hours of your favorite game or listen to some 80's jams as you work, the Roccat Khan Pro is a headset

that is suitable for the job and will deliver above your expectations. With a robust build quality and rich, high resolution audio like you have never heard before, this is a headset definitely worth checking out. The only real downside is that the microphone is not detachable which means it won't replace many out-and-about headphones. Regardless, that is a tiny negative in an otherwise flawless and impressive product. The Roccat Khan Pro is a highly recommend headset.

**RRP: £89.99  
/ \$99.99**



### ***Suitable for:***



Handhelds



Smartphones



Tablets



PC



PlayStation 4



Xbox One







# HYPERX CLOUD REVOLVER S HEADSET

**H**aving recently become more involved in the competitive side of gaming, I have found myself investing in higher quality peripherals, ranging from mechanical keyboards to mice with macro buttons. Transitioning to games like Paladins and Counter Strike: Global Offensive, however, has required that I step up my sound when it comes to gaming, too.

With my usual pair of headphones, I found I couldn't recognise footsteps in CS:GO, or the clatter of hooves in Paladins. These small blunders would often lead to the downfall of my team and would frequently cost us the match. I knew I needed to change, and that's where the HyperX Cloud Revolver S came to my aid.

Upon opening, I was instantly impressed; the design of the headphones is sleek and it was easy to see where everything was within the packaging. The headphones themselves were very easy to set up, even the control box which currently sits comfortably on my desk within easy reach. The control box itself is compact, lightweight and easy to use, plus the instructions leaflet the headphones come with are simple and easy to understand. Other headphones I have reviewed were complicated to set up, requiring several reboots, switching of extension leads and shuffling of ports for some unknown reason. The HyperX

Cloud Revolver S offers multiple ways to plug in, such as dual phono cables or straight USB and all of them worked successfully with little hassle.

I'll be honest, based on my past experiences, the microphone scared me. Before I set it up, I'd had vivid nightmares of the microphone not working and having to dig around the in the control panel and Google to get it to actually function. Much to my relief, there was nothing of the sorts. In fact, the main issue I encountered was in the form of 'you're an idiot and didn't plug the microphone all the way in Luke Jesus Christ'. Upon playing with friends, who were not aware of my new equipment, I received several comments upon the clearness of my voice, and how it was significantly better than it ever had been before. On top of this, my father, who works on the opposite side of my desk, has a tendency to try and alienate me in front of friends when online. With my new secret weapon, however, his voice was never even picked up by the microphone; it would hear me and only me. The only extent of outside noise that was ever heard was the tapping of my mouse and keyboard.

Being a man-child that dedicates much time at his PC, whether it's gaming, or working, I easily spend 8+ hours a day with my headphones on, sometimes consecutively. Thus, comfort when wearing headphones is very important to me. I've





had headphones before where I couldn't wear them for long periods of time, whether it was because the headband was uncomfortable or the earcups were an odd size, but the Revolver S were a perfect fit, with the earcups not being too hard or too soft, and the headband being comfortable and adjustable enough that they sat snugly on my big head without breaking (I wish this was a joke but this has happened to my headphones multiple times before).

Not only were the earcups comfortable, but they blocked almost all outside noise, allowing me to immerse myself entirely in my game, work, or whatever else I happened to be doing. It blocks noise so much so, that I have been able to compile a list of both good and bad repercussions this had.

- I was able to block out my dad's questionable music taste in car journeys, and actually managed to get to sleep despite him blasting it out.





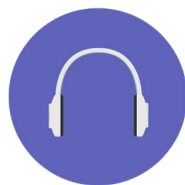
# HEADSETS

- On a recent educational trip I took to Paris, two of my roommates in the hostel had a full blown argument, which I managed to remain blissfully unaware of, and one stormed out of the room and it was the vibration of door slamming (not the noise) that made me pull the headphones off and question what had happened.
- My parents do not like these headphones for the simple fact of I can never hear them whenever they are calling me now. I'm not complaining about that.
- I've missed parcels on numerous occasions since using these due to not hearing the doorbell.
- I did not notice the smoke alarm going off. For 15 minutes.



The headphones offer various equalizer modes for listening, which emphasise certain aspects of sound depending on which you have selected. You have Vocals, Flat and Bass to select from. Vocals, as you imagine, makes vocals more prominent (this also works and can be useful in games, I used this mode in CS when a teammate had a microphone that didn't pick up his voice much, making him hard to hear). Flat attempts to level all aspects of sound, and is often the favoured mode for users (besides disabling the EQ's entirely) due to it evening out all aspects of sound. The third, and my personal favourite, was the bass boost, which does what it says on the tin. Being a big lover of bass in songs (a lot of my favourite songs feature a prominent bass line), I instantly fell in love with this mode and could tell it's difference massively. My personal favourite for this EQ is listening to Sober by Childish Gambino and going to the 2:46 mark, you won't regret it.

On the whole, the Revolver S is a remarkable piece of technology. It has everything that you would want and need from a good headset, and whether you're using it for gaming, or just casual use, it's a fantastic kit that rivals and even surpasses many of its -significantly more expensive- competitors. A must have for videogame aficionados, whilst having the versatility and reasonable pricing to be used outside of the gaming world.



**RRP: £139.99  
/ \$149.99**

***Suitable for:***



Handhelds



Smartphones



Tablets



PC



PlayStation 4



Xbox One





# STEELSERIES RIVAL 700

Imagine innovation in the mouse space to be rather difficult these days. Apart from sticking more buttons on it, what more can you do with your pointing devices? SteelSeries have answered that question by adding two rather unique features to the Rival 700: an OLED screen that can display images and in game statistics, as well as tactile feedback.

Out of the box, you get the mouse and two different cables with which to connect it to your computer, one standard cable at 1m in length and another braided cable which is 2m in length. Opting for the braided one, the connection to the mouse was a cinch and didn't take any particular jiggery-pokery to get fitted. With SteelSeries' Engine 3 installed, the mouse connected via USB and it's good to go. What's nice about the dual cable set-up, is you can leave the other one with your laptop, for instance, and take the mouse with you to use elsewhere. Helpful if you have your desktop cables routed in specific ways...

From here, let's break down the features into their individual components.

## RGB Lighting

A mainstay of gaming culture these days - bright RGB LEDs within the Rival 700 housing allow you to light up the mouse-wheel and base

with independent colours through the Engine 3 software. It looks the part and shows off the SteelSeries logo; when your hand isn't on the device that is. You can make the illumination reactive to in-game events too, though most of the time they're hidden by your hand.

## OLED Screen

One of the key talking points of the Rival 700 is the OLED screen on its side. 128 by 36 pixels of monochrome display space is yours for the taking. You can have this display logos of your gaming allegiances (see below image) or have it display statistics from your game, such as the number of head-shots you've managed to pull off. Whilst it's an interesting innovation for the mouse space, I can't help but feel that the angle it's at hinders its effectiveness somewhat, meaning having to position the mouse in such a way to specifically look at the screen.

## Tactile Feedback

The other major selling point of the Rival 700 is the inclusion of a tactile feedback motor within the mouse itself, allowing you to get feedback from in game events directly in your hand in much the same way as your phone does when you get a new message. The feedback from the mouse is enough to let you know something is happening, but not too much that it throws the mouse out of place on



the mat. Of the unique features on display here, this is the winner. Alerts via a small vibration from the mouse when a cool-down has finished allows you to place more concentration on the game itself, rather than the timer on your hot-bar.

## Laser

By default, the Rival 700 comes equipped with the PixArt PMW3360 sensor, offering silky smooth tracking, regardless of the task at hand. Moving across your desktop is as beautiful a move as sweeping across the playing field to pinpoint the enemy's head in your iron sights. If you're a real laser connoisseur, you can upgrade the sensor to the PixArt 9800 for some extra money.

## Comfort

It fits well with my "clam" grip (a cross between claw and palm), and the clicks feel solid to the touch, the 'forward' button on the side of the mouse is a little far forward for the thumb - and the button labeled as 'B6' is difficult to get to, putting it out of reach

**RRP: £89.99  
/ \$84.99**



for anything other than occasional use. Your mileage may vary here, as that may be down to my specific grip style more than anything.

## Others

There's a trick up the Rival 700's sleeve, if you're into customisation and own a 3D printer. The base of the mouse (where your palm rests) is swappable with a 3D printed part - one which you can customise to your hearts content. Put your gaming handle in there or your clan name, for example. That's up to you as the designer of the new part to choose. Lastly, you can also get a different shell for the mouse, in a black glossy plastic, if that's your thing.





# ROCCAT KONE AIMO

I've been using the same mouse for almost two years, so I decided it was time to get something new. The point where my clicker game addiction random clicking has been wearing away, the pads on the underside are scuffed, and to be honest the glare from the RGB had been bugging me for a while. So when we were offered the Kone Aimo from Roccat, I snapped it up.

It came in a well-designed box, with a few stickers, and a quick start guide. The mouse itself is a bit on the large size, but well constructed. It doesn't feel too big to me, but my wife did reckon it would give her a cramp.

As well as the left and right buttons, and the chunky scroll wheel, there are two additional buttons on the top which control the speed which the mouse moves. Off to the left side of the mouse, and controlled with the right side of your thumb, are the T1 & T2 buttons, which by default go forwards and backwards in the web browser history. Beneath those, controlled with the left side of your thumb is the T3, which is called the Easy-Shift key, because it makes all of the other buttons do something else when held.

By default the alternative modes are basically media keys. The scroll wheel does the volume and track change, etc. However, if

you download ROCCAT's Swarm app (either to your phone or computer), you can set them to do other things like open programs, websites, press a button combination, or even shut down the computer. Since I don't fiddle with the DPI once it's at a speed I like, I just recalibrated the default mode of buttons.

The box - and app - boast that the Aimo has an "intelligent lighting system" designed to "react organically with your gaming behavior". I've had it set to that since I installed Swarm, and it literally just seems to cycle through the colours. I tried several games, but maybe it does something during multiplayer games that I've not seen? For instance, maybe it stays yellow during Counter-Strike, or red for Team Fortress 2 - I've no idea. It could just be something that coordinates when you have a Roccat keyboard and headset, unfortunately I only have the mouse and a Roccat Kanga mousemat.

While I'm talking about it, the Kanga compliments the Aimo well. It's nice and smooth to glide the mouse across, and it's not as thick as my old one, and takes up a little less space on the desk.

I can't think of any negative things to say about the Kone Aimo. It's a good mouse, with a lot of customisation options. The "Titan" scroll



wheel is nice and chunky, and unlike other mice I've used it doesn't have those tiny ridges which can cause discomfort if you use the scroll wheel a lot. Instead, it's got well spaced dips around the wheel, and it's lit up with the same RGB as the body of the mouse.

Roccat's Kone Aimo is celebrating the 10th anniversary of the original Kone, and it's certainly a worthy successor. It's worth a look if you want a new mouse.



**RRP: £69.95  
/ \$79.99**





# LOGITECH MX ANYWHERE 2 MOUSE

First off, I want to highlight I purchased this mouse for University work purposes, at a discounted rate, and spent about two months with it. I feel like I can comfortably review this mouse, and provide some thoughts on the use cases for this mouse. Produced by Logitech, the MX ANYWHERE 2 mouse, is my third wireless mouse. My first two were terrible experiences, with horrid connection issues and were a nightmare of faffing about. Granted this was several years ago and Bluetooth tech has made quite a few advances. So have batteries, just to a lesser extent.

From the off, the packaging is very minimalist, containing a manual, dongle, micro-USB, and the mouse itself. Taking it out, it was a quick and painless experience to have it ready for both of my laptops. As well as using it on my OnePlus 3T Android smartphone, although I will note that there is some form of mouse scroll acceleration. So if you're into that niche use case, that's something to contend with. But from a mouse utility standpoint, it's very run of the mill. There's two side buttons on the left hand side that are by default programmed to go forward and backwards for web pages and the alike programmes that allow it. The middle click button is a dedicated button, and the mouse scroll wheel going from a rigid/mechanical scroll system to the hyper

fast. This basically means you can run the wheel with no resistance/locking, depending on the application this is can be lead to slight irritations. Although I didn't realise this was a feature with switching scroll, until I thought I broke said infinity scroll wheel by spinning it like a Beyblade.

Build quality is very good, feeling very premium/well built despite how light it feels. It is a very clicky mouse. Its DPI is alright, although I would've liked more adjustable settings since Windows 10 keeps resetting it to default instead of staying on fast. As labelled on the box, it definitely boasts an incredible range of usable surfaces. Being usable on surfaces my HP 5 Button Optical Comfort Mouse and Corsair Raptor M30 USB Gaming Mouse can't cover. Alleviating the need for mouse mat, this has become my daily driver for being out and about for Uni purposes. However, this did take time to adjust to. Being a smaller profiled mouse, due to my hands size and my normal resting position, it was uncomfortable at first. Almost discomforting, I would often switch between my Corsair mouse and Logitech when at home. Or even opt to carry my HP if I knew I was working and needed to use it for extended periods of time. It took maybe a 2-3 weeks to be fully comfortable enough that I wouldn't swap. And after two months of use, I can safely say my hand has gotten used



to this smaller profile. But, since I still rest my hand over the mouse, my pinky finger does get slightly tired not being able to rest directly on it.

In terms of my work usage in programs like Unity, Blender, Photoshop, and a bit of work in Audition and Maya, it's been a slight hit and miss with the hyper scroll. Being almost borderline too sensitive, even the slightest nudge can lead to weird zooms. Applications like Word and web browsers like Chrome and FireFox didn't suffer this problem as much, appearing maybe once or twice since using it. Gaming isn't really recommended for this mouse, with FPS games like Doom, Wolfenstein 2, Destiny 2, and Shadow Warrior 2 being okay at best. It doesn't feel as responsive as my Corsair mouse. Games like Final Fantasy 14 and Dauntless, which don't warrant the same responsiveness, still aren't the most comfortable experiences due to my hand size. They are still usable, I just wouldn't recommend them for this purpose. An addendum to this is that I've grown used to operating my trackpad at the same with my mouse, so my use case of them is slightly weird.

Software support from my experience is straight up unusable depending on the laptop.

