

Re: How does digital TV broadcast prevent ghosting effects?

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- *From:* Joerg <[notthisjoergsch@xxxxxxxxxxxxxxxxxxxxxxxx](mailto:notthisjoergsch@xxxxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Thu, 22 Nov 2007 12:49:02 -0800
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Joel Koltner wrote:

"MRW" <[mr.whatever@xxxxxxxx](mailto:mr.whatever@xxxxxxxx)> wrote in message  
[news:b191d23b-e99a-48ba-afc5-f7c1dc004de5@xx](mailto:news:b191d23b-e99a-48ba-afc5-f7c1dc004de5@xx)

I'm assuming that the error correction portion is dependent on the modulation scheme.

Yes, although it's also dependent on the intended transmission path -- getting video to a cell phone in, e.g., someone's moving car is a worse environment than just getting it to a stationary TV antenna with decent gain.

Where I work the way we choose the amount of error correction is to take a prototype with no error correction, transmit known test patterns, collect error statistics while operating the receiver in the intended environment (e.g., at someone's home, driving around in a car, etc.), and then play around with the amount of error correction to try to balance data rates with robustness.

If you're looking at "well known" over-the-air standards, it's probably a safe assumption that someone came up with a model of the environment and did plenty of simulations before committing anything to silicon -- for high data rate or high volume devices, that's where the error correction is implemented (whereas, at least to date, everything we've done has been slow enough to do it in software).

So, am I right in assuming that the COFDM technique being describe as more robust to multipath effects than 8-VSB plays a part in implementing the error correction scheme?

Well, it's supposed to be, but I don't personally have enough familiarity with them to say.

We live in heavy multipath. All I can say so far (after one day) is that we'll seem to be losing some stations in 2009. What happens is one of these:

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- a. TV doesn't recognize the DTV channel, data probably too messed up.
- b. TV says something like "Receiving data" but that's it.
- c. Picture gets blocky or stops at times. IOW not very useful.

Some work well and there I have to say it's nice. There are clearly disadvantages when picture content changes rapidly but heck, there is no free lunch. Shannon said it more scientifically though. Most of the time the DTV picture is really nice (for channels where it works).

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Regards, Joerg

<http://www.analogconsultants.com/>

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