

## Re: Ethernet card

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*Source:* <http://sci.tech--archive.net/Archive/sci.electronics.repair/2005-11/msg00681.html>

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- *From:* "gb" <[onw9mapsgb@xxxxxxxxxxxxxxxxxxxx](mailto:onw9mapsgb@xxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Sat, 12 Nov 2005 17:40:14 -0600
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"Bob Shuman" <[reshuman@xxxxxxxxxxxxxxxxxxxx](mailto:reshuman@xxxxxxxxxxxxxxxxxxxx)> wrote in message [news:dl5bqb\\$sfid@xxxxxxxxxxxxxxxxxxxx](mailto:news:dl5bqb$sfid@xxxxxxxxxxxxxxxxxxxx)

> I read the Cisco page (mostly marketing spin) and found the following  
> sentence that answered my question:  
>  
> "1000 Mbps data rates are achieved by sending and receiving a 250 Mbps  
> data  
> stream over each of the four pairs simultaneously (4 X 250 Mbps = 1  
> Gbps)."  
>  
> This implies that the 4 twisted pairs are simultaneously both sending and  
> receiving separate 250Mbps data streams giving the 1000Mbps throughput in  
> both directions. The picture showing hybrids in each twisted pair  
> reinforces that each wire pair is indeed full duplex and provides  
> additional  
> detail on the physical link rates. This is what I take away from this,  
> but  
> if I have misunderstood, please correct me.  
>  
> On your preference for optical fiber or even coaxial copper cable, yes,  
> Fiber does seem to be better for many applications since it provides  
> separate send and receive paths making it more immune to noise and  
> increasing the allowable distance, especially for Single Mode Fiber (SMF).  
> But, this comes at a high price since the cost of optical GbE interfaces,  
> especially SMF are much more than for the copper RJ45.  
>  
> RJ45 GbE seems to be the best way to interconnect network elements that  
> are  
> in close physical proximity (i.e. the same data cabinet) since it can be  
> done very cheaply. As the article also explained, it is also a good way  
> to  
> increase bandwidth to end users when Cat5 already exists in a facility's  
> wiring closets to desktops.  
>  
> This was a very good thread. Thanks for correcting the initial reply and  
> providing these links.  
>  
> Bob  
>

Re: Ethernet card

Bob,

One note – that is sometime forgotten concerning 1000BASE-X  
While it does support fiber media (multimode & single-mode), the  
short-reach, 25-meter copper media jumper is actually a shielded (or  
"screened" as the Europeans say) — which is not UTP Cat5.

The other advantage of copper based cables and jumpers is that their  
connectors usually require a smaller physical footprint — which is  
important for high density blades or cards in network equipment. I find its  
usage predominantly in data centers with high concentrations (and short  
lengths) of servers and network gear.

The reason for my fiber bias is that it permits future bandwidth  
enhancements.

Twisted copper cable is near maximum practical bandwidth usage – and coaxial  
copper is not far behind in capacity.

Now back to my wireless reading about Worldwide Interoperability for  
Microwave Access — WiMAX (IEEE 802.16)  
<http://www.wimaxforum.org/home..>

gb

gb

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• *Follow-Ups:*

- ◆ **Re: Ethernet card**  
◇ *From:* Bob Shuman

• *References:*

- ◆ **Re: ethernet card**  
◇ *From:* gb
- ◆ **Re: ethernet card**  
◇ *From:* Geoffrey S. Mendelson
- ◆ **Re: ethernet card**  
◇ *From:* CJT
- ◆ **Re: ethernet card**  
◇ *From:* Geoffrey S. Mendelson
- ◆ **Re: ethernet card**  
◇ *From:* CJT
- ◆ **Re: ethernet card**  
◇ *From:* CJT
- ◆ **Re: ethernet card**  
◇ *From:* P. Thompson

Re: Ethernet card

- ◆ **Re: ethernet card**
  - ◇ From: CJT
- ◆ **Re: ethernet card**
  - ◇ From: James Sweet
- ◆ **Re: Ethernet card**
  - ◇ From: gb
- ◆ **Re: Ethernet card**
  - ◇ From: Bob Shuman

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