

#### INTRODUCTION

A new TV is a window to other worlds. It's something that draws the whole family together, and with the latest technology, it can even be a work of art.

You've probably already decided to buy one, but which model should you choose?To make sure you get your perfect TV, you'll need to research your options before making a purchase. It's important that it sits comfortably in your room, matches your viewing habits, and provides good value for money.

If you're drowning in a sea of technical jargon, you've come to the right place. Our comprehensive buyers guide explains everything – from screen sizes and resolutions to what to look for in a gaming TV.

A TV draws the whole family together, and with the latest slim and curved models, it can even be a work of art.

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**BUYERS GUIDE - TVs** 





# WHAT SCREEN SIZES ARE AVAILABLE?

Modern TVs come in sizes anywhere between 19.5 to 98 inches, although you may see larger or smaller screens on the market. 32", 42", 48", 55" and 65" models are the most common.

Screen size is measured diagonally from the bottom left corner to the top right corner, and given in inches. Don't forget, these measurements don't include the bezel – the border between the screen and the frame – and the overall dimensions of the set will vary from model to model.

Screen size is measured diagonally from the bottom left corner to the top right corner.







#### TV PLACEMENT IS KEY

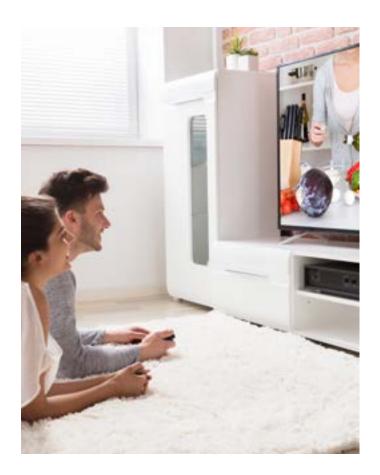
First of all, you'll need to decide where you want to place your TV in your home. Is it going to be the main attraction in your living room for the whole family to enjoy? Or are you looking for a model that's less conspicuous for a bedroom?

The room's size and space you have available are big factors in determining the TV's size. Think about how many people are in your family and how many of you typically watch TV at once.

Once you've decided the above, you should measure the area before visiting a store – or browse online. This will give you a clear idea of the TV sizes that will fit comfortably in the space before you commit to anything.

You'll also need to decide whether you'll need to place your TV on a stand, or mount it on a wall, as this may affect the space you have available. The TV's weight needs to be considered too – if you purchase a larger model, will it have adequate support?

Consider, also, how a TV will look in the room when making your decision. Are you happy to have a TV that dominates your living space if you go for a larger model?



Think about how many people are in your family and how many of you typically watch TV at once.





# DON'T FORGET ABOUT VIEWING DISTANCE

It's suggested that there's a direct correlation between recommended screen size and viewing distance.

In simple terms, the bigger the TV screen, the further back you need to sit. The general rule of thumb for a high definition TV is to sit back about 2.5 times the diagonal screen size. With a 42" TV, for example, you'll need to sit around eight or nine feet away.

If you sit too close to a TV with a larger screen, you're likely to limit your field of vision. You may also notice the television's pixels, even if you are watching a movie in HD. By sitting further away from the TV, the density of the details will improve, giving you a better overall image.

With Ultra HD or 4K models, however. you only need to sit around 1.5 times the diagonal screen size away. Sitting closer means that you'll be able to fully appreciate the greater detail and picture quality that these models can display.

#### WHAT'S YOUR BUDGET?

If you're ready to buy a new TV, it's sensible to find the best deal for your budget. Funds permitting, it's worth getting the biggest screen you can afford to suit your space.



The general rule of thumb for a high definition TV is to sit back about 2.5 times the diagonal screen size.







#### **LCD TVS**

LCD TVs used to be the most popular type of flat screen before the development of LED models. They use large fluorescent lamps behind the screen, which shine through a matrix of coloured Liquid Crystal Display (LCD) cells.

This style is generally the cheapest, but is in decline due to the advanced technology and larger screen sizes of the LED versions.

Although people usually talk about LED and LCD as being two different things, they both use the same type of display. The difference lies in the way they are lit. The term LCD is used to refer to screens lit by Cold Cathode Fluorescent Lamps (CCFL), whereas Light Emitting Diodes (LEDs) are used to light LED TVs.

LCD TVs used to be the most popular type of flat screen before the development of LED models.







#### **EDGE-LIT VS BACK-LIT**

There are two types of lighting with LED TVs: edge-lit or back-lit.

Most models nowadays are edge-lit, with LEDs just around the edges of the screen meaning these models can be super slim.

Back-lit models have LEDs spread across the entire back of the screen. They aren't as thin, but the light consistency is slightly better.



**LED TVs are slimmer,** brighter and more efficient than older ICD models

#### **LED TVS**

LED TVs are the most popular style on the market, using thousands of tiny LEDs behind the screen to light it up. Technically, they are a type of LCD TV, but the method of illuminating the display means the picture quality is much higher.

These screens produce a brighter image than LCD and plasma versions. Models with local dimming technology only light up the screen areas that are needed. This way, black areas appear darker, and colours seem brighter.

LED screens are also slimmer - this is because the lights they use are smaller than in LCD models. Bigger screen sizes are more readily available too. Energy efficiency ratings for these models are very high as LEDs produce a lot of light with very little power.

Like a lot of flat screen TVs, the speakers in LED models tend not to be very powerful there isn't much room for them. Some users may prefer to buy a separate sound system or soundbar. Due to their popularity and newer technology, LED models can be a little more expensive than other types, although they are cheaper than OI FD models





#### **OLED TVS**

OLED is one of the high-tech types of screen available. There aren't as many models on the market yet, but if you want the best, OLED is for you.

Standing for Organic Light-Emitting Diode, OLED uses smart pixels that create light themselves. As a result, light doesn't spread to unwanted areas on the screen. OLED gives the darkest blacks of any screen type, creating a greater sense of depth, while colours are more vibrant and natural.

Not needing a backlight makes the screen super thin – even more so than a regular LED TV. Sometimes these screens are the same width as a smartphone. Super thin screens look incredibly stylish and mean your TV won't stick out into the room.

Viewing angles on OLED TVs are also really impressive, so you get accurate colours and good contrast levels wherever you're sitting. If you have a large living room with a lot of sofas or armchairs, this is especially useful.

Motion shots display incredibly well on OLED TVs, with hardly any blurring – great news if you love watching football matches or fast-paced action films.

The only downside with this type of TV is that, because the technology is advanced, they are more expensive than others.

Motion shots display incredibly well on OLED TVs, with hardly any blurring.







#### **OLED TVS**

QLED is an updated illumination technology from Samsung, that was created to rival OLED. Fundamentally, a QLED TV is the same as a LED TV, but with an advanced and highly durable quantum dot layer, which enhances picture quality. Without going into the (rather complicated) science, this results in QLED TVs delivering the highest brightness levels and greatest range of colours currently on the market.

