http://groups.google.com/d/topic/comp.sys.amiga/RT6luTnu9aA/discussion

comp.sys.amiga >

19.2k baud modems

6 posts by 6 authors

Harald Milne

12/17/87

        Yes, there is such a beast. We just got one, on order for 3 months.
We got it at discount for $700 plus bucks. The discount is applied to uunet
subscribers. Else, pay a hefty $1500.
        Its called a TrailBlazer. Want to know more?

--
Work: Computer Consoles Inc. (CCI), Advanced Development Group (ADG)
      Irvine, CA (RISCy business! Home of the CCI POWER 6/32)
UUCP: uunet!ccicpg!harald

N Weinstock

12/18/87

- hide quoted text -

In article <7403@ccicpg.UUCP> harald@ccicpg.UUCP writes:
>
>   Yes, there is such a beast. We just got one, on order for 3 months.
>We got it at discount for $700 plus bucks. The discount is applied to uunet
>subscribers. Else, pay a hefty $1500.
>
>   Its called a TrailBlazer. Want to know more?
>
>--
>Work: Computer Consoles Inc. (CCI), Advanced Development Group (ADG)
>   Irvine, CA (RISCy business! Home of the CCI POWER 6/32)
>UUCP: uunet!ccicpg!harald

Thought I'd stick my $.02 in. The TrailBlazer is supposed (haven't actually
touched one myself) to be a very spiffy unit which will likely become a
standard for 19.2Kbps modems. (By the way, BAUD rate is the signalling
frequency, not the data rate. The TrailBlazer is a 19.2K bits per second
modem, NOT 19.2Kbaud. Sorry to be nitpicky, but I just learned this
distinction recently :-)

This modem constantly checks the quality of the line, and adjusts data
rate accordingly. It has supposedly been clocked at an average of about
14Kbps over random long-distance lines. Pretty impressive. I would guess
that if a conditioned line were available, it could probably make 19.2.

My understanding is that this thing works by subdividing the 3KHz voice band
into a large number of subchannels, and transmitting many bits in "parallel."

Well, that's all the hearsay I've heard said. If this posting is a giant
glob of misinformation, please correct (or flame) me. I'm very interested in
how the TrailBlazer works.
--
+_-_+
| |
| Neil Weinstock   UUCP: ...!codas!cord!nsw |
| AT&T Bell Labs, Liberty Corner   NET: n...@cord.att.com |
| Warren, NJ   (which one? I DON'T KNOW) |
| |
| DISCLAIMER: My views are entirely my own, I think |
| |
+_-_+

Bill Mayhew

12/19/87

I'd suggest reading comp.dcom.modems to follow the lively
discussion of the Telebit Trailblazer and other modems of various

transmission formats up to v22.bis standard. If desired MNP error
correction can be applied to 1200 and 2400 baud connections with
other modems that support MNP. With MNP in effect, transmission
errors virtually disappear; MNP also achieves a 2:1 data
compression, resulting in an effective 4800 baud connection.

In addition to ISO transmission modes, the Trailblazer also has a
proprietary Trellis coded multi carrier system. Data are
transmitted up up to 512 carriers of 7.6 Hz bandwidth. An initial
handshake procedure determines what mode is it be used. If the
"FAST" Trellis transmission mode is selected, the line profile is
examined to decide which of the 512 carriers will be employed. The
Trellis mode is half duplex. In theory, if all 512 carriers are in
operation, the instantaneous throughput is 19200 bits/sec.
Typically between me and the vax about 20 miles away, I get 14500
to 16500 bits/sec as claimed by the status report from the modem
(ATs70?). When two Trailblazers are talking in Trellis mode, AT
commands can be sent to the remote Trailblazer via a supervisory
data channel (AT%...). This latter feature is very handy.

An optional ROM can be installed to support the uucp g protocol or
kermit. With the option ROM, the Trailblazers have the ability to
spoof the local host into nearly continuous throughput. The
Trailblaizers have faily be internal buffers. They can send
appropriate checksums back to the local host to keep filling their
buffers before a large block is actually sent between the modems.
I've found that I typically get 550 characters / sec in this mode
for uucp. Most of the limit seems to be with the vax which just
can't keep sending data for sustained periods any faster than that.
Nonetheless, this is about 5-1/2 times the throughput that I get
with a Hayes 1200 modem. As such, the Telebit should be able to
save its cost in terms of reduced phone bills in about threee months.
(Assuming a commercial rate in-state long distance news feed that
operates 4 hours a day.)