My Dell Inspiron 7000 laptop will have trouble maintaining a solid connection with the mouse once the Logitech suite is installed. A real shame considering how detailed the controls can get. The main thing I miss out on using third party software is the implementation of gestures. The middle click can replace the trackpad for its gestures in Windows 10. A small but super useful gimmick for me who has typically 3+ desktops for working. My other laptop, an Acer Laptop R3-131T, doesn't get the same problem which also runs Windows 10. But thanks to my current curriculum, the usage of that has dwindled like its operability thanks to Windows 10 almost bricking its performance to unusable speeds for even Word.

A final note is the battery, which hasn't died since charging it back when I first got it, lasting about two and a half months of relatively heavy usage and "forgetting" to turn it off before needing a full charge. When it is low on charge, an LED located underneath the middle click button will light up. Even then, the mouse remained usable for three days of continuous use despite being left on when not in use. So concerns over it dying are very low, if you're the type to not carry a micro-USB around. Its charge time is between 2-3 hours at a wall mount, with USB being marginally longer.

**RRP: £79.99  
/ \$79.99**







# LOGITECH G900 CHAOS SPECTRUM MOUSE

**T**ruth be told, aside from a controller, I could never see myself using a wireless keyboard or more to the point, a wireless mouse for PC. Wired devices have always been my choice for PC gaming. The reason had always been that I've never trusted them. The battery could die out, the signal could get interfered or drop out, or something similar to that effect.

They are concerns that I need not be left with a headache about. Now, though times have changed. I am now, a believer. Enter the Logitech G900 Chaos Spectrum. Logitech's flagship wireless gaming mouse and man, what a world of difference it has been.

Arriving in Logitech's fanciest packaging, upon removing the outer box and lifting the lid, staring back at me was the G900 mouse itself. Below contained a micro-USB cable, USB extender adaptor and the all important wireless dongle. Also included is additional plates for mouse buttons and covers, but we'll talk more about those shortly.

The G900 is an ambidextrous mouse, so it is incredibly comfortable in its symmetrical design, which is a surprised me being so

used to predominantly right-handed mice. It's also lightweight, weighing 107 grams. It doesn't support or include additional weights -- which I know, is a deal breaker for some. Fortunately, its lightness doesn't make it feel cheap. It has a premium finish, with a smooth top body and subtle grip indentations for your thumb and fingers on either side.

Besides your left and right click, you've got a scroll wheel which can be unlocked for that infinite scroll wheel action and is your middle mouse click, two DPI buttons allowing you toggle back and forth on the fly, and four additional buttons on either side of the mouse.

With the latter, what's interesting about this design is the customisation. Choosing to either utilise the four buttons either side or keep to two. You can then, using the included covers you can keep your device sleek by covering the unused buttons. Not only that, but everything from the buttons, battery life, DPI, and RGB lighting can be customised, monitored, and adjusted within Logitech's gaming software.

The quality really does show through the use. Both the main left and right buttons





have a crisp clean click to them, and every click was precise without any delay or lack of responsiveness. I soon discovered that these two buttons contain mechanical pivots, similarly to mechanical switches on keyboards. Which is not only crazy but impressive. Goes to show, they're not just keyboards anymore.

As for performance, this is what impressed me the most and elevated all my concerns over wireless. With a 2.4Ghz connection, the connection was perfect, with no interference from any of my devices, there is some technical wizardry here from Logitech and it shows. Within the belly of the beast contains the PMW3366 sensor and a built-in and a non-removable 720 mAh battery. The battery life Logitech promises 32-hours of continuous use without the RGB light, or 24-hours with it enabled.

The numbers aren't always exact, but after continuous use, I need not worry about keeping the mouse charged. Even when plugged in, the included micro-USB cable is moulded to fit perfectly to the mouse further streamlining the mouse when wired.

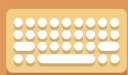
The sensor is state-of-art and is regarded as being one of the best on the market, whether it be a wireless or wired mouse, and its reputation holds true. Supporting from 200-12,000 DPI, you'll be getting an incredibly smooth and accurate experience. And during my time using the mouse encountered no lag, loss of connection and perfect response, regardless if I played wirelessly or wired.

Now for the price: I got lucky on this find, happening to find a seller online offering it for £55. For those interested may not be as lucky, but at a full price of £100, it is pretty steep for a mouse, but personally, you can't go wrong. Choosing the right gaming mouse is tough, but in my honest opinion, the Logitech G900 Chaos Spectrum stands above all others and can be not only considered the best wireless gaming mouse on the market but also the best-wired mouse too.



**RRP: £134.99  
/ \$112.99**





# ROCCAT HORDE AIMO KEYBOARD

With gaming capabilities and requirements constantly evolving and advancing, tech companies are forced to adapt and design better hardware to stay on top of the competition, and German manufacturer ROCCAT have stepped up with the Horde AIMO, sporting everything and more that you could look for in a keyboard.

Starting with the basics, the keyboard itself was very simple to set up - simply plug it in and for the most part, it does everything on its own. The keyboard is very comfortable to use, with a detachable palm rest for extra convenience. The keys just feel right, even if my muscle memory meant that for the first week or so, I would occasionally miss keys when pressed reflexively under pressure.

One of my favourite features of the keyboard is the tuning wheel. Whilst most keyboard wheels are stuck to changing the volume, the wheel on the Horde AIMO offers precise control over multiple functions besides volume, ranging from keyboard brightness, microphone volume, and even a task switcher, that allows you to cycle through all open applications, which is useful when you're working with multiple programs.

Keyboards are either membrane or mechanical. Membrane keyboards are those cheap ones with the rubber that get all sorts of crap inside them and stop working. Mechanical keyboards are all the rage nowadays, especially in the gaming community. The annoying loud clicking they generate is made up for in the amazing responsiveness of the keys, and the tears of







everyone that you ever go on voice-activated comms with. But for some, the obnoxious sound is enough to put them off ever getting one, which is where ROCCAT have come in to save the day.

Coining the term 'Membranical', the Horde AIMO manages to combine the technology to give you the soft, quiet touch of a membrane keyboard, with the responsiveness and longevity of a mechanical. Sporting what is being described by many as the best membrane-based keyboard on the market, ROCCAT have certainly outdone themselves with the creation. ROCCAT have kept many details regarding the membranical design close to their chest, but have stated the keys have a 'fast midway travel actuation point', achieving an actuation speed of 7.8ms, when compared to the standard membrane keyboard of 9.0ms actuation speed.

As with any gaming keyboard, macros are generally included as a must-have feature.

The keyboard has five programmable macro keys. The keys can be easily assigned by use of the ROCCAT Swarm software, which can also be used to further customise things like key bindings and illumination. I was a bit worried

about how responsive they'd be due to being membrane and macros often being needed on the moment they're pressed, but ROCCAT tackled this worry in an amusing yet practical manner: by sinking the macro keys deeper into the keyboard so they have less distance to go before registering as a press. To test the macro keys themselves, I made one for the 'struggle' function for when you're on the hook in Dead By Daylight that repeatedly 'pressed' the spacebar with a delay of 0.05 seconds and continued for as long as it was held down. The longest amount of time you can 'struggle' for before dying is 44 seconds, and the macro managed to hit this almost every time (with the almost being down to human error of pressing too early/late).

Overall, ROCCAT's latest keyboard is definitely one that any gamer is going to want to get their hands on. With a current pricing of £89.99 on their website at time of writing, it's certainly worth the investment if you put a lot of time into gaming, whether casual or competitive. Simple to set up, easy to use and effective at what it sets out to do, there's not much that could be done to improve the Horde AIMO.

**RRP: £89.99  
/ \$99.99**



Suitable for:



PC





# SPEEDLINK ULTOR MECHANICAL KEYBOARD

Speedlink have been around for sometime: they're big on making console and PC peripherals from headsets, controllers and keyboards. So it comes to no surprise that they would continue their foray into the market and create something much more premium for all the PC gamers out there. That's why Speedlink have developed not one but two mechanical keyboards, and I've had the pleasure of using their top-model: the Ultor.

As you do with the arrival of any keyboard I took it out of the box. The Ultor's packaging isn't anything special, It isn't sleek or minimalistic coming in a black box with red lining across covered in logos showing its features as well as a very handy logo signifying it being a British layout keyboard. Once the Ultor was out of the box all that was left were quickstart and info papers. But we're not here to talk about the included booklets, it's all about the keyboard.

Popular among other manufacturers and of course gamers, the Ultor uses Red mechanical switches. The ones used here are not Cherry MX but instead are Kaihua Kailh, which aren't as favoured as the Cherry's, but are still of a high quality and offer excellent feedback.

Now for the keyboard itself. The Ultor is a compact keyboard, that's not to say it's got smaller keys absolutely not, it means it lacks a numpad. I'm personally not a fan of this as I prefer a numpad, but as I will explain, there is good intention for why Speedlink decided not to have one. For you see the Ultor's body is designed for portability with very little compromise. It's a keyboard for the gamer and many other manufacturers do the same as a player would rarely use the numpad in normal gaming. As for the design, the Ultor is very nice, with a frameless design and an entirely red aluminium top. When I first saw the press images I was rather put off by the entirely red frame, but as soon as I plugged it in and the glow the blue backlight of the keys came on I was surprised how pleasing it looked. And while it may not feature of any fancy RGB colours as seen on other keyboards, the blue glow was pleasant enough.

Using the keyboard took some getting used to, I love mechanical keyboards, but I'm used to a





fully sized keyboard including a numpad. So this certainly took some time for my hands to adjust, but surprisingly after a short while and getting my hands positioned the typing experiencing was very comfortable and the feedback from mechanical keys was very responsive and smooth - this backed by the anti-ghosting and up to 1,000hz poll rate.

All the keys glow blue, except for W,A,S,D, the arrow keys and the dedicated Game (Print Screen) key, which glow white. Beside these, there are a number of function keys included. With the right Windows key replaced, you can use this to access a number of media controllers including: volume, next/previous track and mute. One real nice feature is the inclusion of macros - although you'll first need to install the Speedlink drivers to use. Once installed, you'll be able to create up to six macros as well

as five profiles (switchable using the F keys) for said macros. It wasn't something I took an advantage of, but certainly for someone who enjoy their MMO's will be able to make full use.

I was very surprised how much I've enjoyed using this keyboard and I will continue to do so. Although during my time, it didn't make me want to ditch my other mechanical keyboard, which is full-sized and has dedicated media controls. What I will say is the Speedlink Ultor is a perfect travel / LAN gaming keyboard. Due to it's compact size, macro support and durable build it will make an excellent complement to anyone's portable rig. Even if that's not your thing and you're someone looking for a unique keyboard for their gaming rig at home and your favourite colour is red, then definitely check this one out.



**RRP: £62.00  
/ \$99.00**

Suitable for:



PC







# LOGITECH G610 KEYBOARD

**B**y now I'm becoming a dab hand at all of this mechanical keyboard stuff, having this as my third one. I've only just realised, however, that the colour of the switches is probably one of the most important things I should have spoken about. Incidentally, the G610 has red ones.

Red switches are the hair-trigger ones -- which explains why I've made so many typos recently. However, I've quickly gotten used to the red switches, and enjoy the keyboard much more than going back to my wireless Logitech keyboard.

Getting the G610 out of the box, it was accompanied by a manual and nothing else. That was pretty surprising, as I don't think I've opened a box recently without a couple of books, a warranty and a quick start guide popping out.

The keyboard is quite hefty with a great solid design, none of the keys feeling loose and no gaps in the panels. As well as the full QWERTY keyboard, it has buttons for Gaming Mode, Brightness, Mute, Media (play, stop, fast forward, rewind), and a volume wheel. The wheel is quite long and very sensitive, and due to the position of my mouse I can easily reach it without letting go if needs be. My mouse actually has volume controls on it, but that's neither here nor there.

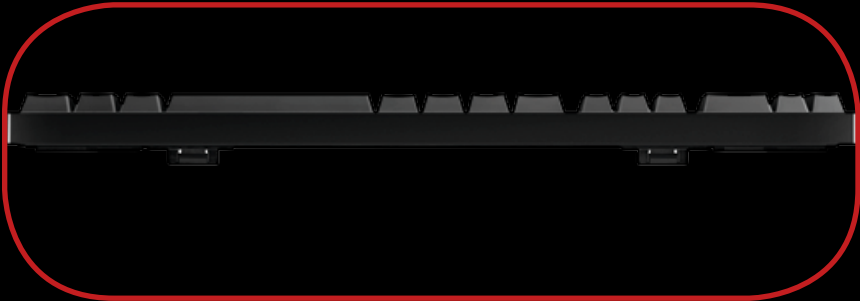
Due to the black colour of the keyboard, the literal worst colour you could choose to print under the Caps Lock light et al, would be black. So although you can see the keys very well in a dark room, due to the white backlight which pulses across the keys, you can't actually see what each of the three Lock lights is indicating unless you shine a light directly on the keyboard.

Apart from that, and the very light key switches, I've enjoyed the Logitech G610. It remains firmly in place due to its weight, and the rubber feet underneath. The keys are responsive and don't feel spongy whilst typing, and none of the extra buttons are in the way whilst typing. The media keys are a bonus, though I've always liked having them on keyboards -- if you don't like them, you don't have to use them.

If you're looking for a mechanical keyboard, the G610 is a good one. It doesn't have some of the issues I've come across with other makes, such as the keys feeling too tall. You can adjust the brightness of the backlight easily, so even if you don't like it there's an option for you. A few more colours wouldn't have gone amiss, but the white is fine. In all a good, responsive keyboard.

**RRP: £104.99  
/ \$99.99**





Suitable for:



PC





## HYPERX ALLOY ELITE MECHANICAL KEYBOARD

Having tried out HyperX RAM and headsets, I thought it was about time to try one of their keyboards. With the Alloy Elite being their latest model, how could I say no? Surely it would beat the snot out of my wireless Logitech keyboard which was older than at least one of my children.

The keyboard comes with a quick start guide and warranty, silver 1234 & WASD keys as well as a wrist rest in the box, so not much to talk about there. It is pretty weighty, thanks to the entire key base being metal. The underneath is plastic, as is the wrist rest, and the section along the top of the keyboard where there are some quick keys, and all of the keys themselves.

