

Re: Currently–Available Highest–Quality Linear PCM Video?

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- *From:* "Radium" <glucegen1@xxxxxxxxxx>
 - *Date:* 17 Oct 2006 21:27:19 –0700
-

stratus46@xxxxxxxxxx wrote:

Radium wrote:

> Bob Myers wrote:

>> "Radium" <glucegen1@xxxxxxxxxx> wrote in message

>> news:1161127670.929976.69540@xx

>>> Hi:

>>>

>>> What are the sample rates and picture resolution [in pixels X pixels]

>>> of the professional progressive [non–interlaced] linear–PCM video

>>> format used today? I beleive linear–PCM video signals are used in

>>> professional studios.

>>

>> If you're talking about standard–definition television, and

>> the case of standard sampling formats for the conversion

>> and storage of "analog" video into digital form, the most

>> common international standard today is probably CCIR–601,

>> which uses a common 13.5 MHz sampling rate for both

>> 525/60 and 625/50 video systems; this results in image

>> formats (not "resolutions," please) of 720 pixels x 480 lines

>> for the former and 720 x 576 for the latter.

>

> What equation did you use to get the numbers 720, 480, and 576?

>

>> I don't know

>> what you mean by bringing "linear–PCM" into a question of

>> sampling rates and image formats.

>>

>> Bob M.

>

> Linear PCM is uncompressed PCM. Thats what I am talking about.

Sampling

> rate must be at least twice the highest frequency in the signal. Due to

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- > physical conditions, it is safe to makes the sample rate at least 2.5x
- > the highest frequency signal.
- >
- > In NTSC, the horizontal frequency is 15.734 kHz, the vertical frequency
- > is 60 Hz, and the color subcarrier frequency is 3.579545 MHz. The means
- > that the horizontal sample rate must be 39.335 khz or higher, the
- > vertical sample rate must be at least 150 hz, and the color subcarrier
- > sample rate must be no less than 8.9488625 mhz.
- >
- > What is the pixel X pixel resolution -- or "format" if you wish -- of
- > today's first--class video signal? Surely it would have to be more than
- > 720 X 576. My monitor is displaying a pixel X pixel -- or "screen area"
- > -- of 1280 X 1024 with 32--bit color. I am not sure of the frequencies
- > of my monitor.
- >
- > Also, is there supposed to be a special difference between the first
- > number and the second number [such as 1280 X 1024 or 720 X 576]?
- >
- >
- > Thanks,
- >
- > Radium

You really need to go look things up and not argue about things you apparently know little to nothing about. Bob Myers told you exactly right about SD TV.

SDTV is not "first class"

You can go look this up-- the sample rate is 858 x h
rate = 13.5MHz for luma.

What about the color subcarrier sample rate? The horizontal frequency sample rate?

The 720 is the active number of samples out of the 858. That 'dead' time is to allow the CRT based monitors time to

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retrace the Horizontal. The 480 line is computer talk for 525 line system of which 483 are active. The remaining lines are to allow Vertical retrace of a CRT monitor. If you think about it, LCD and Plasma do not require retrace since there is no scanning, just counting off samples.

That is why plasma and LCD are better than CRT. In addition, plasma is better than LCD.

HDTV works in a similar fashion but the numbers are all different.

IIRC, HDTV is a tad closer to "first class" than SDTV. Again, I could be wrong.

Try ATSC.ORG. The monitor pixel ratios are often 4:3 or 16:9 to make square pixels but none of that is etched in stone. Rectangular pixels are often used and just re-map the square into rectangular. Now go study.

GG