Unlike OLED TVs, QLED is not 'self-emissive' - pixels are not individually illuminated. While you won't have the same contrast for blacks on screen because of this. QLED produces bolder and more precise colours. Depending on what you're looking for in a state-of-the-art TV, it's definitely worth keeping them in mind.





QLED Samsung TVs deliver the highest brightness levels and greatest range of colours.





## **MicroLED**

You won't be alone if this is the first you've heard about MicroLED. This technology is newer, and not currently widely commercially available. However, we can expect it to be a game-changer in the next few years, particularly in the high-end TV market

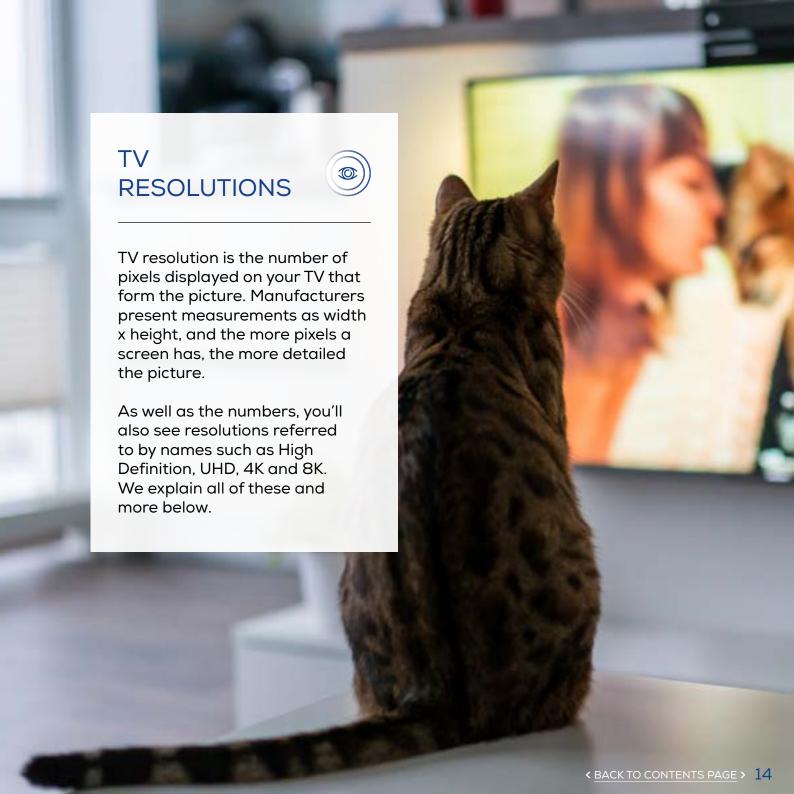
Like OLED. MicroLED is also an emissive display. The pixels emit their light without the need for a separate backlight. This means they can be individually turned off and on or can display different colours to the pixels next to them. There are a range of benefits that come with MicroLED. You'll see everything you could expect from an OLED screen - true and deep blacks, excellent colour, and perfect off-angle viewing. On top of this, though, a MicroLED screen should also be brighter, slimmer, and more energy efficient than OLED TVs.

MicroLED TVs are limited to large screen sizes and have large price tags to match, keeping them out of reach for most consumers.









## **HD TV**

High Definition TVs give you a clearer and sharper image than Standard Definition models, thanks to their higher basic resolution of 1,280 x 720.

To watch HD content, you need a HD TV. Not every show displays in HD, so you'll have to choose a HD programme or channel to watch it in high definition. Other sources of HD content include Blu-ray discs and HD video streamed from the Internet.

There are two types of High Definition TV: HD Ready and Full HD.

#### **HD READY**

These TVs have a resolution that's at least 720 pixels high - slightly more than double the resolution of Standard Definition. Nearly every digital TV nowadays receives a HD Ready logo, which means it can receive HD broadcasts.

Some cheaper HD Ready TVs have a larger screen resolution of 1,024 x 768, but the screen is also a slightly different shape (or 'aspect ratio'). These models aren't fully compatible with Blu-ray discs and tend to be on the small side.

## **FULL HD**

With a resolution of 1,920 x 1,080 pixels, Full HD TVs are five times more detailed than Standard Definition models. You'll need a Full HD TV if you intend to take full advantage of Freeview HD, Blu-ray and other HD content.









#### **4K TV**

4K TV, or UHD as it's sometimes known, is the newest and most high-tech offering for TV resolution and picture quality. The picture is 3,840 x 2,160 pixels, which is over eight million pixels in total, giving four times the detail of a HD TV. Picture quality is exceptionally sharp, with lots of detail and depth.

Generally, these are big screen models of 40 inches or over, as you need a larger display to appreciate the picture quality fully.



One issue with these TVs is that there isn't much 4K content available yet. There is a selection of 4K Ultra HD Blu-Ray discs available, although the range is currently quite limited and the price remains pretty expensive. However, you can watch everyday content such as Freeview HD, Blu-ray movies and DVDs in higher quality as these TVs often upscale it automatically.

Prices for this type of TV are relatively expensive because the technology is newer, however prices are dropping as it becomes more common.

#### **8K**

At the top of the resolution scale is 8K. There aren't many televisions around currently that support 7,680 x 4,320 resolution, and those that you can find are likely to be expensive.

If you do want the very best picture quality that money can buy, you won't be disappointed with an 8K TV. As 4K becomes more affordable, 8K will become the standard for luxury large screen TVs in sizes ranging up to 98".





#### STANDARD DEFINITION

Standard Definition TV (SDTV) is an older version of digital TV, with picture quality similar to that of a DVD.

Standard Definition usually has a resolution of 640 x 480 pixels and no defined aspect ratio. It's better than analogue broadcasts but can't compete with the quality created by new technologies.

Standard Definition is pretty antiquated now, and you're unlikely to find many TVs still offering SD quality. Nearly all new TVs are at least HD Ready in their resolution.

However, it's the original benchmark that all of the following resolutions measure themselves against.

# **WHAT ABOUT 720P, 1080I AND** 1080P?

As well as HD and other terms, you may come across numbers like 1080p. The number is simply the number of horizontal lines of pixels on the screen. 720p equates to HD Ready (1,080 x 720 pixels), while 1080p is Full HD (1,920 x 1,080 pixels).

The 'p' and 'i' stand for 'progressive' and 'interlaced', and refer to how the images are displayed. A progressive scan TV shows the whole picture for every frame, while an interlaced scan displays half of it at a time, using alternating lines of pixels.

If your budget allows, look for a progressive scan TV. These models have less noticeable flickering. Likewise, movement and action on screen are smoother.