An attached cable measures about a meter and a half long, and ends in two USB plugs, both of which require being inserted. The reason is that there is a USB 2.0 port in the rear of the keyboard. Personally, I plugged my mouse into it.

The quick keys I mentioned before are as follows, on the left an LED brightness control, LED mode and game mode buttons. On the right are media control buttons and a volume wheel. Since my old keyboard had media controls, they were a welcome addition, though on the opposite side to where I'm used to them being.







With my wife owning the HyperX Alloy FPS, I was prepared for the Elite to make a huge racket as I typed. You can practically hear her typing clear across the house, after all. I was delighted to find that the volume of the keys engaging is actually quite subdued.

The speed of typing, and feel of the keys is better than the non-mechanical keyboard I was using, and the weight of it means that it doesn't move when I'm playing games a bit too roughly. The wrist rest is textured along two thirds of it, but I haven't noticed it too much which probably means it's doing it's job.

Honestly though, I've found myself making typos now and then, because it takes less pressure to activate each key than I'm used to. The Alloy Elite is a very good mechanical keyboard. I switched out the black 1234 & WASD keys for the silver ones mainly because I wanted to try out the textured WASD than for how it looked. I did try out the other LED modes, but stuck with the solid glow on the medium brightness. The others are breathing, trigger, explosion and wave, and though I did like explosion (the keyboard lights with each key

press, centred on that key), it meant that they keyboard was dark for the majority of the time.

Easy to set up, quiet to use and the media keys do exactly what they should do. I don't think I can get any more succinct than that, the HyperX Alloy Elite is a great keyboard.



**RRP: £119.99  
/ \$109.99**

Suitable for:



PC





# E-WIN FLASH NORMAL SERIES FLC GAMING CHAIR

It has been said in the past that I'm a little tight with money. Hardware, peripherals, the 2DS - if there was a cheap version of something, it was good enough for me. My last chair was from Costco, and cost about £150. I forget what brand it was, or if it even had a brand. As I say, I needed a chair, and it was good enough.

When E-Win got in touch about their gaming chair, I'll admit my curiosity was piqued. There are no shortage of gaming chairs, but being extremely frugal I've of course never tried one of those: I was happy to try E-Win as my first one. They sent over one from the Flash range, and given my measurements they decided the Normal size would be best. 183cm and 91 kg, in case you wondered.

Being a chair, it arrived in an absolutely huge box. I could have comfortably shipped two of my kids off in it - the non-tween ones. It was packaged neatly, and there was just enough padding to keep it in one piece.

You get gloves, the back, the seat, feet, middle pole and five wheels, as well as three screws and two end caps. Oh, and two hex keys, because two of the screws are slightly smaller than literally every other screw... Yes, I said gloves, they're to stop you

getting your new chair sticky while you assemble it. And probably in case a part nips your skin...

Assembly is pretty easy, and since most of the screws are already in place, you just have to unfasten them and put things in their correct position. It took me about half an hour with following the clear instructions. I had a little trouble with getting the angle right with one of the screws, which ate into my time.

Once constructed, the Flash is very stable. I mean really - I pulled the handle and leaned back in one smooth motion, and my wife burst out laughing because she thought I was about to topple over backwards. Yeah, and you judged me for talking about putting my kids in a box, didn't you? Anyway, whilst in full recline I felt totally safe. Ironically, if you lean forwards on the chair and sit on the edge of the seat, it does tip forwards, so don't pick things up off of the floor in front of you.

However, due to the range of movement in the arms and all of the buttons attached to them, they do feel pretty wobbly. I suppose if they were too stiff they would be more difficult to move, but it doesn't feel great.

What surprised me most was how high the Flash is. On it's lowest setting, it's only just





below what my old chair was on the highest. At it's highest, my toes don't even touch the floor, and I pretty much have to tiptoe to get up onto it. Having completed a Health & Safety course years ago, I remember that your eye line should be with the top of your monitor. Well, thanks to this chair's lowest setting, my eyes are there.

I think the only thing I haven't mentioned yet are the two cushions which came with the Flash. There's one near the top for your head, and a larger, firmer one for your back. Unfortunately, because it's adjustable, I don't really know where to put it. Where is your "lumbar", anyway? It has aided my posture, though, so I'm not too upset.

For the week that I've had it, E-Win's Flash has been firm and comfortable, no matter if I'm sitting, lounging or lying in it. The fabric covering it is like a soft faux leather, which is better than real faux leather (is that a thing?) in

that I don't have to peel my skin off of it when wearing shorts and sat with my leg beneath me.

I was prepared to complain loudly about anything I found wrong with this chair, and I honestly have. It spins smoothly, the wheels are nice and chunky to allow it to glide across the carpet, and it's comfortable when sat in for extended periods of time. I really like the Flash E-Win Racing gaming chair, and feel good in recommending it.



**RRP: from £279.00**  
**/ from \$379.00**







# SNAKEBYTE GAMING:SEAT

Having gone through many different gaming hardware in my time, something I've never considered is the more practical stuff, such as chairs. Having happily spent my gaming history sat in >£70 office chairs, when I woke up to find the £250 chair on my doorstep, it's needless to say that I didn't really know what to expect. It took two of us to actually get it through the door, and then I was left with this behemoth of a box that resided in my living room.

After unboxing all of the components and leaving them strewn across the living room, I was fairly daunted by the amount of pieces I would have to put together. When I braved up to looking at the instructions, I was initially overwhelmed, with only pictures being used with very little being diagramed and, as I found out later, certain steps that just were skipped by the manual. Whilst these steps were fairly self-explanatory, as someone who likes to (and has to) follow instructions to the letter, the exclusion of certain steps was overly difficult for me to get around.

Instructions aside, the construction of the chair itself was surprisingly easy. Many components simply slotted and clipped together, and any screws needed were already provided and screwed into the appropriate holes, avoiding all the awkward shuffling of screws that usually occurs when constructing any form of

furniture. Once I'd gotten my head around the instructions, to actually build the chair only took around 15 minutes or so. The only issue I did encounter was the plate which attaches the height & recline levers to the chair is shown screwed in facing a different direction in the instructions to how you actually can with the real chair. The version depicted in the instructions made more sense as the actual way it screwed in meant I had to adjust how I'd screwed in the arm rests, as they were overlapping.

Once those complications were put aside, it came to actually using the chair. Sporting a headrest, lower back pillow, retractable leg rest & adjustable armrests, it was a lot of choice and comfort that I was not used to. Being a digital magazine designer, nightly livestreamer, small-time writer and long-time procrastinator of real, important tasks, it's not wrong to say I spend 8-10+ hours sat in my computer chair on an average day. As of writing, it's currently 2:45pm GMT and I'm at five hours already as an example. I was happy enough with my basic chairs, but Snakebyte have changed that. The Snakebyte 'Gaming:Seat' remains perfectly comfortable to sit in, and the customisation you're given in the chair's design makes it easy to comfortably switch up sitting positions to avoid your entire body from sticking to the chair, especially in this heat.





One thing I feel is important to bring up is that I suffer from both Scoliosis, a spinal condition which causes the spine to curve into a C or S shape, affecting only 3% of the population, and Scheuermann's Disease, where the vertebrae grows disproportionately, causing the spine to bend outwards/inwards. These combined cause me irritation and pain whilst doing pretty much anything, especially for long periods of time, and sitting down is one of them. Being unable to consciously correct my posture, I found I could only sit in the office chairs for about an hour until pain started. With the Gaming:Seat, the use of the back pillow and headrest allowed me to sit comfortably in the chair for up to 2+ solid hours without discomfort occurring. As mentioned earlier, I livestream almost every night for two hours, and towards the end of many streams it would be commented I would grow visibly restless and fidgety. Since using the Gaming:Seat however, I have been able to happily sit through the two hour session without growing abnormally discomforted. I'm not saying it's cured my issues, and long gaming or work sessions still cause pain and high irritation, but this experience would not be typical of most users and if anyone reading this suffers from problems like this when seated, the Gaming:Seat is definitely worth your interest.

The leg rest was a feature that I was interested in seeing how it worked, and if it was practical to do so. Whilst it looked relaxing, I couldn't imagine it's use when PC gaming, and this showed from my experiences. From trying to play Rocket League, if I had the leg rest up I generally found it more uncomfortable as I would naturally lean

forward when playing. For watching videos, the leg rest managed to find its love in me, as well as when I was playing games that required an Xbox controller such as Human: Fall Flat. The versatility the chair gives you offers an extraordinary variety of ways to enjoy yourself.

Overall, the snakebyte Gaming:Seat showed me what I've truly been missing all these years. Amazing quality, great customisation, a bit of a confusing construction but it can be easily overlooked when you get the final product. With a current cost of £230 at the time of writing, the price may put many off, but for anyone who spends a large amount of time at a PC, whether it's watching videos, doing work, playing videogames or just relaxing, it's definitely a great value for the money, especially when compared to other gaming chairs on the market.

**RRP: £229.99  
/ N/A**





# NETGEAR NIGHTHAWK XR500

Look at your router. Chances are, you've got one that your ISP gave you as part of your internet package, and you've never really considered anything different, merely because it's doing the job it's supposed to. And for most households, that's probably fine. But when you're part of a household that comprises of gamers, Netflix binge watchers and obsessive Linux distro downloaders, it may well be time to look at an alternative router, to ensure that everyone gets a fair piece of the internet pie.

Enter the Netgear Nighthawk XR500. Looking like something directly from Lockheed's warehouse, its design is certainly striking and won't appeal to everyone, but that's personal choice which ultimately has no bearing on the inner workings of the hardware.

Whilst you could find a comparable spec router for less money, the unique selling point of this unit is all in the OS it's running, and some of the unique features it brings. However, before we dive into that, let's talk under-the-hood. The Nighthawk XR500 is an AC2600 MU-MIMO Wi-Fi router, compatible with both cable and ADSL internet services via using your existing hardware as a modem. This device is all router, so won't act as a complete replacement of your current hardware, it's designed to make much better use of it instead. Across the back are four gigabit ethernet ports for shifting data to various

devices, and a fifth that's used by your modem. There's a power input jack, power switch and reset pin, and a final switch to allow you to turn off the LEDs on the device, barring the power LED. A nice touch if you have to put this in the open somewhere, and find the lights too bright or an inconvenience. There are also a couple of USB3 ports to the side of the router for attaching storage devices. Finally, there's four spots for antennae to be attached, and two buttons on top of the unit for serving WPS requests and the ability to turn the Wi-Fi on or off at a moments notice.

Those two USB ports can have various storage media attached to them, which allows you to run them as something of a makeshift NAS, using spare flash drives or external USB enclosures you have handy. As an added bonus, you can set up backups to these drives too, using free software from Netgear, or Time Machine on MacOS. Pretty handy for keeping a local backup of files, or sharing files between devices easily.

But, so far, we've only talked about the features of the router that other routers also have, what really makes the Nighthawk XR500 stand out from the crowd, is their partnership with the NetDuma team and that collaboration has given birth to DumaOS. An OS specifically designed for routers, and in the case of the Nighthawk, filled with features that gamers will relish having at their fingertips. Part of DumaOS' charm, is







down to the fact it looks like the team spent more than 5 minutes throwing a few input boxes on a page. The whole OS is sleek and built with usability in mind, which really aids in making the features they have intuitive to use.

First up, there's options for Quality of Service (QoS), which let you prioritise (or not!) traffic to individual devices on your network. Say if someone is profusely binging their favourite show on their favourite streaming service, and you decide to play some games, but find that you're getting lag because there's not enough bandwidth left for you, then you can pop into the QoS screens, and simply drag the chart around to prioritise your gaming device. Anti-bufferbloat can watch for those spikes in usage, and will automatically stop a device from taking all available bandwidth

in the event of something like a video buffering. You can find QoS on many a higher end router, however, it's the ease of use present in DumaOS that makes it an absolute breeze to use.

Next up, is Geo-filtering. A very different way of aiming to ensure that your gaming experience is as pleasant one as possible; Geo-filtering allows you to define a radius on a map that will limit where your games can connect to in terms of servers (or players). This means that instead of being given the one that was first to respond, you can control it to being a one that's likely to give you a much better ping and thus a better game play experience. In theory it's a great idea, though in practice, it's a bit hit and miss. This is by no means the fault of Netgear, but since here in Blighty there generally tends to be only servers in Europe you'd





want to connect to, then limiting your range could be a bit well... too much in the way of control - but this is only for games where dedicated servers are available. It works much better with games that utilise P2P (where one player “hosts” the game) as this setup can really change wildly in connection quality between matches.

There’s also built in support for OpenVPN, allowing you to secure your inside world from your outside one, allowing all of your networked devices to be protected by the offerings that using a VPN brings.

It’s difficult to offer up any real-world details of the Wi-Fi quality that the Nighthawk offers, notably down to how different each environment it’s in could be. As a general guideline, however, setup in the living room of an average sized house here in the UK, I had no problems maintaining a connection to the router on my laptop or mobile phone wherever I was in the house. Signal did drop off a little when moving to areas of the house that would put the signal through a couple of walls at a shallow angle, but even then it wasn’t enough to have any adverse effect overall.



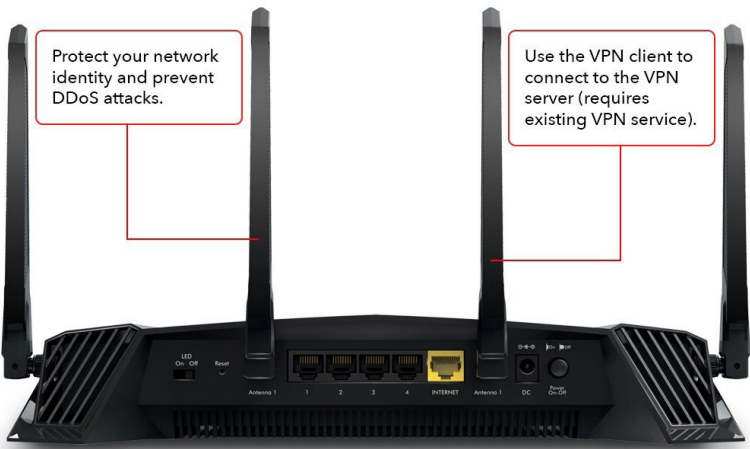
**RRP: £249.00  
/ \$299.99**





# Gaming-VPN

Keep your head in the game and off security.



