

KEEPING UP WITH TECHNOLOGY 4K (UHD) For Film Societies

4K digital screen resolution is gradually increasing its presence in the world of cinema viewing.

- 4K Televisions are now mainstream (home viewing is enhanced).
- 4K movies are increasingly available as new/current releases and increasingly there are re-releases of older and classic movies remastered to 4K – all on Blu-ray.
- 4K or UHD (Ultra-High-Definition) as it is often called, offers a 400% increase in image resolution offering vastly enhanced image and sound quality.

This increasing availability of 4K technology raises a question for film societies:

As more people now own large 4K smart TVs (virtually all TVs on the market now are 4K) with superior image and sound quality, and they watch more films at home via streaming services, does your film society provide the best possible picture and sound quality (at least equal to home viewing)?

What is 4K? - also known as Ultra High Definition, Ultra-UHD or UHD.



A typical HD (High Definition) movie on a DVD or a standard Blu-Ray disc is delivered at a resolution of 1920 pixels wide x 1080 pixels deep. (A pixel is one picture element).

A 4K movie can only be delivered on 4K Blu-Ray disc at a resolution of 3840 pixels wide x 2160 pixels deep (aspect ratio 16:9) **which is 4 times the resolution** of a standard HD Blu-ray disc. Not surprisingly this means vastly better quality images and sound.

The cinema projection industry uses the 'Real 4K' or DCI (Digital Cinema Initiative) standard, which is slightly higher than Blu-ray 4K, at 4096 x 2160 resolution.

Some 4K movies are now available on streaming services, although research indicates that they use heavy compression technology which diminishes the end result somewhat, and there's also the variable broadband (NBN) service to impact on quality. So 4K on a Blu-ray disc is the best possible quality delivery.

Why would a film society move to 4K?

Setting aside the important social, communal and shared experience benefits of a film society, viewing a film is about enjoyment, and an important part of that is image and sound quality – 4K will ensure that.

As more films are released in 4K there will be growing pressure to access them via the right equipment.

Currently most 4K releases are new/current movies from the big 'Hollywood' end of the industry along with remastered re-releases of classics and older blockbusters. As an example JB Hi-Fi have nearly 600 4K titles available on their web-site already. Admittedly not a lot in the way of independent, arthouse and foreign language material is available in 4K at present but this should change as 4K's penetration spreads.

4K re-mastered 'Classic' movies include many Hitchcock favourites, epics like Lawrence of Arabia, Mr Smith Goes To Washington, Dr. Strangelove, Gandhi, A League of Their Own, and so on. A google search will show what's available so far.

One thing in favour of 4K re-mastered releases is that prior to about 2000 most movies did not contain CGI (Computer Generated Images) and other digital effects which are created in 2K – these are not suitable for upscaling to 4K. However the older movies shot on 35mm or 70mm film can be upscaled to 4K with excellent results.

Moving to 4K means societies can ensure members have the best possible viewing experience, comparable with, or better than the home viewing experience provided via streaming

services – this is important to keep societies relevant in a changing world.

Moving to 4K

Your society will need a 4K Blu-ray Player and a 4K projector, which are more expensive than older HD gear but not dramatically more.

Region Coding

As of right now, 4K Blu-ray movie titles are not region coded. With a 4K Blu-ray Player, you should be able to play a 4K Blu-ray disc from anywhere in the world.

But, it's also important to know that standard resolution Blu-ray and DVD discs retain their region-coding when played on a 4K Blu-ray machine, so you will not be able to play foreign Blu-ray or DVD discs on a 4K Player unless it's a region-free model.

Therefore, if your society sources region coded films on standard Blu-ray and DVDs from overseas, a region free or unlocked player is needed.

Important notes of caution:

- 1. There are Blu-ray players currently on the market featuring '4K Upscaling'. These are not true 4K players. They are standard Blu-ray players with the ability to upscale an HD image to '4K' but with less than true 4K quality. These players will not play 4K Blu-ray discs!***
- 2. When shopping for a 4K player look for a 'region free' or 'region unlocked' player to be able to play standard Blu-ray discs and DVDs from any region. They are available from on-line retailers such as Amazon but not usually from Australian retailers.***

Remember that even if your chosen film is not in 4K it will look better on 4K equipment.

Also remember that 4K equipment is backwards compatible i.e. it will play 4K Blu-ray, standard Blu-ray and DVD formats.

If your society is considering upgrades, 4K equipment should be at the top of the list.

The Cost.

4K Ultra-HD Blu-ray player – range \$300 - \$1,800 approx

4K Ultra-HD projector – range \$1,500 - \$5,000 approx.

Here are a couple of specialist retailer web sites which may assist when shopping for this equipment -

www.bigpicturepeople.com.au

www.justprojectors.com.au

The Future.

Streaming access of 4K will become easier and better when 5G mobile technology is widespread. 5G is mooted to upstage NBN for download speeds with 5G starting at 100mbps heading up to 1Gbps whereas NBN generally tops out at 100mbps.

A note of caution with 4K Streaming – this uses a lot of bandwidth on the broadband system and so streaming providers use compression to make it possible to deliver the data efficiently.

Depending on the amount of compression so will the quality of the 4K image/sound be impacted.

In other words streaming of 4K won't deliver true 4K quality – it may be quite acceptable but it's not true 4K.

Since writing the above, interest has been shown in the cost of 4K equipment; and yes it does cost a bit more than standard HD gear. Remember though that you get four times the number of pixels making up the image you see (8 million pixels versus 2 million).

A definitive guide to prices is not practical however as a guide you'll need a 4K Blu-ray player which should cost in the range \$300 - \$1000. A 4K projector completes the set-up and prices range from approx. \$1500 to \$8000. Prices and models change frequently and prices are generally trending down as is usual with all new technology.

My best guess at the moment is that you'll need to spend around \$1000 for a Player and approx. \$4000 for a projector for best results. As always, do your homework, research and talk to the specialist retailers;

'The Big Picture' and 'Just Projectors' are two retailers who come to mind, and of course there are others. A note on Players - to get maximum versatility from the investment look for a region free player to ensure you can play everything. At present I have only been able to locate brand new region free players for sale from the USA and UK which does raise a question about support and warranty issues.

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