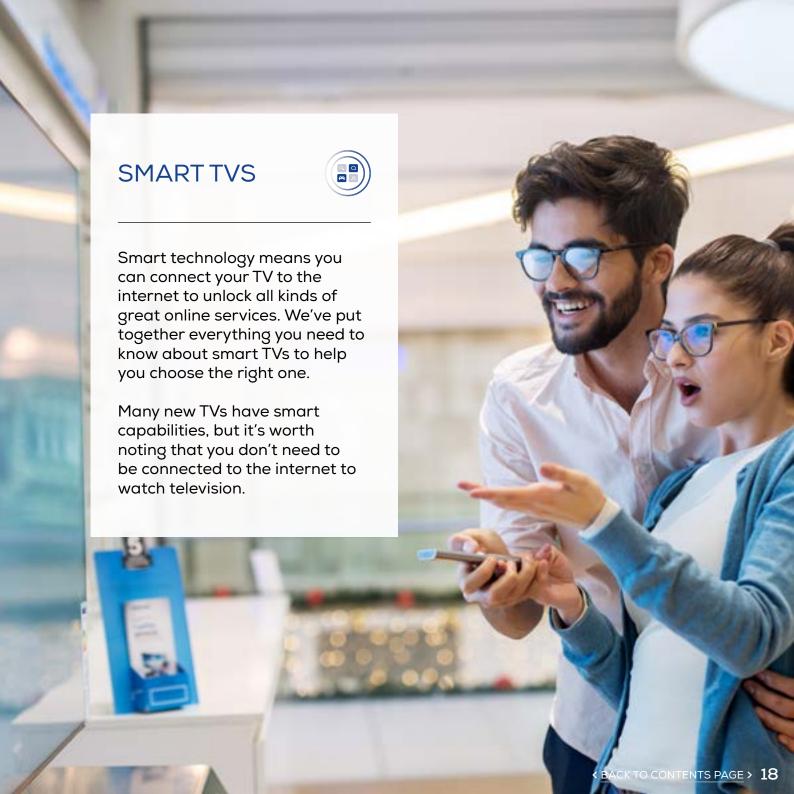
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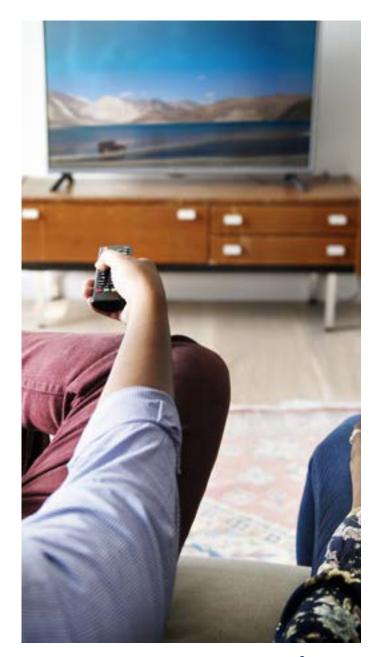


# WHAT YOU'LL NEED TO GET CONNECTED

Before you purchase your smart TV, make sure you have everything you need to take advantage of what's on offer.

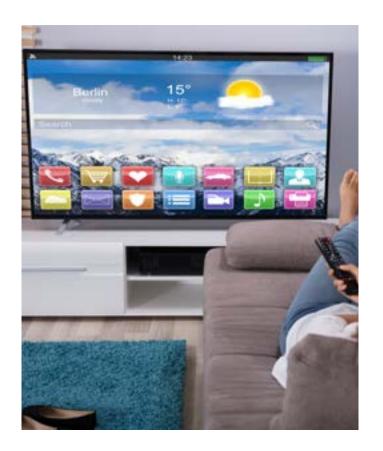
We recommend you have the following:

- An internet connection: Most smart televisions are Wi-Fi enabled, making it easy to connect to your router straight out of the box wirelessly. Another possibility is connecting your TV to the router via an Ethernet cable, but it will need to be close to your router or you'll need to buy a long cable.
- Fast broadband speed: If you want to stream TV shows and films, a fast internet connection means you'll have smooth, uninterrupted playback. An unlimited broadband package is a must this will prevent you from being charged extra for exceeding your data limit.
- ATV licence: This is needed if you want to stream live TV on services such as iPlayer or ITV Player, or watch regular programming via an aerial. You don't need a TV licence if you only watch ondemand or catch up TV over the internet, as long as you aren't watching it live.









## WHAT APPS ARE OFFERED?

There is much more to a smart TV than being able to browse the web. There is a range of apps available for your every need.

Catch up on your favourite TV shows through video-on-demand services such as BBC iPlayer and All 4. If you have a subscription to a streaming service such as Netflix or Amazon Prime Instant Video, vou can watch films and TV shows whenever you like.

If you have gamers or children in your family, you can download games to play on your TV. There is an app to suit everyone, whether you want to catch up with the news and weather or listen to your favourite tunes on Spotify.



There is much more to a smart TV than being able to browse the web. There is a range of apps available for your every need, like BBC iPlayer and All4.





# **HOW DO I MAKE MY CURRENT TV SMART?**

If you don't fancy buying a new smart TV, there are many affordable options for accessing internet services on your current set.

**Set-top boxes:** Access video-on-demand. catch-up TV and other selected internet apps for free by using devices such as Apple TV and Amazon Fire TV. If you're a film or entertainment buff, it's worth considering paying for streaming services like Now TV, for an inexpensive monthly fee.

Streaming sticks: You can also buy thumbsized devices from brands such as Google, Amazon, and Roku. Plug these into your TV's HDMI port to access online content instantly.

YouView: This combines Freeview digital TV with catch-up TV services from BBC iPlayer, ITV Player, All 4 and Demand 5 - all visible from a smart programme guide that lets you watch programmes from earlier in the week. The YouView set-top box can be purchased from a retailer, or as part of a contract with BT, Talk Talk or PlusNet.

**Computer:** You can also connect your PC to your TV, via a VGA or HDMI cable. The easiest way to do this is to see what ports are available on your TV and computer. Once you have the correct cable, you can view content from your computer on your TV.

**Games consoles:** The major games consoles like Xbox Series X and PlayStation 5 offer access to various streaming and video-on-demand applications.

**Smart Blu-ray players:** Some Blu-ray players come with smart capabilities, which are ideal if you want to watch online content alongside HD movies.



There are many affordable options for accessing internet services on your current set





#### BENEFITS OF SMART TV

There are a variety of apps available on smart TVs. These either come pre-loaded or are available to download from an app store specific to the TV brand.

Many smart TV models have built-in web browsers, which mean you can view web pages, images and videos on your TV screen.

Some brands offer additional services to make them stand out from the competition, such as personalised recommendations of things to watch based on your pre-set preferences.

Many smart TV models are available at affordable prices of around £150.

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## DRAWBACKS OF SMART TV

Web browsing can be frustrating when using a remote control to navigate. New voice-controlled features have certainly helped, but you'll still need your remote for some apps and functions.

You may pay more for your TV than a comparable model without smart features. If you don't intend to access online content, this could be a waste. However, as smart features become more prevalent, it's becoming more difficult to find a TV that isn't 'smart'.