# Anti- Bufferbloat

Prioritise gaming devices and traffic to minimise lap spikes.



# Network Monitoring

View real-time bandwidth utilization by device, network and system performance & monitor live game ping.



# Geo-Filter

Control connections to local players for lower ping.



# Gaming Dashboard

Custom dashboard with real-time control and analytics.







# COUCHMASTER CYCON

For quite some time, the main gripe I've had when playing games from the comfort of my sofa is that, for FPS games at least, I haven't been afforded the accuracy that comes with using a mouse and keyboard for input. Nerdytec have, however, come up with an elegant solution to that problem.

Enter the Couchmaster. The model we have here is the Cycon, which is their all-singing, all-dancing version that comes with all of the gadgetry you'll need for comfortable couch based gaming. Out of the box, you'll get the two armrest pieces, the support case (which houses the USB3 hub), a 5 meter active USB3 extension cable, mousemat and a pocket

for your mouse to go in when not in use.

The two armrest pieces are fairly simple, comprising of a foam inner and faux leather outer (other fabrics are available) that are fairly sturdy, but still allow your arms to rest on them without causing discomfort. Before use, I had worried that the armrests may have ended up pushing my shoulders up, however, in use it became apparent that this wasn't the case.

The real meat of the Cycon is in the support case. In order to set this up, you need to remove two panels from the back of the case, and wire in your mouse and keyboard to the internal USB3 hub. Take note, that you'll also need to connect the USB3 hub extension wire that allows it to be





connected to the longer 5m extension at this point. Something I'd forgotten to do and had to re-open the back of the support case to solve...

Once the keyboard and mouse is in place, you can hook up the Cycon's USB3 hub to your PC using the supplied 5m cable, and then get yourself comfortable for some gaming. Sitting at the Couchmaster feels a little weird at first, as you adapt to the more outward placement of your arms and hands. Initially, it's a little difficult moving your hands to the keyboard to type, but this is likely caused by years worth of muscle conditioning from sitting at a desk. It becomes second nature quickly enough, and you'll be using your mouse and keyboard as naturally as if you were at a more standard setting of a desk. Getting in and out of a seated position is relatively easy too, as you can slide the support case over one of the arm rests to facilitate movement. Since the pieces are separate, you could also use the support case on it's own over a chair that has armrests already. Nerdytec do sell the support case solo - should

you already have a single-seater chair that means the armrest pieces would go unused.

A major plus point is that the unit can be used for more than just a keyboard and mouse combo, with the addition of a USB port on the top of the support case, you could quite easily connect a joystick or gamepad to your PC such that you could control games like Elite: Dangerous whilst retaining the full command set afforded to you by having a keyboard at hand. Alternatively, you can pop your laptop on top of the support case and use it from the comfort of your sofa too. Though, if you've wired in a keyboard and mouse, you'll need to find somewhere to "hang" them whilst using a laptop - or unwire them from the base completely.

I've since spent a couple of our Theme Nights here at GameOn using the Couchmaster Cycon, playing games such as Counter-Strike: Global Offensive and Call of Duty 4: Modern Warfare, interspersed with time spent playing single player outings. Sitting in front of a home-theatre system and large screen had me wanting to relive some

of the experiences of games gone by, to see them in a new light. So with that, I fired up Half-Life 2 and got to work saving City 17 (again). Sat on the sofa, with the Couchmaster in place, watching Gordon Freeman







## MISC

get ported to the other side of the office on a large TV with full surround sound brought new life to the game, instead of being hunched over a small 22 inch screen with only a stereo headset for audio, and that's part of what makes the Couchmaster Cycon such a great addition to the gamers set piece. I also figured that a good test of the stability of the Cycon would be to play some strategy games, like an old favourite Command & Conquer: Red Alert 2, constant mouse shifting and keyboard presses meant nothing to the Cycon, which sat there and ate them up like it was a fully fledged desk. To wind down from all that, I moved onto some Factorio and well, 5 hours later I was still sat as comfy as ever laying waste to hordes of biters and placing transport belts, which speaks volumes for the comfort and usability of the Cycon.

Lastly, there's some additional gadgets available for the Couchmaster; an ash-tray, phone holder and a tablet holder round out the selection of what's available as optional extras. I quite like the idea of mounting a tablet to the Cycon, for those times you need to look up crafting recipes in Minecraft or where that last damn flag is in Assassin's Creed.

**RRP: £159.99  
/ \$N/A**







Suitable for:



Handhelds



PC



PlayStation 4



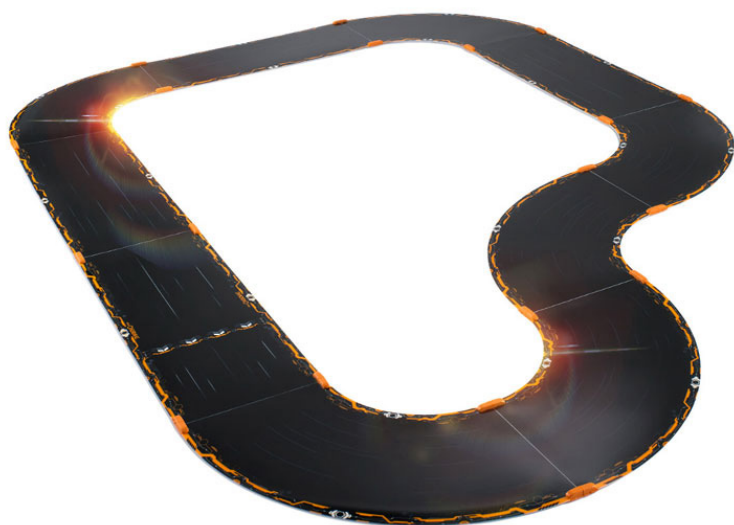
Xbox One





# ANKI OVERDRIVE REVIEW

If you remember the old days of Scalextric racing car sets, where your cars would have to be manually slotted into the track and prone to coming off at every available corner, this is nothing like that.



We took a look at the Anki Overdrive Starter Kit, which comes with a wide selection of track for you to use, as well as two cars and a charging station which can simultaneously charge up to four cars.

Explained in the simplest terms I can conjure up, just so you can rush out and buy the damn thing as soon as you possibly can once you're through reading this. This is a track racing game, that you play with up to four players (or play with with AI-controlled cars), You race around the track with different mode and objectives, from trying to stay in the lead to how many time you can destroy your opponents.

I have to admit, at first we were expecting just a run of the mill normal racing game, which would get a bit tedious after a while of playing. Oh boy, we couldn't have been more wrong and we were thoroughly surprised.

First off, the cars just sit on the track instead of slot on. The track pieces magnetise together, making them extremely easy to construct and dismantle. The computers that are built into the cars stop it from shooting off the side of the track; the only way your car can leave the track is if you are knocked off by an opponent, and even then when this happened several times the cars were able to find their own way back onto the track and carry on as normal. You then race the using a mobile device (Android/iOS or Kindle Fire) to control the cars. Tilting your phone to the left or right veers you onto the four available lanes, and you can control your speed via the







# anki OVERDRIVE™



on-screen throttle, which you slide up and down to vary your speed. On top of all of this, you also get weaponry attached to the car, which you can upgrade or swap out as you earn XP. Located on the right hand side, you have two buttons to operate these weapons; one for primary attack the other is for a special attack. Each car has it's own personal arsenal, really giving each player a unique experience and mixing up the gameplay.

After using our phones for a while, we decided to switch to tablets and both played using an iPad. Having the larger screen was really nice, but personally I preferred the phone as it was smaller and easier for the steering. My friend preferred the iPad though, due to the larger screen allowing for easier selection and control of speed and weaponry. Each player is required to have a phone or tablet (even an iPod Touch would work) but in this day and age, there aren't many households without a couple of smartphones in the house.

The charging of the cars from drained only takes 10 minutes, and we found the battery life lasted between 30 and 45 minutes each time. With the charge time so short, it was easy to do things like make a cup of tea (we are British) or nip to the loo.

There is quite a list of devices that have been tested to make sure they are compatible with the Anki Overdrive racing system, but if you are not sure, you can find out by just downloading the app on the appropriate app store for your device, it will tell you if it's supported or not.

Once again, we have been very surprised about a lot of the features found in Anki Overdrive. With multiple game modes, this should keep you occupied for quite some time, there are ways just two of you can play and again will support up to four players at a time. But for those moments when you find yourself in the house on your own, have no fear, Anki have you covered on







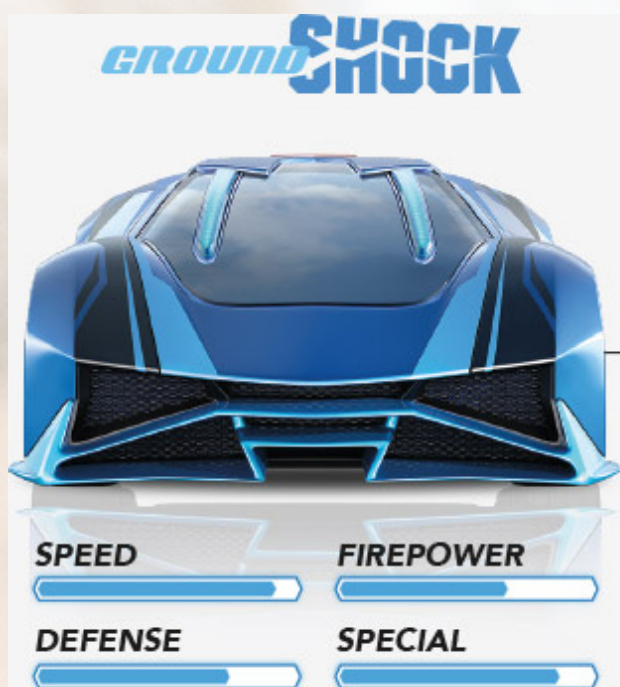
that as well, as there is an AI built in so you can compete against it. This mode comes with a story mode, which is split into six episodes to keep you entertained. However, if you do have friends and still want to progress through the story mode, you can do co-op against the AI with a friend.

Unlike conventional Scalextric, it is extremely easy to keep track of the game. Before starting matches you can adjust the score limit, whether it's laps or amount of opponents destroyed. Not only this, but the game tracks these automatically and tells you what position you are in, making it

much easier to determine the rankings of players. Overall the Anki Overdrive Starter Kit is a great present for kids or adults and enough comes with the game to keep you occupied for quite some time. Plus we can only hope that they implement new game modes later on.



**RRP: £149.99  
/ \$149.99**





# ANKI OVERDRIVE ACCESSORIES



Thinking of getting someone an Anki Overdrive for Christmas? Here are some great add ons which friends or family could buy for them.

## Speed Kit

[Consists of two straight pieces]

If speed is what you need, then look no further. Build long straightaways where there's nowhere to hide! Put the hammer down and outrun your opponent or take aim and do battle.



## Corner Kit

[Consists of two curve pieces]

Add more twists and turns to test your precision racing skills. Take tight corners at top speed, but watch out — slow down and you'll become a target! Or blast your opponent before they disappear around the bend!



## Launch Kit

[Consists of two straight pieces and the raiser pieces]  
Add jumps to your battlefield with the Launch Kit!

## Collison Kit

[Consists of one Crossroad piece]  
Pick off your opponents as they speed past, but watch out for devastating collisions and don't get caught in the crossfire!

## Supercars

With a great selection of cars which all have their own unique primary and secondary power up for battling one another.



## SuperTrucks

Supertrucks are nearly three times the size of Supercars, and use their heft, weapons and new control system to dominate the track. But Supertrucks are more than just oversized vehicles, they come with access to a new game mode and Commanders.

# ANKI OVERDRIVE™





# RETROSTONE RETROGAMING HANDHELD

The RetroStone is a single board computer (think Raspberry Pi), inside a shell that basically makes it look like a Game Boy. There's no use denying it, the design is clearly styled after the original Nintendo handheld, and it's literally one of the reasons I backed it on Kickstarter.

By itself, the RetroStone is a glorified micro-SD card holder with a screen, since you need to install software onto it for it to do literally anything else. However, it's a well made piece of kit with firm buttons and a great design. There are four plastic buttons on the front, plus a directional pad and two rubber buttons. The rear has four more plastic buttons - and after just over a month's use, they are looking scuffed. The top has four USB ports and an ethernet port, as well as the power switch. The left side has the charger port and micro-SD card slot, and the right side has a HDMI port, display controls and an extra button for any additional functionality you choose. Finally, the bottom has the volume wheel and audio jack.

Inside, it has an H3 1.2ghz processor, 1GB of RAM, a 3000 MAH battery and a 3.5" screen. The RetroStone dimensions are 130x90x32mm, so not the same dimensions as the Game Boy. Inside the box, you get a manual, SD-card adaptor and

some additional buttons in case you don't like the SNES-style colour scheme it comes with. Well, mine came with grey buttons because I went for the Kickstarter Edition clear blue case.

Once you've taken it out of the box and found a suitable charger for it, you can think about putting some software on the memory card. Of course, since it's an H3 processor, any compatible operating system will work - but developer 8BCraft has worked with RetrOrangePi to create a specially designed version for the RetroStone. At time of writing it's on version 4.2, and the instructions given by 8BCraft are very easy to follow. Of course, once you have RetrOrangePi on your RetroStone, you then need some games. No, I won't tell you where to get them.

Once you've put your game files onto the RetroStone, the operating system is simple to navigate. You can either use the buttons on the console itself, or plug a controller into one of the USB ports. Most controllers should work, but I tried an off-brand wired 360-style controller. Personally, I prefer to play SNES, Mega Drive or Game Boy Advance titles, which don't really warrant an extra controller. However, you can have a full four-person Micro Machines race with ease.







