

Re: Resolution switching on a monitor

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From: Mjolinor (mjolinor_at_hotmail.com)

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Date: Mon, 02 Aug 2004 20:21:04 GMT

"Bob Myers" <nospamplease@address.invalid> wrote in message
news:nKvPc.7019\$Ft1.1444@news.cpqcorp.net...

>

> "Mjolinor" <mjolinor@hotmail.com> wrote in message

> news:PquPc.694\$IE4.510@newsfe2-gui.ntli.net...

>> *The scan frequencies do not necessarily change at all when you change
the*

>> *resolution.*

>

> *Remember, we're talking about CRT monitors here, not LCD; it is
> very rare for the scan frequencies NOT to change when changing
> the pixel format. (There are a few of the original "VGA" modes, for
> instance, that all use the same horizontal rate, but differ in the
> vertical.)*

> *Changing the "resolution" (pixel format) and not changing either the
> horizontal or vertical rates can only come by packing more (or fewer)
> pixels into a given scan line (since you can't possibly have changed the
> lines per frame if neither scan rate changes, except trivially by altering
> the blanking period). But since a CRT monitor doesn't know anything
> about "pixels" in the first place, there's no real change from the
monitor's*

> *perspective.*

>

What I said was they do not necessarily change, "there is nothing in the
sync rates that denote the resolution of the image" is what I meant by that,
obviously you have to fit them into a frame so one or the other or both must
vary for that to happen.

>> *What happens is that the signal as seen on the VGA plug has (for
>> example) 1024 discrete values between 2 consecutive line syncs as
opposed*

> *to*

>> *800 discrete values and 768 line syncs between frame syncs as opposed to
> 600*

>> *(assuming non interlaced).*

>

sci.electronics.misc: Re: Resolution switching on a monitor

- > *First, there aren't "1024" or "800" discrete values on the VGA video in*
- > *any case; the analog VGA interface provides absolutely no information*
- > *that permits "pixels" to be clearly distinguished. It carries a*
continuous
- > *analog*
- > *video signal. (Which is not to say that this video can't be sampled at*
what
- > *you BELIEVE are the correct "pixel" times – analog–input LCD monitors*
- > *do exactly that – but there is nothing on the interface itself that*
identifies
- > *the individual pixels for you.) Thought experiment – try showing one*
- > *line of video from a VGA interface, running 1024 x 768 @ 60 Hz, on*
- > *an oscilloscope – and point to pixel #483 on that line. This is*
especially
- > *fun when the image in question is a full white raster...:–)*
- >

This is incorrect, there are 1024 discrete analogue values. You can show this easily on an oscilloscope by looking at one line from a black field with a one pixel width vertical white line.

- > > *What you drive it into is irrelevant.*
- >
- > *I have absolutely no idea what you mean by this. But since a CRT*
- > *monitor (except for a VERY few highly specialized designs) runs the*
- > *horizontal and vertical deflection at the H and V sync rates of the*
- > *incoming video, it's most definitely relevant to the original question.*
- >

I don't think I am understanding your point here at all. What I meant by that was that the video signal source and destination have no closed loop properties. It is an open loop system. There is no control directed back to the source from the monitor.

- > > *On TFT monitors they specify a "recommended" resolution that the TFT*
works
- > > *best at and when not run at this resolution they get seriously blocky*
and
- > *in*
- > > *some cases unreadable text.*
- >
- > *That would be the native pixel format (and frame rate) of the panel.*
- > *This is recommended, since when the incoming video matches the*
- > *requirements of the panel, no scaling or frame–rate conversion (both*
of which can result in visible artifacts in the image) is needed.
- >
- > *Bob M.*
- >
- >