Unlimited broadband is required to take full advantage of catch up TV apps, ondemand services and Skype.









## **WALL MOUNTED**

The majority of new flat screen TVs are designed to be wall mounted, with premade holes in the back for attaching to mounts and brackets.

These are all designed to a standard – called the VESA Mounting Interface Standard – which means you can pick up a bracket of a certain size and be confident it will fit. Typically, the TV's box states the type of mount you need.

#### **ADVANTAGES**

The most significant benefit of wall mounted TVs is the space it saves you. Because they are so thin and can be secured so close to the wall, they hardly stick out at all – meaning you don't need to take up floor space with a table or stand.

Wall mounted TVs are used as the focal point of a room and give a sleek and modern finish. The wires can be hidden, making the room less cluttered, and reducing the risk of tripping over them.

Brackets and mounts are a lot easier to install than people think. It usually takes under an hour to set up and attach everything. A step-by-step guide will come included with the mount, plus there are numerous how-to videos and guides online.

Wall mounted TVs also make it easier to achieve the optimal viewing distance and reduce the chance of eye or neck strain. You can attach the screen at a height to suit you.







#### **DISADVANTAGES**

The main disadvantage with a wallmounted TV is that it takes a little more effort to get things set up than with a TV stand. If you're at all impatient or DIYphobic, this may not be the solution for you.

It's vital that the TV is connected correctly and the bolts secure, or you can end up with an expensive mess on the floor. If you live near a railway station or area that has a lot of building work, the vibrations could increase the risk of something working loose. However, a correctly attached TV with a suitable mount or bracket should cause no problems.

There are a variety of wall mounts and brackets available. Some of these are relatively expensive and, depending on what type you choose, can cost nearly as much as the TV itself.

If placed too high on the wall, it can be uncomfortable to watch TV as you'll be looking up at the screen. It may also be in direct sunlight from nearby windows.

You can arrange to hide electrical wires, but you will have to employ an electrician to install in-wall fire-rated wires, which is an added expense.

If you have any extra devices such as a sound system, DVD player or video game console, you can lose the uncluttered look, as all the audio and visual wires will be visible. You'll also need something to put these pieces of kit on.







## **TV STAND**

#### **ADVANTAGES**

Having a TV stand offers more storage space and can be more practical. Choose an attractive table design with drawers or cupboards that will add to the look of the room, while giving you space for DVDs, video games and controllers. A stand will also conceal any cables, and act as an extra shelf for your surround sound system, console or set-top box.

ATV stand gives you easy access to all the cables and sockets should you need to change them, while keeping a straight TV. Moving the TV is also very simple to do.

A TV stand gives you easy access to all the cables and sockets should you need to change them.

#### **DISADVANTAGES**

TV stands do take up more room than wall mounted versions, so if you have restrictions on your floor space, they probably aren't the best option. Being balanced on a table also means that if someone knocks them, the TV can fall over.

If you have children or pets, a TV mount may be a better idea. Fingerprints, dog noses and running around can all threaten your TV - either with smudgy marks or damage.







# TYPES OF WALL MOUNT / **BRACKETS**

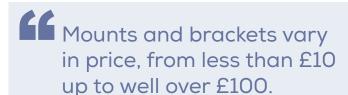
There are numerous styles of wall mount available, ranging from basic fixed designs to those with complete flexibility.

When choosing your bracket, you need to consider exactly what you want it to do: do you want to adjust your TV for different viewing positions, change the angle of the screen, or have it very close to the wall?

Mounts and brackets vary in price, from less than £10 up to well over £100.

#### FLAT MOUNT/LOW PROFILE

The most basic and cheapest bracket style available, flat mounts are also the easiest to install. These hold your TV close to the wall, as little as one inch away, but don't have any angling or tilting capabilities. Another issue is that it can be difficult to change any cables.









#### TILTING OR SWIVEL MOUNT

Tilting wall mounts cost more than the basic type, but are just as easy to install. They work by having a pivot in the middle of the installation bracket, letting you change the vertical angle of the screen. Even if you're lying on the floor, you'll have a good view. It also helps to compensate if the position of your TV is above optimal viewing level.

You can adjust models with swivel mounts in a similar way, but from side-to-side. If your room has more than one sofa and viewing spot, swivel mounts are a great choice.

These styles don't sit as close to the wall as a basic mount, but they're still only a few inches away at most. This style looks great if placed above a fireplace or high up on a bedroom wall. The angle adjustment helps to minimise screen reflections from windows or lights, which can be an issue for some TVs.

Tilting wall mounts cost more, but are just as easy to install.

## ARTICULATING/FULL MOTION MOUNT

Full motion mounts have a foldable arm between the wall and the TV.

The most sophisticated and versatile type of mount, articulating mounts provide the greatest tilt/swivel flexibility. The arm folds back, so the TV can be close to the wall when not in use. When you're using it though, you can move the TV several inches out from the wall, which allows a greater range of motion.





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#### WHAT SERVICES ARE AVAILABLE?

If you're not sure what type of service you need, think about how much you watch TV and the types of programmes you enjoy watching.

If you're happy with the basic channels, then Freeview or Freesat will be ideal. If you want a wider choice of channels, movies or TV shows, a paid subscription is probably your best option.

## FREEVIEW AND FREESAT

If you like the idea of having all the basic free TV channels without the monthly fee, then you'll need Freeview or Freesat. Freeview is delivered through your TV aerial and Freesat through your satellite dish.

If your TV doesn't have Freeview built in, you can pick up a basic Freeview box for less than £20. There are also more expensive models that give you the ability to record programmes and pause live TV. These can cost £100 or more.

To watch HD channels, you'll need a Freeview HD box, as well as an HD TV. It's worth noting that although Freeview is available to more than 98% of the UK, there are still households that can only receive some of the channels. It's beneficial to check the coverage in your area to see which channels you can get before making your decision.

You can buy Freesat boxes from £40, but the potential downside is that you'll need a satellite dish installed to access the channels. Freesat has more channels overall and offers total UK coverage compared to Freeview. Freesat HD is also available if you have a Freesat HD box and an HD TV.

Once you've decided on the best box for you, all you'll need to do is connect it to your TV and aerial or satellite dish.







#### **PAID SUBSCRIPTIONS**

If you want even more channels to choose from, it's worth spending a monthly fee for a TV package from companies including Sky, Virgin Media, BT or Talk Talk. The settop box that's required is usually provided as part of your subscription or for a small one-off cost.

See our <u>smart TV section</u> of the guide for more information on the sorts of content you can get online, from BBC iPlayer and All 4 to Netflix and YouTube. Different devices provide you with access to varying content, so spend some time researching what you want to watch before making your choice.

# STREAMING ONLINE CONTENT

Another device to consider is a smart TV box or streaming stick. These allow you to stream TV programmes and films using your Wi-Fi connection.