Of course, you won't want to be gathered around the 3.5" screen. That's where the HDMI port comes in. Or, rather, where it will come in when they've hopefully simplified the process. At the moment it's a lot of messing around, and you need a keyboard attached to even get the RetroStone to use the HDMI port. It's just not worth the hassle.

As for actual games, once you get the screen adjusted (I had to alter the colour and contrast) they look great. A few games had weird graphical issues that are more emulation errors than the device itself. I played my way through loads of Game Boy Advance titles - because that has the best back catalogue - and tried out a couple of games on almost all of the 8-bit and 16-bit consoles. RetroStone handles them all perfectly, and looking nice on the screen.

Obviously, if you're going to go for N64 games, you'll need an aforementioned USB controller - and I believe there are problems with the emulator, as the couple of games I tried weren't great. However, PlayStation games seem to work great - and they only require the d-pad, since the console was a couple of years old before the DualShock arrived on the scene.

My one gripe with the RetroStone is that the speaker can be quite tinny when turned up loud. The build quality, battery and screen are all great (just remember to adjust it!), and it's incredibly versatile. You don't even have to use it to play games, as it's a handheld Linux computer.

To that, I'd just like to add that I have one of those handheld keyboard/mouse doohickies, and it

works perfectly when plugged into the RetroStone. I've also tried a full-sized keyboard and mouse, and both worked too. It really is versatile!

If you're in the market for a handheld computer, then I can recommend the RetroStone. It plays games, it does Linux stuff, and I've just had a blast playing around with it. They're only available from 8BCraft's online store for €135.

**RRP: 135.00 EUR  
/ \$156.60**





# ROXIO GAMECAP HD PRO

The Roxio Gamecap HD Pro is an external video capture device intended for recording gameplay from games consoles in an easy to use combination of hardware and software as well as provide an easy way to stream to Twitch and YouTube. So how does it fare?

First of all, the Roxio Gamecap HD Pro can capture multiple resolutions from 480i up to 1080p, this means you can capture from last generation consoles (Wii, PS3, Xbox 360, WiiU) easily as well as from both Xbox One and PlayStation 4. It can record at up to 60fps except at 1080p where it is limited to 30fps.

The Gamecap HD Pro fits in between your TV and your console and has both HDMI and Component inputs and outputs. You simply connect your console to the inputs then connect the preferred output to your TV (most likely using the HDMI option), finally you connect the box to your PC via the included USB cable.

It should be noted that you cannot connect a PS3 using HDMI as Sony enforce HDCP (High-bandwidth Digital Content Protection) sadly and the Gamecap HD Pro doesn't act as a HDCP stripper so you'll need to use a Component connection for PS3.

In the box you get the device itself, which is extremely light, a USB cable for connecting to your PC and supplying power, an installation DVD and a Quick Start Guide that explains how to set up a PS3/Xbox 360. No HDMI or Component cables are included however so that's something to factor in.

After installation of the newest software from Roxio's site (rather than the outdated DVD), it's simply a case of launching the included software where you'll then see your console's output in the preview window and some settings related to capturing.

From here you can configure whether you are using the HDMI or Component input source, the location to save files to and length of videos (if required). You can also choose from one of two video containers, M2TS or the more widely used MP4. Capturing video is then as hitting the green Capture button.

Jumping into the options lets you customise the bitrate for your videos as well as link your Twitch and Youtube accounts. Once you've done that, streaming to those services is as simple as hitting the Live Stream button. This all works really well and is great for a beginner but it's very barebones, there is no support for adding an overlay of any sort (camera or image) or any sort





of scene transitions. As long as you only want your game image with voice over the top the included software does the job with a minimum of fuss.

If you want to go the extra mile all is not lost however as you can use the Gamecap HD Pro in both OBS Studio (Open Broadcaster Software) and XSplit streaming programs. Using these more advanced programs you can create overlays, show video from webcams, as well as other more advanced features. Support in other programs however is a little hit and miss, even though the Gamecap HD Pro shows up as a video device in other programs, it often won't work as you'd expect.

This isn't generally a problem as you'll most likely be using OBS or XSplit (or indeed its own software) to stream/record video but it does bear mentioning. The software also includes a surprisingly competent video editing package called Roxio Videowave, it's no replacement for Sony Vegas Pro or Adobe Premiere Pro but for the budding YouTuber it's an exceptionally fully-featured piece of software allowing

you to trim and piece together a video with a wide variety of transitions and effects. The product does have some negatives though, it's really light and the plastic casing doesn't feel sturdy at all, the lack of an HDMI cable in the box is a shame as that's something extra you need and the hit and miss compatibility with other software could be something that requires more investigation if you have specific needs.

The Gamecap HD Pro does what it says it will and in combination with its own software is straightforward to get setup and working quickly. If you solely intend to record videos from newer consoles for use on YouTube or to stream to Twitch in a plug and play manner then it performs those tasks admirably.



**RRP: £129.99  
/ \$149.99**

## Suitable for:



PC



Switch



PlayStation 4



Xbox One







# LOGITECH F310 WIRED CONTROLLER

If you've tried playing any kind of platformer with a keyboard and mouse, you'll know it's a bit like juggling chainsaws while being attacked by a swarm of angry bees. Short of demonstrating your mastery of rude words and wanting to put your fist through the monitor, you don't really accomplish much. (Or perhaps I'm just uncoordinated and plagued by unresolved anger management issues.) For this particular helping of pixelated pudding, you really need... a controller!

"But Ryan, controllers are expensive, and I'm a malnourished student subsisting on a diet of custard and rat droppings. How the devil am I supposed to afford a controller?!" Well, emaciated young person, I'm glad you asked. The lovely people at Logitech have created a controller specifically for this demographic (poor students, Scottish people and tramps), and it's suitably cheap -- and not in an "it's constructed from balsa wood and pipe cleaners" sort of way.

Available in a range of fashion colours (actually, just blue with black highlights), the F310 features two analogue mini-sticks, two button/trigger combos, a D-pad, four programmable action buttons (A, B, X, Y), and the mandatory 'back', 'start' and 'mode' buttons. On the underside you'll find a toggle that allows you to switch

between XInput and DirectInput, ensuring those vintage platformers you have stashed away will likely function, though you may need to download the software from Logitech's website to fine-tune your configuration. In other news, the F310 doesn't vibrate, so if that's how you get your jollies, this is not the droid you're looking for. Inside the box you'll find the controller in a high-on indestructible moulded-plastic carton, a fold-out manual (more of a pamphlet actually), and a warranty card. I unboxed it, plugged it in, let Windows 10 faff about for two minutes installing drivers, and then spent the evening playing Trine and Giana Sisters - Twisted Dreams. The F310 worked flawlessly with both titles.

The unit retails here in New Zealand for \$40 (that's about £25 in proper money), but is available on Amazon and elsewhere at a similar price point. By way of comparison, an Xbox 360 wireless controller was priced at \$90, and an Xbox One wireless controller was \$110. They do say you get what you pay for, and in terms of weight and durability, the genuine Microsoft products probably have the edge. The F310 is very light, feels quite plasticky and on first impression looks as though it won't stand up to extended use. (Especially if you're one of those gamers who tends toward hurling their peripherals across the room in a fit





of pique.) Having said that, the buttons all have great tactile feedback, the sticks move freely with just the right amount of resistance and the dual triggers, though a little stiff, were very responsive. If anything lets the F310 down, it's the D-pad. It works as expected, but in terms of build quality, it seems a little fragile. It's quite loose and there's a fair bit of rotational movement in the mounting. Anyone who gets too feisty with the D-pad is likely to find themselves with a controller in one hand, and what's left of their D-pad in the other. Anger is the path to the Dark Side. And a broken controller.

So, would I recommend the Logitech F310? If you're in the market for a decent controller and your pockets aren't stuffed with wads of cash (or you're a miserly curmudgeon, like me), then yes. Provided you bear in mind that it's cheap for a reason, and you're not prone to acts of gratuitous violence when your gaming skills once again prove sub-par, then Logitech's budget offering should adequately serve your needs. If you're not keen on having wires trailing across your desk, or you prefer something that vibrates (minds out of the gutter, thank you very much), then you're probably better off looking at the F310's big brother, the F710, which retails for \$80 (£42).

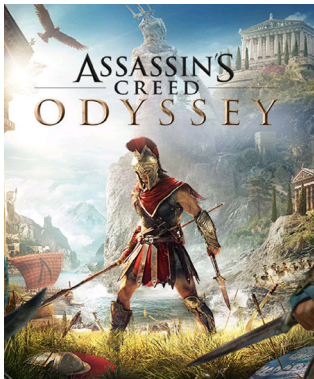


**RRP: £26.99  
/ \$24.99**





MISC

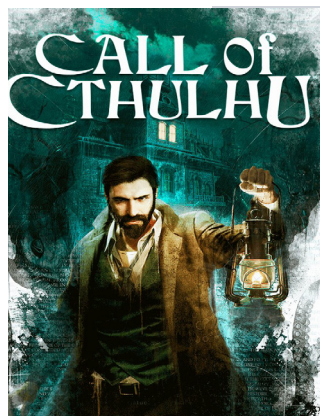


XB PS PC

It was yet another good game from Ubisoft and I always like to be an Assassin again. I look forward to seeing if the next Assassin's Creed game will be just as big as Odyssey, although not too big please.

## Assassin's Creed Odyssey

# 8.5/10



XB PS PC

An unpolished, but ultimately charming and engaging take on H. P. Lovecraft's most famous creation. A must for psychological horror fans.

## Call Of Cthulhu

# 7.5/10



XB PS PC

The return of the horsemen delivers an entertaining, if challenging, action adventure. Some beautiful environments and fun enemy design help keep it engaging as you play but Darksiders' third outing is ultimately forgettable.

## Darksiders 3

# 7/10



XB PS PC

An interesting experiment that fails to nail either side of the experience, it uses Fallout trappings to good effect and can be fun with great environmental storytelling and West Virginia itself is gorgeous. The lack of NPCs and overall cohesion along with lacklustre PvP hinder its identity, however.

## Fallout 76

# 4.5/10



XB PS PC

A bit pricey to say it lists half of its own contents as DLC, but if you already own HITMAN and want more of that, then HITMAN 2 is perfect for you.

## HITMAN 2

# 8.5/10

## GAME MICRO-REVIEWS







**XB PS PC**

## Monster Hunter World 9/10

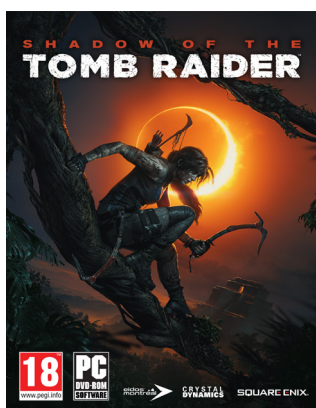
With the incredibly constructed world, incredible combat experience, and cohesive experience. The downpoints are more just demands for more content.



**XB PS**

## Red Dead Redemption 2 7.5/10

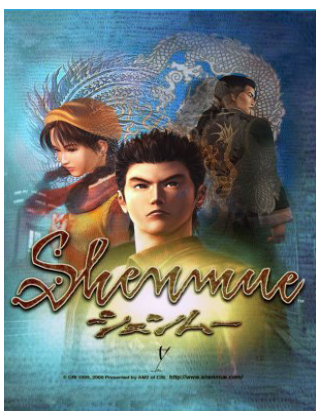
It is possibly the best open world that you can visit, held back by a main story that's a bit too archaic. On the whole, it's still highly enjoyable, so I would still highly recommend you dig into it. You'll definitely get your money's worth.



**XB PS PC**

## Shadow of the Tomb Raider 6/10

Entertaining enough to be worth the price of admission, but it's an action-adventure title that follows the same beats as any action-adventure title. While the story may be new, the characters, the set-pieces, and the dramatic ending, are all things we've seen before.



**XB PS PC**

## Shenmue I + II 8/10

Shenmue I & II brings the Dreamcast classics to a new audience as well as those nostalgic for the old days. They are still fun, exciting games even with a few quirks due to their age and are well worth playing in 2018.



**XB PS PC**

## Warhammer: Vermintide 2 9.5/10

The recurring theme of offering players a variety of tools, characters and enemies to face leads to a crescendo of unique moments that are all entirely player driven. While the difficulty spikes can be frustrating, part of the fun in Vermintide 2 is being against the odds and prevailing.

You might be looking for something to go with your new hardware - well here's what GameOn think about the latest AAA titles





# NINTENDO SWITCH ONLINE NES GAMES

With the recent release of Nintendo's paid online service for the Switch, it's just the PC left with no charges for online play. To sweeten the deal for those now having to pay in order to lose a race in Mario Kart to a blue shell at the last minute however, Nintendo is providing a suite of inclusive classic games.

The service comes as a free gift and allows you to play the games for as long as you remain a subscriber to the service. If you fancy making your Switch look ridiculous then you can even get a set of NES controller Joy-Con. These are essentially wireless NES controllers that you can attach to your Switch, and only use for NES games because they don't have motion controls or the full set of buttons on regular Joy-Con. The plus side is that they're set to be about cheaper than a set of regular controllers.

There's a selection of 20 games to start with, arranged in a very attractive grid, with the ability to give individual games their own section. Some of the games aren't particularly good, but there's some of the bigger titles like Super Mario Bros, Gradius and Excitebike which make up for it. Nintendo has already announced new games to be added over the coming months too, so it should build up to a decent sized library in time.

If that happens, it'd be nice to be able to set categories, but seeing as we can't even do that on the Switch itself yet, best not to hold your breath.

One thing that irritated me a bit was the lack of instructions. The NES mini omitted instructions too, but all the games have proper manual scans on the Nintendo website. Not so for these games, and for a number of them such as Ice Hockey or River City Ransom the controls require various simultaneous button presses due to the NES' limited number of controller buttons. Without the manual you have to stumble on these controls by accident, or find a scan of the manual online somewhere. I'd have liked to have seen the manual as an option in the pause menu like so many other retro game re-releases do. There's a "user guide" there, but it just tells you which Switch buttons correspond to which NES controller buttons.

