



The Gigaphone

The Shouting Ground Newsletter

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From the Cubicle of the President:

Greetings! It has been quite the roller-coaster ride, but here we are. It is hard to believe how much has changed and how the industry has grown since our humble beginnings in early 1995 as an Internet Service Provider in a co-owner's living room. Back then even Ameritech was impressed when they were instructed to install one hundred pairs of copper into a residence on West Bradley in Champaign. Since then we have moved to our beautiful location at 105 S. Walnut in downtown Champaign. This building once housed a granite works that produced gravestones, and the hoist is still visible outside our front door.

I'd also like to introduce our customers to two recent additions to the Shouting Ground staff! Jeff Machota came on board July 1st, 1998 as General Accounts Manager to help us with our record keeping. He can be reached at billing@shout.net, and can help you with any questions you might have on your bill. Brent Metcalf joined us September 1st, 1998 as a Systems Administrator and Technical Support Director. He has been extremely helpful in getting people on-line and happy with their new accounts. If you have a problem with your Shouting Ground account, Brent can help!

Like the Internet, Shouting Ground's mission and direction has also changed since our opening in mid-May of 1995. We have expanded our services to include not just Internet services like dialup, ISDN, T-1, and web-hosting, but also general network consulting, maintenance contracts, programming, and database services. Let us know if you or your company has needs in any of these areas. We would be more than happy to discuss options and solutions with a free initial consultation.

We are also pleased to announce that we have partnered with DPEC Inc., a developer in on-line self-paced training with over 18 years of experience. With DPEC, Shouting Ground will soon be offering on-line web courses in a number of topics including Internet Explorer, Netscape Navigator, the Internet, and Windows 95/98. Small businesses or programmers will appreciate technical topics in Visual Basic, HTML, Java, JavaScript, and Windows NT. There are even professional development topics such as Basic Math and Grammar Skills for those wishing to expand their vocational abilities. If you would be interested in seeing what we have to offer, send E-mail to admin@shout.net or call 217-351-7921.

Finally, we have been very pleased to see a lot of the same familiar faces in our clients over the past years. It shows us that you are confident with the level of service we provide, and we appreciate that! Do not hesitate, however, to let us know how we are doing and how we can improve our services to you. The upcoming years promise to be even better, and we will continue to strive for the level of service, reliability, and integrity our customers have come to expect from Shouting Ground Technologies. We wish you a prosperous year, and hope to serve you now and in the future!

Sincerely
Bryan Holloway, President

New Rates

All rate changes below go into affect May 1st, 1999.

Analog Dialup:

*Actual rates are not changing. The number of hours, however, is changing. Price for extra hours is the same.

Low	\$10/mo	20 ?	25 hrs	\$0.50/extra hr
Med	\$17.50/mo	60 ?	75 hrs	\$0.25/extra hr
Hi	\$25/mo	240 ?	300 hrs	\$0.10/extra hr

ISDN Dialup:

*Price per month is going down slightly. Number of hours is also up.

	60 ?	75 hrs	240 ?	300 hrs
64Kb/s	\$30?	\$25/mo	\$45?	\$40/mo
128Kb/s	\$60?	\$50/mo	\$85?	\$75/mo

Centrex lines are \$50/mo

ISDN Demand-Dial:

*Price per month is going down.

64Kb/s	\$220?	\$185/mo
128Kb/s	\$360?	\$295/mo

A \$5 late fee will be added to accounts not paid on time.

Understanding Your Billing

As a customer of Shouting Ground Technologies, every month you will receive an INVOICE from us detailing your services for that particular month. The word INVOICE will be visible in the upper right hand corner. The Invoice number will be in a box right below that. The due date will be in a box half-way down the page, and the total for that month's services will be listed in the bottom right hand corner.

If you have over-paid us (intentionally or otherwise) or have neglected to pay us, you will also receive a STATEMENT from us, as well as an Invoice. The STATEMENT (noted in bold in the upper right hand corner) is a listing of your account's recent activity (usually six months' worth). The STATEMENT will show all Invoices and payments for that period. At the bottom right hand corner will be the total you actually owe. If the number is negative, that means you have overpaid and have credit with us.

If you ever have any questions about your INVOICE or STATEMENT, feel free to call us at 217-351-7921 and ask for Jeff or e-mail <billing@shout.net>.

Dialup Alternatives - ISDN, DSL and Cable

The popular press has been taunting us with the promise of lightning fast, flat rate Internet connections based on new technologies. Like the nuclear power industry that promised electricity so cheap they wouldn't even have to meter it, the predictions are overly optimistic. Because of the differences in facilities and tariffs across the country, some technologies that work well in some communities may not be feasible for others.