Apple TV and Amazon Fire TV offer free access once you've purchased the device, although if you want to use subscription-based services like Netflix, you'll need to pay. Streaming services including Now TV also offer entertainment packages for an affordable monthly fee.

Google Chromecast deserves a mention too. Once you plug it into your TV, this device allows you to view content from a computer, tablet or phone on the big screen. If you want even more channels to choose from, it's worth paying a monthly fee for a TV package.

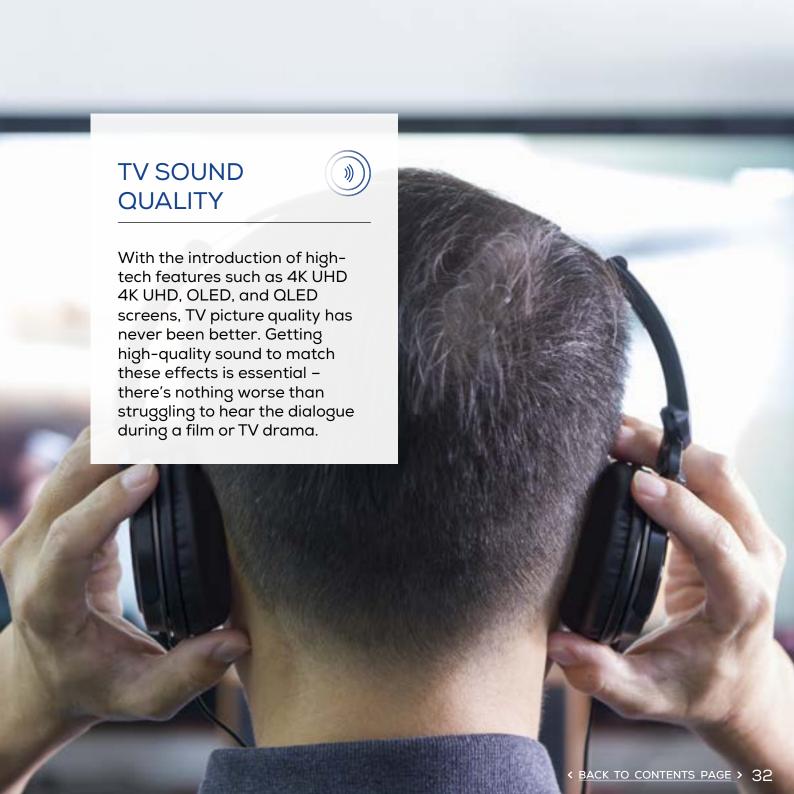












#### **MODERN TVS - THIN ON AUDIO?**

Due to increasingly slim TV screens, there's a lot less room for speakers than there used to be.

New models use smaller speaker drivers, so produce a lower volume and quality than you might expect.

Most TVs feature a simple stereo system, but there are also models available with surround sound effects and smart features that make the most of their built-in speakers. Because of this, some TVs have better audio capabilities than others. If your sound experience is important to you, be sure to look at the number and power of the speakers (in watts) when you are comparison shopping.

Built-in TV speakers range from around 12 to 20 watts in power.

**Some TVs have better** audio capabilities than others.





**BUYERS GUIDE - TVs** 



#### **USING YOUR HI-FI**

Some TVs do a pretty good job producing sound on their own, but you can also enhance it using external speakers.

If you own a Hi-Fi, you can plug this in with a cable to improve the volume and quality. This is the easiest and cheapest method, as suitable cables can be picked up for under £10. You'll need to locate the optical digital out socket to achieve the best results, but you can use the headphone socket as well.

#### DO I NEED A SOUND SYSTEM?

If you're looking to invest in something specially designed to improve your sound quality, take a look at soundbars and home cinema systems.

Soundbars consist of multiple speakers fitted neatly into a single compact device. These are usually long and thin, and you can secure them below a wall mounted TV, or place them alongside it. Many of the best offer virtual surround sound using side-firing and up-firing speakers. Overall, soundbars are a relatively low-cost way to boost your TV's audio dramatically.

A home cinema or surround sound system uses multiple small speakers placed strategically around the room to create cinema-like sound effects.

These systems arguably give you the best sound quality and depth, but can be reasonably expensive.

Most TVs nowadays work with surround sound systems. If you intend to have a large number of speakers, look for Dolby Digital Plus, which allows you to use up to seven speakers and a subwoofer with your TV.

Many of the best systems offer virtual surround sound using side-firing speakers.







#### **HDMI**

HDMI is the most common connection you'll find on modern TVs.

Standing for High Definition Multimedia Interface, these connectors are capable of transmitting uncompressed video and audio data. With HDMI, you can enjoy high-quality visuals and sound, using just one cable.

Some cables even have an Ethernet channel so you can use them to connect devices to the internet via your TV or another device.

HDMI sockets are thin flat slots with angled edges to signify top and bottom. Many TVs come with two, three or even more of these. and they're great for connecting DVD and Blu-ray players, set-top boxes and games consoles.

When buying a new TV, it's worth thinking about how many devices you will plug into it at any one time. If swapping cables over would be a hassle for you, it's worth looking at TVs that offer more HDMI ports.

HDMI has gone through several editions over the last ten years, but thankfully the cables and slots have not changed physically. All your old cables and devices will still work with the new connections. although you may need a high-speed cable for some features.

Don't be fooled into thinking you need an expensive HDMI cable for a better picture. As the signal is digital, the cable will either work or it won't. High-speed cables are available online for only a few pounds. Don't pay more unless you need a particularly long cable.







# COAXIAL RF CONNECTOR (TV AERIAL)

The RF connector or TV aerial cable allows you to access most free-to-view TV channels.

Usually, you'll use a cable to connect this to a TV socket in your wall, which in turn runs up to your TV aerial. This connector is a small, circular plug with a pinhole in the centre.

If you have Freeview built in, the cable can go straight from the TV to your wall socket. Or if you're using a Freeview box, connect the TV to that first.

This connector is a small, circular plug with a pinhole in the centre.









#### **SCART**

SCART connections used to be common, but have been largely replaced by HDMI these days. However, some TVs still come with a SCART socket, which takes a large, flat connector with 21 pins.

In most cases, you won't need to worry about whether you have a SCART connection or not, as the devices that use them are, to a great extent, outdated. VHS players are a good example. However, if you like retro gaming or want to watch old home movies, you may need a TV that can take a SCART lead.

Luckily, you can obtain adaptors that let you connect a SCART device to your TV using RCA connectors.

#### **RCA CONNECTORS**

Also known as phono or cinch connectors, these were very common before the rise of HD media, and you'll still find many devices that use this connection.

As these cables can only transmit standard definition video, they're becoming less common.

Usually comprising of three cables coloured yellow, red and white – one for video, two for audio – you'll still find these connections on many TVs today, in spite of their age. If you have a choice, use HDMI – this will give you a better picture.





