

## Re: life span durable ground based 'satellite' device.

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- *From:* "Christopher Ott" <chrisott \*at\* ottelectronics \*dot\* com>
  - *Date:* Wed, 11 Oct 2006 21:44:31 -0700
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I remember building a crystal radio once as a kid, and how it was able to power a small earphone with no battery or apparent power source. The power transmitted by the station powers the radio. Considering the small amount of energy you'd need, it seems like you could adapt this principle. It does fit your main criteria of a nearly indefinite power source. I don't expect AM radio to be going away anytime soon. Of course this was also the principle behind Nikola Tesla's Magnifying Transmitter ( [http://en.wikipedia.org/wiki/Magnifying\\_Transmitter](http://en.wikipedia.org/wiki/Magnifying_Transmitter) )

You only need 5 Watts for 5 Seconds (25 wattseconds) once a day. So the other 86,395 seconds of the day this thing is just sitting there. It seems if it could be drawing just a trickle ( approx 300 microwatts continuously) from somewhere you could get your 25 wattseconds of energy for the next days readings.

Perhaps some of the folks in the radio newsgroups could give a quick thumbs up/down on the concept, as I don't know how much receive power would be typical off the AM band.

Also, you didn't mention it, but you will have a small constant current draw from the real time clock which will be needed to tell the microcontroller when to come out of sleep mode.

Chris

<alphacentauri@xxxxxxxxxxxx> wrote in message  
[news:1160599507.495390.276260@xx](mailto:news:1160599507.495390.276260@xx)

Christopher Ott wrote:

Not wanting to sound like a "Free Energy" kook,

Don't worry, I'll be the kook here. ;-D

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but you might want to look into how much receive power you could siphon from local AM radio stations.

From the numbers you've provided, I came up with you needing less than 300

microwatts continuous (obviously you'd need some charge/collection circuitry). How b