For me, the Trailblaizer has made talking to our vax *possible*.
Our dial-up suffers a strong high-frequency roll-off somewhere in
the web of wiring between the CO that serves the vax and the CO
that serves me. As such a Hayes 1200 is useless. The answer
carrier is the higher frequency, which is attenuated by the poor
circuit. The result is a continuous stream of ~r~r~r_{... at my
end. The Trailblazer has an adaptive equalizer that is able to
work around the line impairment at even 1200 baud from a Hayes
modem on the vax. Of course a Trailblazer will not cure all types
of line impairment. The TelCo was totally unsympathetic with our
complaints about the line. They said (roughly quoting) "If it's
good enough to hold a voice conversation, that's all we care about.
Tough."

Naturally, I don't have any financial interest in Telebit other
than reduced financial assests on my account. It is a product that
does indeed do what it say it will in the glossy ads.

--Bill

John Russell

12/22/87

In article <503@cord.UUCP> nsw@cord.UUCP (59455-N Weinstock) writes:
>This modem constantly checks the quality of the line, and adjusts data
>rate accordingly. It has supposedly been clocked at an average of about
>14Kbps over random long-distance lines. Pretty impressive. I would guess
>that if a conditioned line were available, it could probably make 19.2.
>
>My understanding is that this thing works by subdividing the 3KHz voice band
>into a large number of subchannels, and transmitting many bits in "parallel."

I have heard figures of 100K bits/second for modems using this technique, but
I was under the impression you needed the same model on the other end due to
the specialized encoding used. Maybe like you say the Trailblazer will become
the standard.

John
--
"...and intuition, in a case such as this, is of crucial importance."
                        -- William Gibson, _Count_Zero_

12/28/87

In article <4310@garfield.UUCP>, john13@garfield.UUCP (John Russell) writes:
> I have heard figures of 100K bits/second for modems using this technique, but
> I was under the impression you needed the same model on the other end due to
> the specialized encoding used. Maybe like you say the Trailblazer will become
> the standard.

And I was under the impression that Shannon's Theorem said that the hard limit
for a voice line was 50K bits/second. I could be wrong (been known to happen,
just ask anyone here), but I believe the person who told me this. He's a jerk,
but a knowledgable one.
--
-- Peter da Silva `-_-' ...!hoptoad!academ!uhnix1!sugar!peter
-- Disclaimer: These U aren't mere opinions... these are *values*.

George Robbins

1/3/88

In article <1329@sugar.UUCP> peter@sugar.UUCP (Peter da Silva) writes:
> In article <4310@garfield.UUCP>, john13@garfield.UUCP (John Russell) writes:
> > I have heard figures of 100K bits/second for modems using this technique, but
> > I was under the impression you needed the same model on the other end due to
> > the specialized encoding used. Maybe like you say the Trailblazer will become
> > the standard.
>
> And I was under the impression that Shannon's Theorem said that the hard limit
> for a voice line was 50K bits/second. I could be wrong (been known to happen,
> just ask anyone here), but I believe the person who told me this. He's a jerk,
> but a knowledgable one.

Shannon had to assume that the data was random. If the data has patterns
that compression or other algorithms can take advantage of, then you can
obtain higher equivalent "bit rates", however you can probably argue that the
actual amount of theoretical "information" being transmitted is still less
than Shannon's limits.

Practically, the USR type 9600 baud or Trailblazer type modems may offer
you considerable cost savings if you transfer a lot of data, or the pleasure
of "direct connect" data rates even though you're dialed into your sites
host computer. The tradeoff is currently between maximum data rate and
interactive turn-around/echo time, but both sides are still fighting hard.

--
George Robbins - now working for,   uucp: {uunet|ihnp4|rutgers}!cbmvax!grr
but no way officially representing   arpa: cbmvax!g...@uunet.uu.net
Commodore, Engineering Department   fone: 215-431-9255 (only by moonlite)