#### WI-FI

Smart TVs are pretty common now, but you need an internet connection to access their online features.

As most people have Wi-Fi at home, a lot of TVs are designed to connect to your home network wirelessly.

If you decide to buy a new, wireless-capable TV, you should be prompted to connect it to your network during setup. This is usually detected automatically – all you need to do is pop in your wireless key.

#### **ETHERNET**

If you don't have Wi-Fi at home, or have a weak signal strength, many Smart TVs allow you to connect an Ethernet cable instead.

These look a little like a telephone cable and often come in bright colours. All you have to do is ensure you have a long enough cable to connect the TV to your internet router. Even if you have a wireless network, you may choose to connect via Ethernet as the connection can be more reliable and less susceptible to dropouts.

#### **USB**

Many modern TVs come with a couple of USB slots like ones found on a computer.

If you have some holiday snaps that you want to show everyone, pop them on a memory stick and plug it into your TV. Many TVs will also play video and music files from a USB stick or hard drive.

You can even use USB devices like Chromecast or Amazon Fire TV Stick to bring you a range of great smart features like Netflix and BBC iPlayer. If you have a TV that doesn't have builtin smart capabilities, a USB device is a perfect choice.







#### **BLUETOOTH**

Bluetooth allows devices to communicate wirelessly, without the internet.

You'll often see this connection used when linking up audio devices to a TV. If you have a Bluetooth sound system or headphones, you'll have to make sure that the new TV also has this feature.

Bluetooth gives you increased flexibility for device connectivity. It also helps you keep your home looking tidy, as there won't be any trailing wires. However, it's worth noting that Bluetooth has a relatively short range – usually up to 10 metres.

#### **VGA**

A VGA connector is a flat plug with curved edges to signify top and bottom. It has 15 pins and screw holes to the left and right, and the cables are often blue.

The most common use of a VGA connection is to hook up a computer and a monitor. However, any TV that has a VGA connection can easily have a computer connected to it as well.

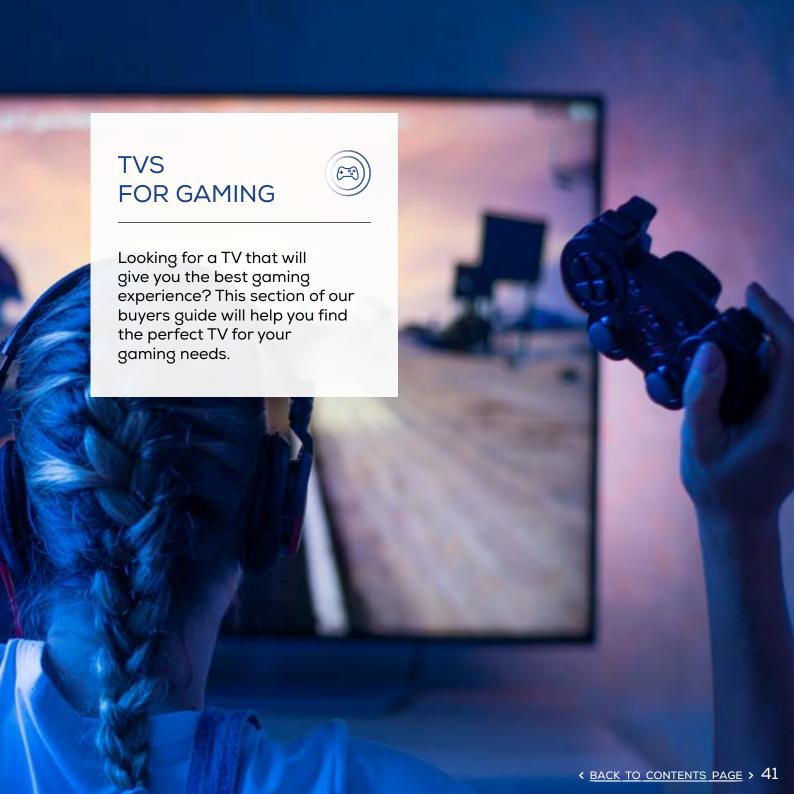
This type of connection is not overly common on TVs, mainly because the same effect can be achieved using HDMI. However, if you have a lot of HDMI devices connected to your new TV, or your laptop doesn't have HDMI, this option gives you greater flexibility.











#### **HOW IMPORTANT IS INPUT LAG?**

Input lag is the amount of time it takes for the action you take on the controller to display on your TV screen.

If you're serious about gaming, you're bound to be aware of this issue. When precise timing and fast reactions are required, high input lag can be frustrating. If you're into role-playing games, it might not be an issue, but for First Person Shooters (FPS) or sports, it does make a difference.

With modern TVs packing in more features, many models need more time to carry out complex video processing, which unfortunately increases input lag.

To combat this, some TV manufacturers have developed a Gaming Mode feature on their HD TVs. Gaming Mode is designed to cut down lag by reducing the video processing applied to the image when this mode is selected.

If input lag is something you're concerned about, do some research before you buy. Unfortunately, models with less lag may also have lower image quality.



With modern TVs packing in more features, many models need more time to carry out complex video processing.







#### IT'S ALL ABOUT PICTURE QUALITY

If one of your main TV uses is gaming, the picture quality is likely to be a big deal for you.

Most TVs these days have HD technology, which can create realism and take your gaming experience to a new level. Most PS5 and Xbox Series X games output in 1080p, which is the same as Full HD.

Features such as LED backlighting can make images seem more lifelike, with amazing colours and contrast. Or if you have the money, choose an OLED TV, which produces bright images without a backlight at all. You'll probably want to avoid older style LCD TVs.

Many modern TVs also have a decent refresh rate, which is the number of images that your TV can show per second. High refresh rates virtually eliminate motion blur on moving images.

# THE BEST SCREEN SIZE TO **SUIT YOU**

Bigger screens are usually better, giving you a clear view of the action.

If you're playing a FPS, for example, a bigger screen makes it easier to see the enemy - up to a point. You might find it hard to take everything in if you sit too close to a large screen.

You'll need to take into consideration the space you have available and the appropriate viewing distance before making your choice.

If you play in your bedroom, you'll probably need a smaller set than your living room TV.

Check out our section on TV screen sizes for more information.



Most TVs these days have HD technology, which can take your gaming experience to a new level.

