

How to choose LCD HDTV Sets - Secrets They Don't Want You to Know

By James V Palmer - July 2008

[The wrinkles of HDTV explained in simple terms – a useful update and résumé for buying current HDTV technology in a single article.](#)

What about a good reason to get a 1080p LCD TV ?

First of all, what is a 1080p panel? The panel or screen display is what you are watching and it is built up of pixels or PICTure ELEments. Or, PIX. ELS. That is where the name comes from.

- OK here's the thing, the pixel count determines whether it can display a 1080p picture in native mode inside LCD TVs.
- Why? The 1080p panel has a fixed pixel number of 2,073,000 pixels and can only display in that format, so everything that doesn't fit the panel must be processed or expanded to fit.

This is how any LCD TV or any digital flat panel TV, like Plasma HDTV, with a fixed number of pixels works.

- A 1080i (With lines) picture is fed to the processor inside the TV, and becomes 1080p (No lines), simply by adding the lines together. This is called Up-converting or up-scaling, or expanding the video signal.
- What a computer does with all types of files, it can "Zip" and "Unzip" them. Except when video files are zipped, or Down-converted, they don't appear to lose quality. But when they are unzipped, or Up-converted, they may appear to lose a LOT.
- This is because the imperfections of a lower resolution signal are

expanded along with the good stuff. On the other hand, the apparent quality of a DVD is improved by removing the lines, a major improvement for any signal. Remember here, we are talking about streaming video files, to borrow a computer term.

A Real 1080p picture or signal can only come from a Blu-Ray disc player or a PS3, or an Up-converting DVD player, at the moment, but more options will become available as new technologies are created. And it looks great on a 1080p panel.

- The signal is displayed just as it comes from the player at 1080p, via a HDMI cable, and this is the easiest to use cable option currently for 1080p connection.
- Any other signal like Free To Air Broadcasts which are either 720p (No Lines) or 1080i (Lines) will be up-converted or kind of "Unzipped" in the built in video processing hardware inside the HDTV set, to 1080p.
- Naturally the quality of LCD panel and the quality of video hardware will mean the best results. See "10 Bit" below.

This leads to a special case of cheaper sets being sold with LCD flat panel types which have an 8 bit or 6 bit panel and corresponding processing hardware.

Now when these sets have a 6 or 8 bit panel, for very involved reasons, you can almost bet that it will be a fast panel. Simply

because the math that the circuitry needs to perform on the video signal is easier, and faster, so takes less time. These are usually smaller screen sizes usually less than 26", and it is also possible that it is a panel originally designed for computer display.

- Which explains the weird screen resolutions like 1440, 1280, etc in advertisements. Avoid these types of screens unless you are using it for a PC. Although some look good with a PC, and bad with TV, some are bad with both. Meaning cheaper, no name brands. On the other hand, 10 bit panels can be made as fast using new technology, and they will have to be much higher quality, because generally they are made only by a few well known manufacturers.
- Only a select group of manufacturers actually make their own glass for LCD flat panels.

How To Pick An LCD TV that contains a cheap panel?

- A sure fire method is: Stand close to the screen and either look down at the screen, or look up at the screen from below.
- If the picture changes color or becomes negative, bingo. Don't buy it.

10 bit LCD flat panels are more than fast enough to handle the display of 1080p video signals and 10 bit video processing is also much higher quality, better for movies etc.

- That being said, surprisingly one of the best panels to get if you are a

sports nut is 720p. It is also cheaper than 1080p. Video displayed on this type of panel is lower detail but better for high speed motion. This lower detail is not really noticeable unless you get a very big screen. Especially if you go for very large screen sizes, like 50", or larger, it will be very obvious that is 720p.

- Any benefit of 720p will be canceled out with a LCD TV 1080p display with 120hz refresh. This technology is becoming very common now. It means that any benefits of 720p, namely for sports etc, are negated. We'll leave that subject for a later discussion.

The take home message from all of this is: 1080p is the display of choice for people who want to take advantage of HDTV to the maximum.

But you must stick with known name brands when selecting the best LCD TV from the wide range of models with 1080p panels. That way, you ensure that you get at least a 10 bit panel and at minimum 10 bit video processing.

- As an example, many LCD HDTV sets use 14 bit video processing and 10 Bit 1080p panels in their range.
- A high quality LCD TV 1080p will reproduce true HDTV, this will ensure you get an LCD TV contrast ratio that is at the highest level, and brightness levels and color gradations are the best possible and therefore ensuring quality picture reproduction.
- Why haven't HDTV buyers been told these facts?

Article Source: http://EzineArticles.com/?expert=James_V_Palmer

[**More.... Tips and Articles from Edis Trading**](#)