The games are presented exactly as they were on the NES. This means that they have the same limitations, and also they all do that weird thing where a little bit of the left hand side of the screen appears at the far right during scrolling of fast-paced games. This wasn't as noticeable back in the day on a CRT, but it's quite jarring now we're all playing on crisp LCD screen or







gigantic, high frame-rate TVs. You can add scanlines to the picture to emulate a CRT, but it's not hugely effective and makes the picture look worse to me. I found the best way to emulate the old-fashioned fuzzy screens of the 80s was to just take my glasses off before playing.

Just like with other emulators, you get save states for games, meaning that maybe I'll actually be able to complete Ghosts 'n Goblins now. There aren't any tweaking options like you'd get on a standalone emulator like speed adjustment, region encoding or anything like that, but that's to be expected as this isn't designed for the more hardcore retro gamers. They will probably be playing on original hardware anyway.

Quite a neat feature is the online multiplayer mode, where you can play two player games with your friends across the internet. Sadly, this is restricted to friends only and you can't play

with a random stranger like modern games, but if you've got a friend that's not nearby and you want to play Balloon Fight, then you can do that.

All in all, I'm a big fan of the NES games on the Switch, and as new titles get added, I'm expecting to enjoy it more. There are a few tweaks that I'd like to see, but given the price of the online service it's pretty good value for money in my opinion. At the time of writing, it's possible to get a free seven day trial too, so you can always give it a spin before forking out too.







# THE DIFFERENT TYPES OF CONSOLES

Trying to decide which console to buy isn't being made any easier, with the recent releases of some upgraded versions of the latest consoles. Hopefully this will help you pick out which one you're looking for.

## Xbox One

Standard model, which has gone down in price since the introduction of the newer "S" and "X" models.

## Xbox One S

4K blu-ray player, 40% smaller and slightly more powerful than original Xbox One. Offers HDR content, can be positioned vertically and internal power supply (avoids the blocky object attached to the cable, allowing better fitting into more confined areas). Built-in storage available is up to 1TB. HDMI 2.0 allows 4K and 60FPS. IR (InfraRed), TV controller compatibility, more updated controller. (Available separately)

## Xbox One X

Whereas the S allows 4K media playback, the X is much more powerful. It is more than twice as powerful as its predecessors, and still packs in a 1TB hard drive.

This allows you to play games in 4K, with more games being enhanced to give you much better graphics in higher resolutions.





### **Buyer beware:**

Prices will vary depending on a variety of factors such as location, stock availability and the amount of items bundled with the console. Bundled items may include games and controllers.

**The PlayStation Pro and Xbox One X are the only console which will cost over £300 / \$300 *without* games.**

## PlayStation 4

The “slim” is now the standard PS4 model and is 30% smaller, 16% lighter and 28% better at power consumption, with fewer USB ports. If you understood what all that means, you’ll also be glad to know it houses the exact same innards as the original PS4 so your games won’t look any different. Unlike the original, the Slim comes with both a 500GB and 1TB options with prices starting from around £230. In a nutshell, it’s more of the same, in a better looking and smaller body.



## PlayStation Pro

The PlayStation 4 with more power, perfect for those obsessed with crisper graphics, better frame rates and a 1080p resolution. With a price of around £400 and coming with a 1TB hard-drive, it is on the more expensive side of other consoles you can currently buy, but there is a reason. The PS Pro has a more powerful and faster GPU & CPU at its core, as well as harnessing the latest in HDR and 4K technology. Though there is no 4K Blu-Ray player for films (Sony are working with Netflix and YouTube on 4K streaming apps), the games you play will be the best looking ever seen on a PlayStation console, appearing all the better if you have a 4K television. Having the new console won’t hinder the games you can play either, all PS4 games will be compatible with the Pro, some even receiving patches to optimise the Pro’s technology. If you’re obsessed with the latest tech, it’s certainly for you, but if you just want to jump into the console space, the Slim will be just fine.





# INTEL DESKTOP CPU GUIDE

So Intel's desktop lineup can be a bit of a minefield, I thought I would pop together a quick run through their range detailing the different features and hopefully give a good indication of a use case for each chip.

I'll start off with the standard desktop line, these are the bulk of Intel's desktop sales. Across the range of desktop chip's we have features such as integrated GPU's, 16x on chip PCI-E lanes which can either be used as a single 16x lane for a single card or as two 8x lanes for Crossfire / SLI support, there are boards out there that offer more than two card support via the use of a PLX chip.

## Pentium and Celeron

These are Intel's entry level, basic dual core chips, I wouldn't really recommend these for anything more than light gaming, they are aimed more at the basic Facebook / web browsing machine.

There isn't a huge difference between the Pentium and Celeron lines, on the latest Skylake chips the Pentiums have slightly more cache than the Celeron chips, 3mb vs 2mb.

The Pentium chips also have a higher clock speed and some models have a better spec integrated GPU.

One interesting thing that some of these chips support and the i5's / i7's don't support is ECC memory, why would you have this on lower end chips and not high end chips? Well the main reason is NAS devices, they don't need 4 cores or a high clock speed but ECC memory is essential in my opinion, I actually run FreeNas on a Pentium chip with ECC memory, bear in mind you will also need a motherboard that supports ECC memory as well.

Example of a standard Intel Desktop CPU, the i3 / i5 / i7 chips share the same package.

## Core i3

The Core i3 is the entry level "Core" chip, these are dual core like the Celerons / Pentiums but have hyperthreading which will give you 4 threads, better for gaming, and there are models with higher clock speeds than the Celerons / Pentiums, some models also have an extra 1mb of cache. These also support ECC memory so another good pick if you want a more powerful NAS system.







## Core i5

This is the chip most gamers will likely have, these are true quad core chips but don't have hyperthreading.

For today's gaming at least for now 4 cores generally seems to be enough (DX12 / Vulkan may change that).

The cache on the i5's is bumped up as well, Intel's latest Skylake chips have 6mb compared to the 4 / 3mb on the Core i3 chips.

Grab the K variant i5 and with a little tweaking in the EFI / Bios you can get some good overlocks.

## Core i7

These are the highest end chips Intel offer, a lot of debate amongst the enthusiasts as to if there is any real world benefit over the i5's for gaming, I guess it comes down to each individual's use case, Someone who streams their gaming may benefit from the extra threads for example. So from a tech point of view this is the chip with all the goodies enables, it has four cores, the full complement of cache and hyperthreading, also if you're not interested in overclocking but want the best performance then they have higher clock speeds as well, though you will need to decide if a couple of hundred extra MHz is worth the premium.

## Core i7 HEDT (High-End Desktop)

Next up we have the second part of Intel's Core i7 line, given that these chips are effectively unlocked Xeons I would have preferred Intel called them something different like Core i9 for example to differentiate and avoid confusion but it is what it is.

Benefits here are more cores, Intel's Broadwell line of HEDT chips start at 6 cores and top out at 10 for example.

More on chip PCI-E lanes, there are two versions of these chips with 28 lanes and chips with 40, the 40 lane chips are great for anyone looking to do CrossFire / SLI as you can run two cards at full 16x or 3 cards at 8x8x8x.

This is also great for PCI-E storage, you can run M.2 / U.2 drives straight off the CPU's lanes (motherboard supporting), why is this any better than running from a chipsets lanes?, Well for most users you won't notice a difference but for content creators / anyone requiring high throughput you might see a benefit, on the standard desktop range the drives connect to lanes on the chipset, the chipset then communicates to the CPU via DMI, which is effectively a 4x PCI-E link. So imagine you are doing I/O intensive work, have a number couple of drives hooked up and a number of USB devices and you might see the link bottleneck. Again though for most of us this won't be an issue.





## Other variants

So, not wanting to make it too easy Intel makes it a little more confusing with a number of variants within the core lineup which I will briefly cover.

## K Series

These are the chips that I expect most people to have or are looking at, these are the only chips in the range that support overclocking, along with the chip you will also need a Z series motherboard, for example with Skylake you would be looking at a Z170 based board.

## T Series

These are the low power chips, the Skylake T series chips are 35w, great for a media PC for example that needs to be low noise, or a office machine that does not need a lot of horsepower.

## P Series

Odd one these, they come in a number of TDP (Thermal design power) variants the only common feature along the line is the use of Intel's lowest end integrated GPU, the price isn't that much lower than the standard chips with the higher end GPU so I am not sure who these are aimed at, they might be chips with failed GPU cores that are being cut down and sold at a lower price.

Lowest end graphics, HD510 on the Skylake range for example

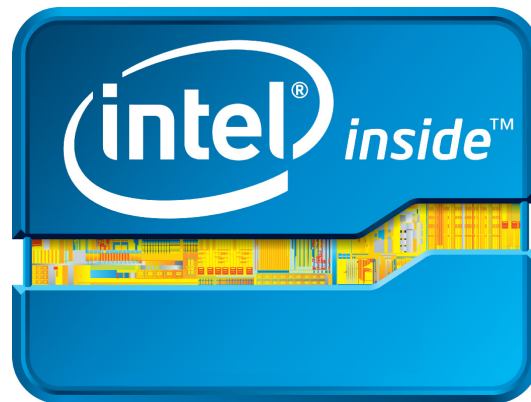
## R / C Series

The first R Series chip I saw was the 4770R which was a chip that debuted in Intel's NUC lineup, it wasn't a socketed chip and was only available soldered to the board.

What made this unique is it came with Intel's highest end integrated graphics, and eDRAM, these made for powerful very small form factor machines, great for office use and media machines.

The C series were essentially the same but came in a socketed form factor, Intel released two of these with the Broadwell refresh a Core i5 and a Core i7.

Gamers were finding these to perform really well even compared to the newer Skylake chips, it's speculated the eDRAM helped a lot here, that said they are older chips now, use an older chipset and only support DDR3 and are quite expensive.



## Conclusion

So that's a lot of CPU's to choose from, to summarize I would recommend the following use cases :

Pentium / Celeron = Web / Office work and basic gaming

Core i3 = Entry level gaming / Office work

Core i5 = Great for gaming at most levels

Core i7 = Enthusiast's

Core i7 HEDT = Enthusiast's / SLI and Crossfire / Content creators

Hopefully this guide helps anyone looking to pick up a new CPU.





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# STORAGE BASICS

In this guide I aim to give a brief rundown of what's currently available on the market, good use cases for each technology, and help make things a little clearer for potential buyers. I'll be looking at internal drives in this article specifically in the consumer space.

## Mechanical / Magnetic Drives

When talking about hard drives, most people think of the traditional drive that's been around since 1956. Offering the highest capacities in the consumer space at a reasonably low cost, this type of drive stores data on rotating platters (also known in the industry as "spinning rust").

## Solid State Drives

Solid State Drives or SSD's have been around for awhile now but have really caught in in recent times due to the increases in capacities.

Where as a traditional hard drive uses metal platters with magnetic coatings to store the information, SSD's use non-volatile flash memory instead which can offer a number of benefits. performance is the main gain but also they can use less power, put out less heat and are silent. SSD's are available in a wider variety of form factors which I will detail further later in this article.

## Hybrid Drives

Hybrid drives are a hybrid of the standard tried and tested hard drive with the relatively newer SSD.

The integrated Solid State Drive is generally of a small capacity around 16—32GB and

is used as a cache. Frequently read data is kept on the SSD portion of the disk for faster access, while the rest of the disk stores the brunt of the information. Whilst you won't get the performance of a full SSD with a hybrid drive, you will generally notice performance gain over a standard hard drive. These drives are commonly known as Hybrid or SSHD.

You can purchase a hybrid drive which combines the SSD and hard drive in one package, which is the most straightforward way, or you can also add a separate small SSD to your system in combination with an existing hard drive. The SSD will then work as a cache for your existing drive though this is a little more complicated as it requires a specific combination of hardware and software.

## Form Factors

### 2.5"

This is the standard model that most of you will be familiar with. It looks like a standard hard drive and connects to your motherboard via SATA, Delivering good performance and generally offering the best capacity for an SSD.

### M.2

The M.2 form factor replaces the old mSATA standard and comes in varying lengths of 30, 42, 60, 80 and 110 mm. mSATA plugged into mini-PCIexpress slots on older Laptops.





Supported busses for M.2 are PCI-E, SATA and USB 3.0. Check your motherboard when purchasing whilst most will take all three standards some boards will only accept one of them (PCI-E M.2 drives, for example).

I am a big fan of M.2 due to the form factor, these drives are very small and fit into a socket on the motherboard, which means no data / power cables and an overall tidier look inside the computer.

On the PCI-E side of things, the legacy Advanced Host Controller Interface (AHCI) is supported for older SATA drives, as well as the newer NVMe Express (NVMe) for newer PCI-E drives.

## U.2

This is a bit of an odd one, as currently only a single SSD vendor supports the standard, Intel. However, I can see it catching on — the drives are your standard 2.5" form factor and will fit nicely in many current cases out there, the differences being the interface and the cabling. Essentially, the drives use the same PCI-E 3.0 4x interface that the M.2 drives use, but with a more familiar cable and socket on the motherboard for connectivity. Performance-wise, the drives are on par with the M.2 variants.

In theory, with the right setup you should be able to have more of these hooked up to a single system, but as with the M.2, there is only so much space on the motherboard to put the connectors.



**PCI-E**

I have already mentioned PCI-E in both the M.2 section and the U.2 section, but this is a third type which installs directly into a PCI-E slot just like your GPU does. This is the more familiar PCI-E device. Again expect performance in the same ball park as the M.2 drive and the U.2 drives.

**SATA Vs PCI-E**

So you're looking for a new drive which one do you choose: SATA or PCI-E? Well, the main benefit of PCI-E over SATA is its performance. Both drives can be a lot faster but will you really notice it in the real world? That depends on the workloads. Windows will load faster and feel snappier on a PCI-E drive, however, with gaming you probably won't notice a huge difference.

SATA also costs a lot less, which may also be a consideration — most people I know who have SATA-based SSD's are very happy with its performance.

Personally, I use both. I have a small PCI-E based M.2 SSD for Windows and a larger SATA based 2.5" drive for my ever growing Steam collection, and I find this a great balance.

**Terms used in this article**

Essentially, NVMe is a logical device interface specification that was designed from the ground up for PCI-E SSDs. The

specification improves over AHCI in a number of ways in order to make the most of the low latency and parallelisation of PCI-E SSD's.

