Re: Simple signal transmission using long steel pipe

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- *From*: "Paul Hovnanian P.E." <Paul@xxxxxxxxxxxxx>

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John Larkin wrote:

> On 11 Apr 2006 01:29:04 −0700, "paulus9528@xxxxxxxxxxx"
> <paulus9528@xxxxxxxxxxx> wrote:
>
> > I am a mechanical/hydraulics engineer with an application which may be
> > more suited to you guys' expertise. What I want to do is transmit a
> > signal from a remote (up to 5km) device through a long piece of steel
> > pipe. The remote device incorporates a sensor which produces a simple
> > signal (on/off) which I would like to detect remotely. Is this feasible
> > to transmit a sigal (electrical or sound) without any signal boosters
> > etc.? If this is in no way feasible I have other solutions but this
> > would make a real neat, simple and cheap solution. Your advice/help is
> > much appreciatd.
>
> If the pipe can be grounded at both ends, a current transformer could
> induce a signal at one end, and another could pick it up at the other
> end. Leakage to earth along the way would cause losses, but I suspect
> it's workable at several km.
>
> Not hard to try: a couple of regular metering−type CTs, a signal
> generator and an audio amp at the drive end, another amp and
> headphones to receive.
>
> John

What's in the pipe? What's it made of? What diameter? How are sections attached?

I'm thinking of a waveguide, but the losses could be too high for something not optimized for RF use.

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Paul Hovnanian mailto:Paul@xxxxxxxxxxxx

Just say 'No' to Windows.
-- Department of Defenestration.
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