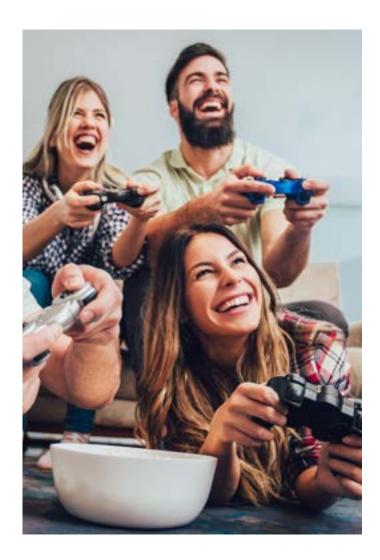




# MAIN THINGS TO LOOK FOR IN A **GAMING TV**

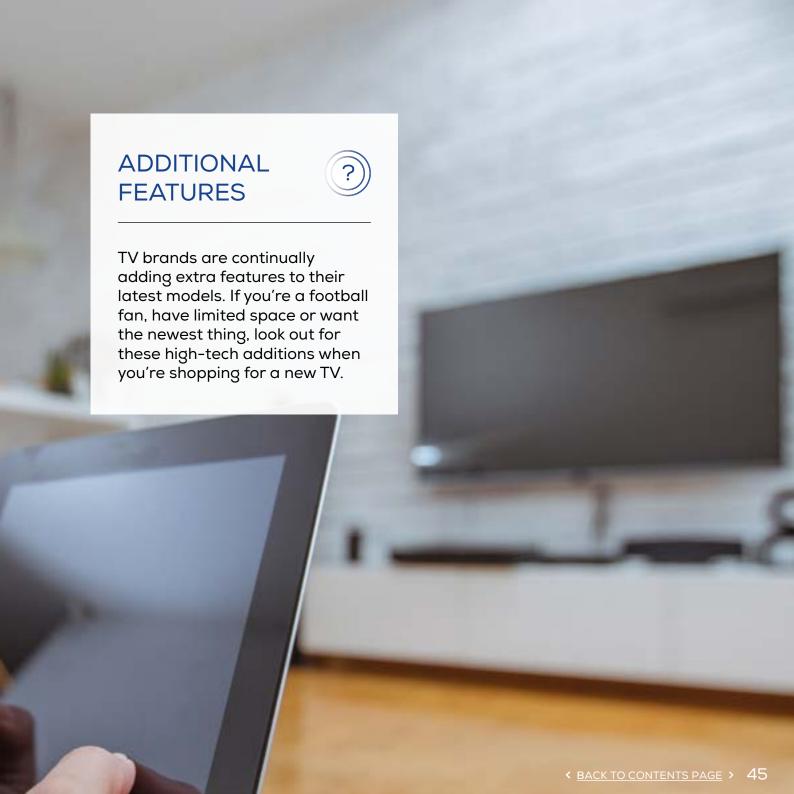
#### Choose a TV with:

- The lowest input lag for your budget
- · A decent refresh rate to eliminate motion blur
- A Gaming Mode
- The appropriate resolution to support your console
- · The capability to display non-moving images for long periods of time, to avoid screen burn-in. It can impact any TV if an unmoving image, logo, health bar, or menu is displayed for a long time. Thankfully, advancements in technology make burn-in less common. Screen burn-in can impact other models if an unmoving heads-up display, health bar or menu is displayed.
- · Multiple HDMI ports, if you want to avoid swapping cables when you want to play on a different console.









#### **GALLERY MODES**

Some of the latest TV models are designed to be both a source of entertainment, and part of your room decorations. High-end TVs from brands like Samsung and LG come with a Gallery or Art Mode that let you enjoy stunning images and artwork from around the globe, without leaving the room.

Samsung, in particular, has made efforts to curate an electronic arts gallery that includes well-known pieces, and that helps you to discover new favourites. Spanning the classics to the contemporary, you can explore collections from world-renowned institutions like the V&A and Tate Modern.

Similarly, LG has worked with TripAdvisor to provide stunning pictures from across the globe. The images even come with moodenhancing music, letting you enjoy both the look and atmosphere of the scenic vistas being displayed.

#### **FOOTBALL MODE**

Football Mode is a new feature on some Samsung TVs that enhances the atmosphere, sound and view of the match. It's perfect for die-hard fans who don't want to miss a moment of the action.

This interactive feature gives you greater control of the picture, allowing you to zoom in, replay match highlights and get better views of referee decisions. With Football Mode on, the game appears much smoother and more fluid, making it easier to see what's happening.

Sounds such as the crowd and the smack of the ball are enhanced to give the most authentic experience possible. If you don't want to listen to the commentary, you now have the option to turn it off so you can focus on the game itself.







#### **BUILT-IN DVD PLAYERS**

Consider a TV with a DVD player built in (also known as a DVD combi) if you have limited floor space, or don't want to buy an extra device that could clutter up your home. This feature is handy for bedrooms and kitchens, where you might have space for a TV, but nothing else. Likewise, it's usually smaller screens that have this feature - screens over 40" are rare with an integrated DVD player.

#### INTERACTIVE CONTROLS

Newer TVs with smart technology often have voice and motion control for better and more enjoyable interaction particularly models from LG and Samsung.

Voice recognition lets you control your TV without having to use a remote, and motion controls allow you to swipe through menus, change volume levels, and zoom and rotate images.

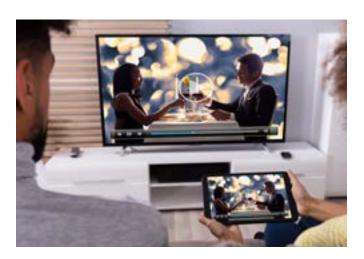


#### **SCREEN SHARING**

Many people like to connect their laptops, mobiles or tablets to their TV, to watch Netflix on a bigger screen, play games or look at photos with the family.

Seeing the screen of one device on another is called screen sharing, and can be achieved either through cables or wirelessly.

Many brands have their version of this, which works best (or only) with their own devices. However, some TVs support Miracast, which is the industry standard and works with a broader range of products.











If you've just bought a new TV, you'll be eager to get it out of the box and start watching your favourite programmes. However, by spending only a few minutes calibrating the settings first, you can benefit from the best image quality your TV can offer.

Manufacturers tend to set up new TVs in the factory with the brightness, and contrast settings turned up, to attract potential buyers in the showroom. Once you get your TV home, it's important to adjust these default settings to suit your viewing needs.

You can buy special discs to help you calibrate your TV correctly, but you can also achieve the desired effect manually.

#### **SELECT YOUR MATERIAL**

Blu-ray players or newer gaming consoles are ideal for helping you calibrate your TV.

Whatever source you choose, you will have to connect it to your TV via an HDMI cable. An HD movie or TV programme with a mixture of bright and dark scenes, and a range of colours, is ideal.

#### **PICTURE MODES**

Your new TV will come with different picture modes designed to give a different feel to the image that suits the type of content you're watching.

The exact names depend on the brand of TV, but they usually include variations of sports, games, cinema and standard.

You can select one of these modes to change your settings, such as brightness, contrast and colour saturation, all in one go. If you're not very technically-minded, this might be enough for you. However, it's possible to fine tune the settings individually, so you get exactly the picture you want.







#### **HOW TO CALIBRATE YOUR TV**

Bear in mind that the settings below can affect one another.

If you increase the brightness, for example, you may need to reduce the contrast and vice versa. Play around with the settings to achieve the effect you want – you can always restore the default configuration if things don't look quite right.