**PCI-E** - 'Peripheral Component Interconnect Express'

A high-speed serial computer expansion bus standard, designed to replace older less performant standards.

**SSD** - 'Solid State Drive'

A hard drive that has no moving parts, allowing data to be accessed much faster than a standard hard drive.

**NVMe** - 'Non-Volatile Memory Express'

A logical device interface specification that was designed from the ground up for PCI-E SSDs. It utilises the low latency and parallelisation of PCI-E SSDs to perform better than AHCI







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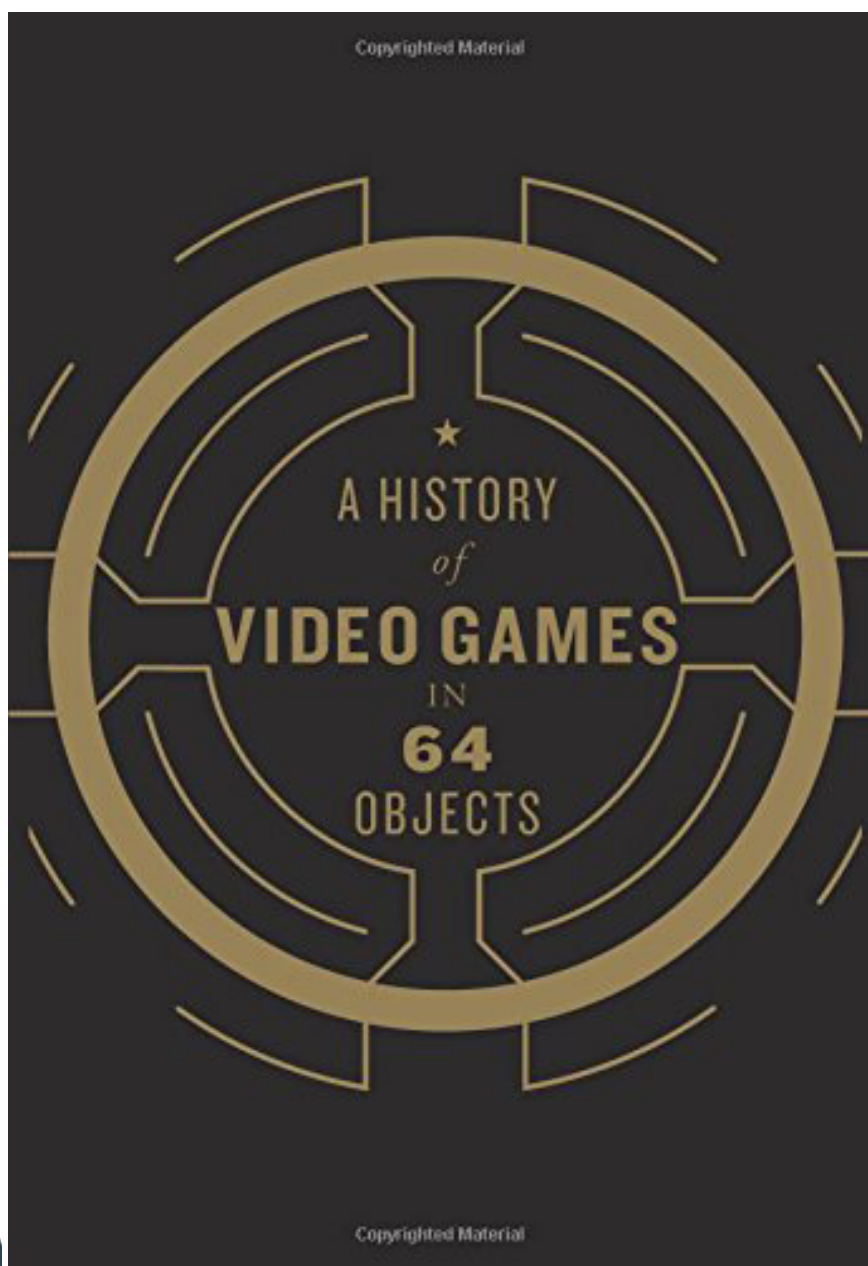
# A HISTORY OF VIDEO GAMES IN 64 OBJECTS

Videogames are still relatively new, even as we proceed deep into the eighth generation it's easy to forget that the modern era of gaming only began in the 70s. The early machines like the Magnavox Odyssey owing a lot to both electronic and mechanical toys from the preceding decades. Preserving the contribution of the various pieces throughout gaming's short history is important and this book hopes to do part of that.

A History of Video Games in 64 Objects cherry picks sixty four significant items from an archive of thousands housed at the Strong National Museum of Play, be that hardware or games, that made a significant impact to the world of gaming. The book chronicles each in some detail, aiming to give historical context and detailing the stories these objects have to tell. For example, Gottlieb's Humpty Dumpty pinball machine and its existence in a world where pinball machines were banned in New York, seen as they were as a gateway to gambling.

The writing style is easy to read, conveying a lot of really interesting information without becoming dry textbook fodder. Focussing on the historical relevance of each object as well as the impact its creator had on the industry makes for some fascinating reading. Including anecdotes about the great Gunpei Yokoi and Nolan Bushnell help bring a human element to the creations as well.

Initially, it might seem odd that a good portion of the items covered by the book are of a mechanical or early electrical nature. But it's interesting seeing how Nintendo's Love Tester or TSR's Dungeons and Dragons would have long lasting effects, on both Nintendo's dedication to play and the complexity of videogames.





The book looks at games you'd expect, Super Mario Bros., Sonic the Hedgehog, Doom and more. But it also takes great care to talk about more obscure, influential games such as the early simulation game, Utopia for the Intellivision and Bill Budge's iconic Pinball Construction Set from 1983. Each of the games is given enough pages to give you a solid sense of why it was included.

Saying that however, there are some oddities, once into the modern era it's easy to see why games such as Halo: Combat Evolved, The Sims, and Pokémon are included. Call of Duty: Modern Warfare 2 however feels an odd pick; whilst the accompanying text details the evolution of the FPS, even briefly glossing over the original Modern Warfare, suggesting that its sequel is credited with reinventing the genre with a degree of realism feels a little like revisionist history.

That blip aside, the rest of the choices are solid, interesting artifacts of notable renown. Including some cool things I'd not heard about before reading, like the Digi-Comp mechanical toy kit computer, prompting me into doing further research to satisfy my own curiosity.

A History of Video Games in 64 Objects makes for an interesting read, each entry is riveting in its own way, often casting things you are familiar with in a context that makes you think about them a little differently. It's well worth a read and I hope they do more of this type of thing, I'd quite happily read about 256 historical gaming objects written in this format.

**RRP: £15.99  
/ \$12.99**



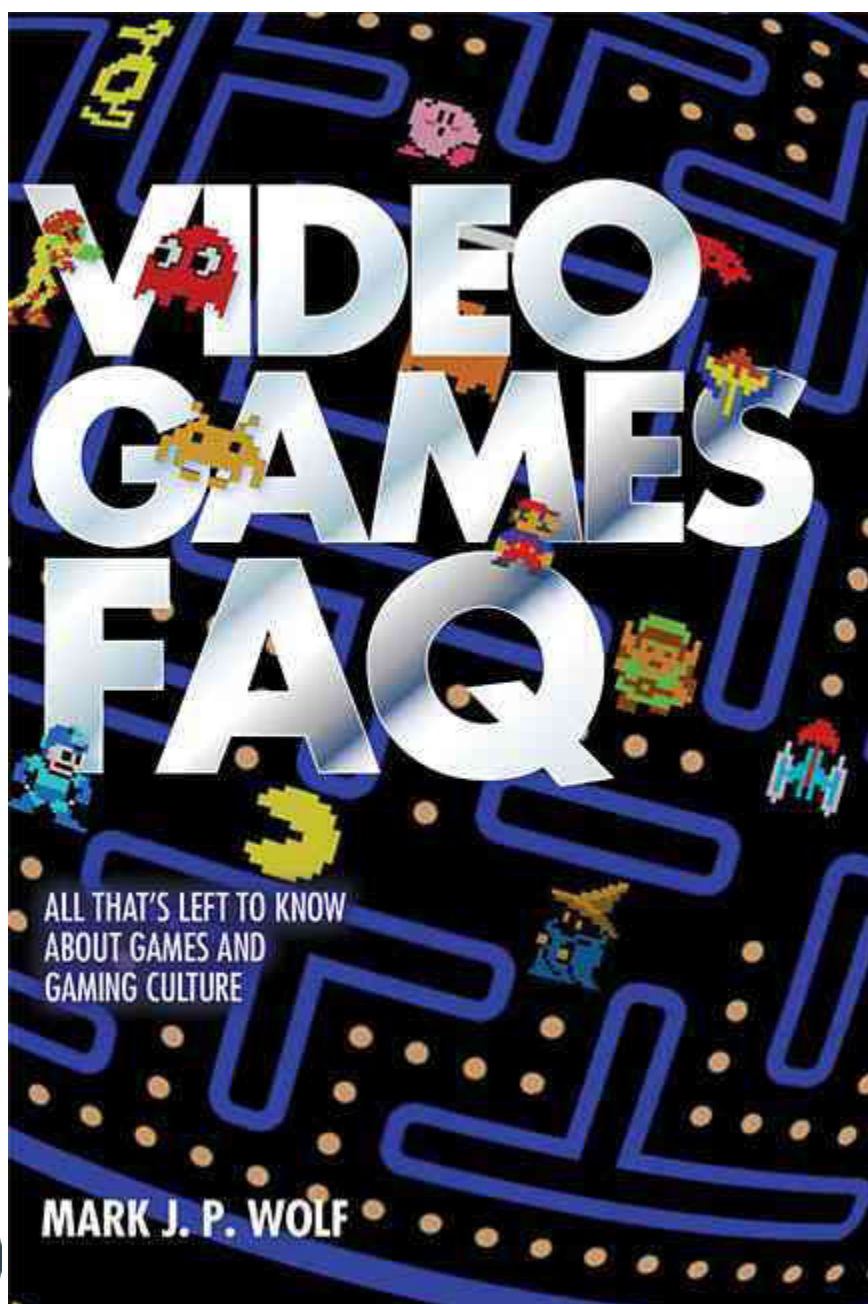




# VIDEO GAMES FAQ

**B**efore the days of the internet, and being able to look everything up with a few clicks, key presses or voice commands, we had these things called books. They were the corpses of dead trees, processed to be malleable, scrawled with ink so as to impart a message. They had no batteries or backlighting and they were portable if not pocket sized. Perhaps you remember them? If so, good, because I'm going to tell you all about one now.

Video Games FAQ - All That's Left to Know  
About Games and Gaming Culture (VGFAQ)



is a hefty tome, detailing the history of video games from their initial inception, right up to the modern day (at the time of writing, the Switch hadn't been fully confirmed so that's the only mainstream device not covered). I imagine there's a few people that are wondering why we need a book on this when there's so many YouTube videos, online articles, blogs and archival sites dedicated to videogames, but you'd be hard pressed to find a resource that's anywhere near as detailed as this one anywhere else.

Author Mark J.P. Wolf has some impressive credentials to his name, with decades of research into videogames and other entertainment media under his belt, and that's before we've even mentioned the PhD in critical studies. He's also an Associate Professor in the Communication Department of Concordia University in Wisconsin, USA. The point I'm making here is that this is someone who has studied the field greatly and knows how to write a book. He's written numerous books on gaming and this is just the latest of those.

It's worth noting that Wolf is based in the United States of America, and this is reflected in the point from which some of the history is viewed. He does cover some of the UK history, but systems like the ZX Spectrum, Dragon 32, and Amstrad CPC get little more than a passing reference. There's





probably a whole other book to be written about the UK home computer scene of the eighties, but instead, that period of time in the chronology is dedicated here to the second North American videogame crash of the eighties. To be fair to the author, there's a lot of ground to cover in what is an ambitious title, with the coverage that is here amounting to around 400 pages already. If the book was to be smaller than the average encyclopedia, then there was going to have to be some brevity involved, and it's natural to expect an American author to consider the history in America to be less worthy of hitting the cutting room floor when space needs preserving.

The information that did make it in is presented in largely chronological order, starting from the early days of electromechanical games, through the creation of basic electronic games, right up the modern behemoths like the Xbox One and PS4. All the oddities in between like the Casio Loopy, the Apple Bandai Pippin and the Watara Supervision are covered too, so even if you consider yourself a pretty seasoned videogame enthusiast, there's

likely still plenty of information to learn here. The information within is well-researched and accurate (although I did spot one slight error in the details of an obscure Master System model!)

Although this is a fact-based book, it's very readable. The language used is neither overly simplified, nor overly complex, making for a book that's very readable as a cover-to-cover book. This isn't one of those coffee table type books that's designed for flicking through in a waiting room, but a real page turner. If you've got any curiosity about the history of video gaming, this is a title that will help satiate it.

