

Re: cyclic redundancy check 4-bit

Source: <http://coding.derkeiler.com/Archive/General/comp.arch.embedded/2007-05/msg00283.html>

- *From:* CBFalconer <cbfalconer@xxxxxxxx>
 - *Date:* Wed, 09 May 2007 09:22:31 -0400
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Paul Keinanen wrote:

Dave Hansen <iddw@xxxxxxxxxxxx> wrote:

Vladimir Vassilevsky <antispam_bo...@xxxxxxxxxxxx> wrote:

bwv539 wrote:

Any standard implementation?
I need to send 4-bit messages over a very
slow and noisy link,
I cannot afford 8-bit crc.

The Hamming code 7.4 or 8.4 is what you need.

.... snip ...

Then again, a 4-bit CRC isn't going to help much more than a
simple checksum, either...

When talking about CRCs and checksums, there must either be a way
to ask for retransmission if an error occur or simply discard the
message (in a sampled system, hold the previous value or use the
average between the previous and next valid sample).

If this is not possible, then some kind of ECC should be used.

You don't want CRC, or checksums. You want an error correcting
code, which requires at least 3 extra bits for the OPs
application. Using a full eight bits improves the statistics,
which are that all 1 bit errors are corrected, and multiple bit
errors are detected.

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<http://www.cs.auckland.ac.nz/~pgut001/pubs/vista_cost.txt>
<<http://www.securityfocus.com/columnists/423>>
<<http://www.aaxnet.com/editor/edit043.html>>
<<http://kadaitcha.cx/vista/dogsbreakfast/index.html>>
cbfalconer at mainline dot net

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