#### **BRIGHTNESS**

The brightness levels affect how light an image is. A screen that is too bright makes blacks look grey and removes detail from lighter areas of the picture, whereas lower levels of brightness can make whites look grey and removes details from darker areas.

The easiest way to alter brightness levels is to find a dark scene with details in the shadows. Vary the brightness until it's at a level where these details are just visible, but the colour is still a strong black. Remember that not all details in shadowy areas of the image should be visible.

#### **CONTRAST**

Contrast is the difference between the lightest and darkest areas of an image. With high contrast, whites and blacks will be very pure, but there may not be many shades of grey in between. On the other hand, low contrast tends to make everything grey.

Find a scene containing bright colours or a lot of white. Alter the contrast level to suit your personal preference, but make sure the brightest areas in the image still contain detail and defined edges.







#### **SHARPNESS**

High definition TVs tend not to need much sharpness enhancement. The best way to tell is to pause on a scene that contains straight lines. If the sharpness level is right, the lines will look crisp, without any overly defined edges.

#### **BACKLIGHT**

The backlight changes the brightness of the bulbs or LEDs that light up your TV screen. If you position your TV in a room with lots of light, you're likely to want to set this higher than if you're watching in the dark. Most people can set the backlight to its lowest setting for evening viewing, and increase it a little during the daytime.

#### COLOUR

Some TVs offer the option to alter the colour intensity or tone, and this is one of the most important options, as poorly set colours can make everyone look orange. Colour is a little harder to get right, so you might want to invest in a calibration disc.

If you choose to do this manually, select the warmest setting as a starting point. Try to find a scene where you can see people's faces clearly, and adjust the colour settings until the skin tones look natural.

If the sharpness level is right, the lines will look crisp.







# **TV PRICES** If you're buying a new TV, you'll want to get the best model for your budget. This simple section of the guide explains how to find the perfect television at the ideal price.

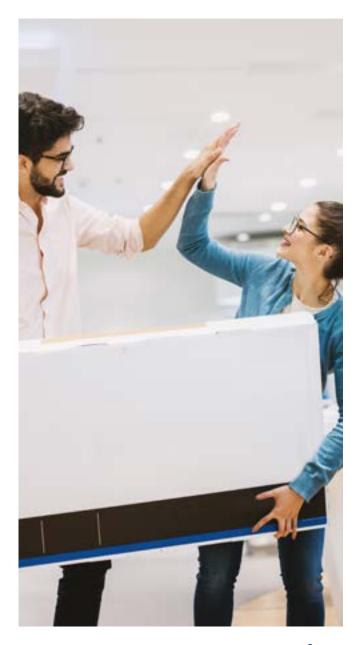
#### WHAT CAN I GET FOR MY BUDGET?

It's important to have a good idea of how much you want to spend before visiting your local store or browsing online. This way, you can easily compare models in your price range to find the best deals.

Keep in mind that cheaper models don't always offer the best value. It's usually worth spending a bit more on a reliable model by a well-known brand. If you're not sure, look at reviews for the particular model that takes your interest.

TV prices vary from as low as £150 for a basic model, up to more than £10,000 for a top of the range set with all the bells and whistles. If you want a multitude of features, it's worth buying a more expensive model. Or if you're happy with a simple but functional TV, you can get a great value model for a much lower price.

Keep in mind that cheaper models don't always offer the best value.







#### **FEATURES TO CHECK**

Modern TVs have an array of innovative features, and many of the more expensive ones include the following:

- Advanced screen technology such as **OLED** and **QLED**
- Larger screen size
- Higher resolutions the best models will be Ultra High Definition or 4K
- Ultra slim design
- Smart technology
- Superior image quality

Features vary across different brands and models, so make a list of the features you want your TV to have. Doing so will make it easier to narrow down your options when comparison shopping.

Screen size is probably the most significant single factor when it comes to price, but try to look at the specification of the device as a whole when making a choice.







## SALES AND PROMOTIONAL **OFFERS**

If you don't need a new TV right away, it's worth hanging on for sales and promotions. These happen throughout the year, with the best deals usually during the winter months.

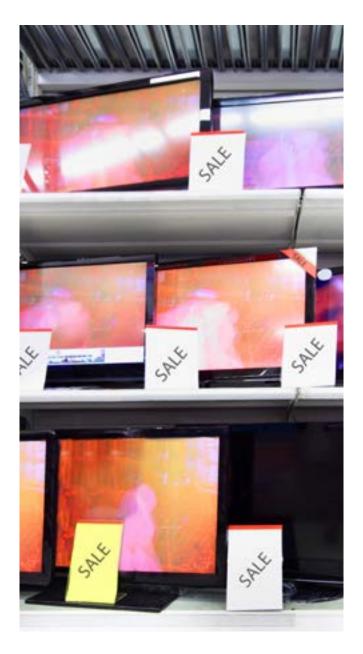
Many retailers also offer trade-in or cashback deals, so you can often make even more significant savings.

#### OTHER THINGS TO CONSIDER

It's always worth purchasing a model with an extended guarantee for added peace of mind and to help you save money in the long run.

Other costs to factor into your budget include delivery and installation if needed. You may also want old TV disposal, which can incur an additional fee

Many retailers offer trade-in or cashback deals.









## GRAB A TV BARGAIN DURING THE WINTER MONTHS

In recent years, Black Friday and Cyber Monday have been a massive hit with consumers because of the fantastic product discounts up for grabs.

These sale events tend to be held over a weekend in late November, following the Thanksgiving holiday in the US.

Black Friday deals often tend to be geared towards bargains you can pick up in store, whereas Cyber Monday is focused on offers online. These deals tend to sell out quickly, so get in there early.

Black Friday and Cyber Monday have been a massive hit with consumers because of the fantastic product discounts up for grabs.

Many electrical retailers have great offers on TVs in the run-up to Christmas, so it's worth keeping your eyes peeled.

One of the best times of year to pick up a fantastic discount TV is during the January sales, although these usually start immediately after Christmas these days. Retailers tend to offer significant discounts to try to entice shoppers looking for a bargain, so be sure to make the most of it.







#### SRINGTIME TV DEALS

New TV models become available to buy each year from April to May. Often, the slightly older models are discounted to make room for the new products during this period.

If you're not fussy about having the latest model with the most up-to-date features, this is a great time to pick up a discounted TV.

Springtime is also a good time to buy if you're after a cutting-edge model and are happy to pay full price.

#### SPECIAL EVENT TV OFFERS

Major sporting events tend to go hand in hand with cheap TV deals. If the World Cup or the Olympics is coming up, retailers are virtually guaranteed to offer significant savings. So, you can get a shiny new TV to watch the event.

#### IT'S NOT ALL ABOUT DISCOUNTS

Money-off promotions aren't the only special offer you can get. Brands occasionally offer free gifts, tradeins, cashback and a variety of other enticements. Even every-day deals like free delivery can make a difference.





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