**RRP: £15.99  
/ \$14.69**





# THE ELDER SCROLLS V: SKYRIM SPECIAL EDITION STRATEGY GUIDE

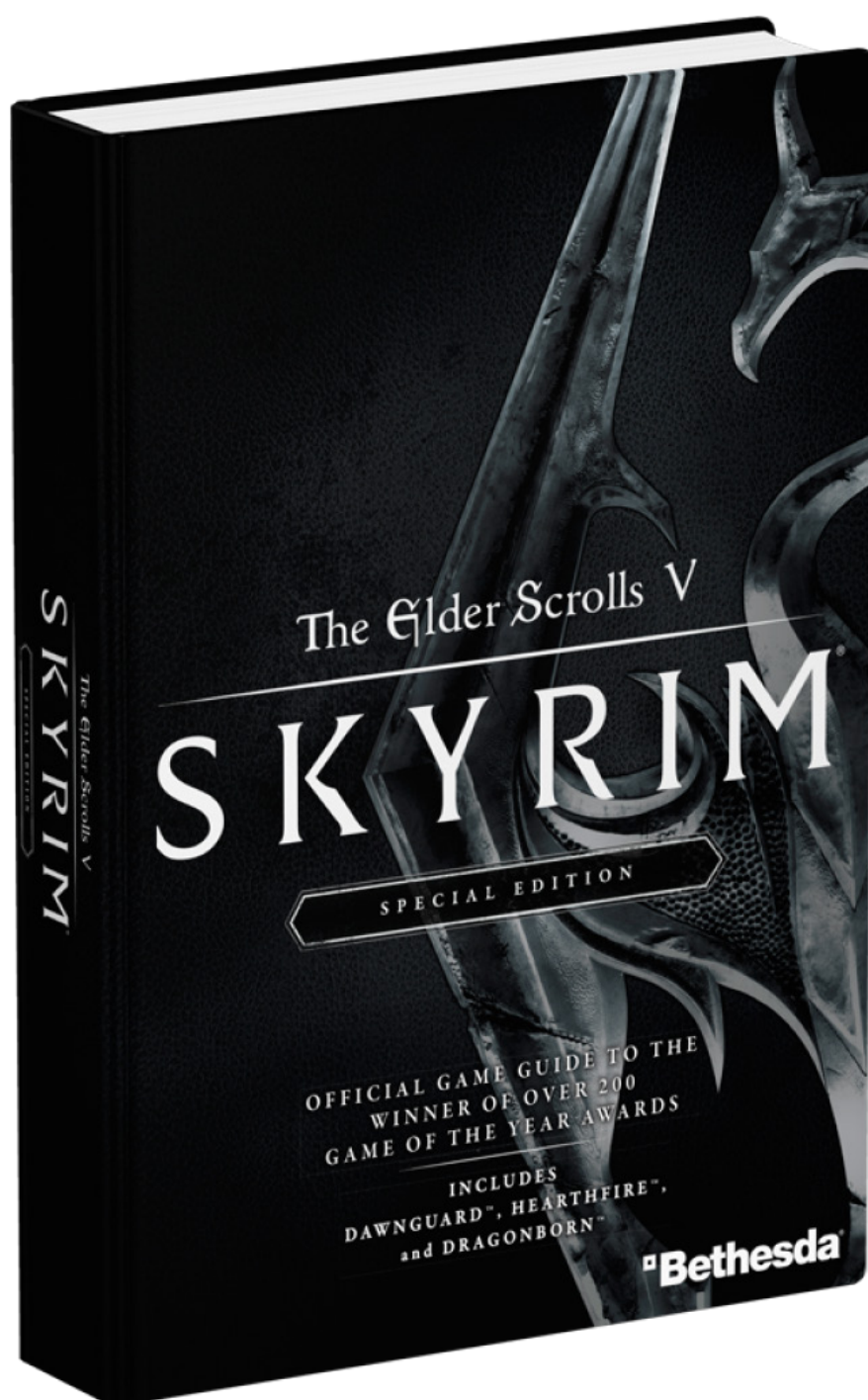
Following the release of Skyrim: Remastered Edition, Prima Games have brought out a full guidebook of the whole game, and they really haven't held back at all.

RRP: £24.99  
/ \$49.99

The detail within the book is simply astronomical. On the first few pages you are given a list of clear strengths/weaknesses with every race, as well a backstory behind their lore. From there, it launches into a guide about everything the game has to offer. Absolutely everything.

Every single weapon is detailed in the book. Walkthroughs for each mission (with methods for the best outcome these missions can offer, if multiple choices are available). They also reveal all of the locations and players are given a full, detailed map of the whole Skyrim area.

All in all, this guide is absolutely perfect for a fan of The Elder Scrolls. The sheer amount of detail contained within its pages will appeal to both new players, and even old ones that already poured hundreds of hours into the game. A must-have gift for any players of the game.







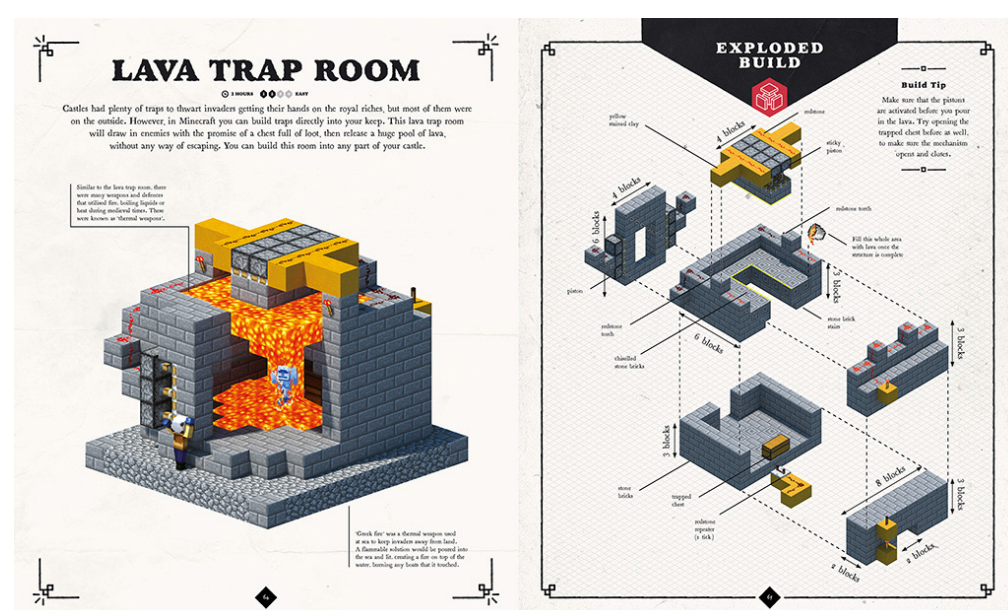
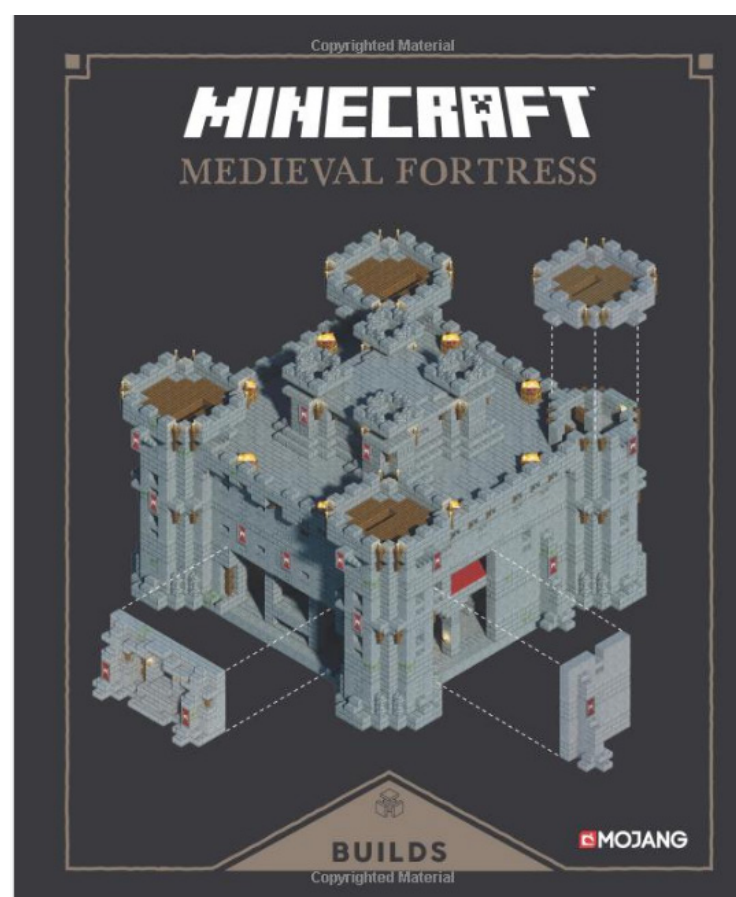
# MINECRAFT: MEDIEVAL FORTRESS

**M**inecraft: Medieval Fortress is a building guidebook that can be appealing to both newcomers and experienced players.

Being an avid player of the game for several years now, the booklet caught my attention as building had always been something that I had wanted to do, but lacked the creative flair in order to do so, instead dedicating my time to online PvP servers.

Within Medieval Fortress, you are given a step-by-step guide into building your own medieval town, complete with villages, castles and defence walls (with actual defensive measures, such as player outposts and traps within it). The illustrations within the book make the builds extremely easy to follow and splits & categorises it into many different sections, as to make sure the reader does not get lost or confused.

Overall, the Medieval Fortress guidebook is a fantastic gift for anyone who owns Minecraft. Even if they don't build very often, the detailed explanations behind each step make it very easy for new builders to follow, yet its complexity and sheer detail means that experienced builders can still find something new.



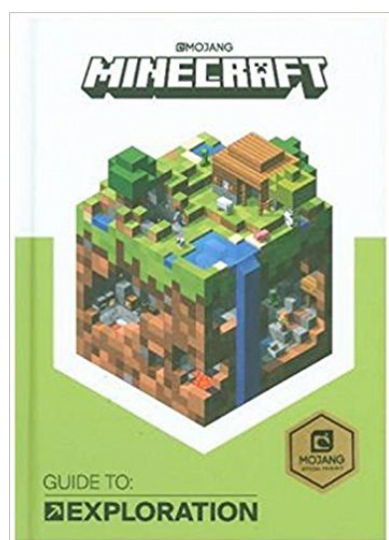
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# MINECRAFT BOOKS

## Minecraft: Guide to Exploration

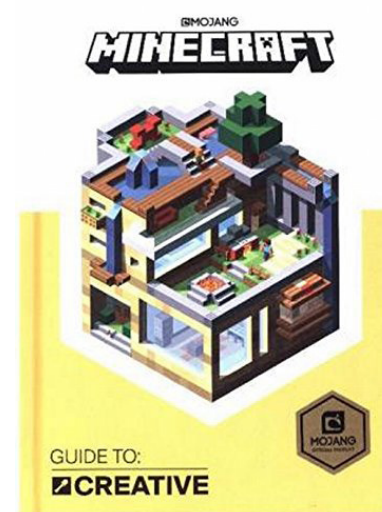


**T**he official Minecraft Guide to Exploration from Mojang will help you to survive and thrive. You'll learn how to find resources, craft equipment and protect yourself from hostile mobs. Discover which biomes to avoid when starting out, how to build a mob-proof shelter and where to look for naturally-generated structures laden with loot.

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# Minecraft: Guide to The Nether & The End

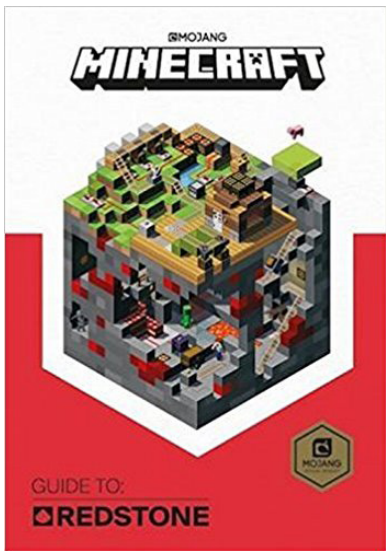


The official Minecraft Guide to the Nether and the end will help you survive as you navigate new terrain, discover new hostile mobs and attempt to collect unique materials. Learn how to kill fire-resistant mobs in the Nether and repurpose Nether fortresses, then master the art of defeating the ender dragon and explore the outer islands of the End dimension.

RRP: £5.00 / \$10.00

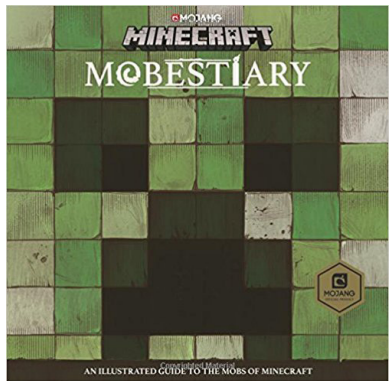
# Minecraft: Guide to Redstone

Learn the art of redstone and become a master engineer with the Minecraft Guide to Redstone, and put theory into practice to construct intricate contraptions in Minecraft. Pick up the basics of the redstone components and their uses, discover how to make working circuits, and create incredibly complex builds using your new skills. With insider info and tips from the experts at Mojang, this is the definitive guide to engineering in Minecraft.



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# Minecraft Mobestiary



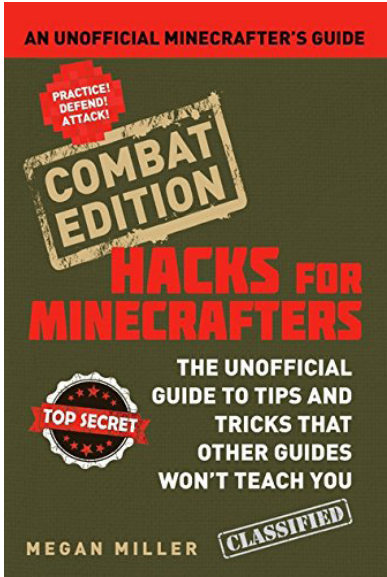
Written by a naturalist who has made it his life's work to study Minecraft's mobs, and illustrated with field sketches, Minecraft Mobestiary is the definitive guide to every mob in the game. You'll find little-known facts about passive, neutral, hostile, utility and boss mobs, as well as more general information about their location, behaviour, threat level and drops.

RRP: £5.00 / \$10.00





Hacks for Minecrafters: Combat Edition: An Unofficial Minecrafters Guide



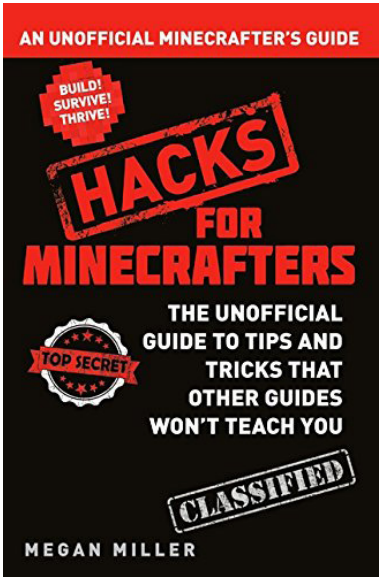
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