

Re: Telephone wires

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- *From:* "Bob" <nimby1_notspamm_@xxxxxxxxxxxxxx>
 - *Date:* Tue, 25 Oct 2005 02:19:35 GMT
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"eeh" <eehobbyist@xxxxxxxxxxxxxx> wrote in message

> Hi,

>

> If I couple DTMF signal to one of telephone line for dialing, is there
> any difference to couple the signal to ring and tip wire?

>

The DTMF receiver, at the other end of the wires, will look only at the signal difference between tip and ring.

As long as you couple your signal onto one of the wires without disturbing the (noise) signal that may be on the other then the DTMF receiver will work properly (as long as the amplitude, twist, and distortion products are within spec). In practice, this is difficult to achieve while driving only one of the two wires.

Normally, any voice or DTMF signal that is applied to a telephone line is done so in a differential manner. That is, an equal (in amplitude) but opposite (in phase) signal is applied between the two wires. The receiving end will pick up the difference signal and (hopefully) ignore any signal which is equal in amplitude and phase.

The out-of-phase part of the signal is referred to as the differential (or metallic) component.

The in-phase part of the signal (with respect to earth or signal common) is referred to as the common-mode (or longitudinal) component.

Bob

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- *References:*

- ◆ *Telephone wires*

- ◇ *From:* eeh

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