Most people still connect by dialing into a network node using a standard phone line and analog modem. Under ideal conditions, using a V.90 56K modem, you might establish a connection with a 56Kb/s incoming data rate, and 33.6Kb/s outgoing data rate. In reality you are more likely to connect at 40Kb/s-48Kb/s.

Data Rate Comparison		
Technology	Maximum Data Rate	Typical Data Rate
<i>Analog Dialup</i>	56Kb/s	44 Kb/s (26.4Kb/s outgoing)
<i>ISDN</i>	64Kb/s / 128Kb/s	64Kb/s / 128Kb/s
<i>Leased Line T1</i>	1536Kb/s	1536Kb/s
<i>xDSL</i>	64Kb/s – 1536Kb/s	768Kb/s
<i>Cable</i>	10000Kb/s	40Kb/s

This table illustrates the different data rates that may result from the use of the various technologies listed above, but the speed of the connection doesn't tell the entire story.

- **Analog Dialup Rate** - Depends on quality of phone line, distance from central office, quality of modem, and computer software. Data rate may change while a call is in progress, or from call to call. Modems typically fall back to fastest speed they can connect at reliably for the given conditions. Cheapest access, available nationwide. Dialing and authenticating can take around 45 seconds.
- **ISDN** - Digital phone service always connects at the rated speed of 64Kb/s per channel. Can aggregate multiple channels for higher speeds. Transmit and receive data rates are symmetric. Handshakes and authenticates within one or two seconds, so dial-on-demand connections work well. Many inexpensive ISDN adapters are available for serial ports or a network connection. Easy to support multiple networked computers on a single ISDN connection to ISP. 2-way dial-on-demand routing can make an ISDN connection look like a dedicated line. ISDN is prohibitively expensive in some parts of the country, but is very cheap in Illinois.
- **Leased Line T1** - Most economical, reliable way to get high bandwidth service. Constant data rate of 1536Kb/s. Dedicated connection to the Internet. T1's may be sold as fractional (a group of 1-24 64Kb/s data channels) or full (all 24 channels). The connection to the Internet is independent of the bandwidth of the T1 line itself, so a full T1 line may be sold and programmed to only pass a fraction of that traffic.
- **xDSL** - Many flavors of DSL technology have appeared in the past couple years, though DSL itself is not new. Leased line T1's are often delivered over DSL circuits. The popular press has implied that DSL will somehow drastically reduce the costs of high speed Internet connections. However, the cost of the local loop (the line between you and your service provider) is only a small fraction of the cost of the Internet connectivity. Also, DSL connections are usually aggregated into a multiplexer or router that share a single pipe to the Internet provider. A full T1 speed pipe is generally no cheaper with DSL than it is with other technologies. Since DSL uses ordinary copper lines, it has limitations. The destination may be as far away as 18,000 feet from the switch under ideal conditions, but the distance falls off as line conditions drop. "LAD" circuits (telephone wires leased from the phone company for running DSL or other services) are only guaranteed to 9.6 Kb/s, so there is no certainty that DSL

will work on any given phone pair. The higher speed DSL circuits require two pairs of wires, and they have to be run in separate "bundle groups" to function properly. Even if all of these conditions are met, when a neighbor orders DSL service, his installation could disrupt your service and prohibit it from working. At this point DSL is neither a simple nor inexpensive alternative in most locations.

- **Cable Modems** - No other technology has generated the expectations and disappointment that cable modems, which connect via your local cable TV system, have generated. Many communities have upgraded their cable systems to run optic fiber instead of coaxial cable, and have added two-way capabilities. This has the potential of exploiting the high bandwidth of the cable system for two-way data communications. There are many technical problems to overcome before such systems can operate successfully, and their claims must be examined carefully. Cable companies have indicated that cable modems are faster than the other technologies we've listed, with speeds of 4000Kb/s to 10000Kb/s. These claims are misleading. One would assume that a 10000Kb/s modem is as fast as a 10000Kb/s ethernet. But ethernet specifications are very stringent regarding how long it can take to pass data from one node to another. Since the cable modem has to send the data through the system to the head end to be processed, then back down the line, it can't come close to meeting ethernet specifications. Your overall traffic rate is substantially less than the promised 10000Kb/s. There is also a privacy issue. Your cable modem is on a network shared by other homes and businesses. Your traffic is subject to interception or interference by competitors, vandals, and accident. Since most cable companies aggregate a number of neighborhood fibers for a single traffic feed, the cable system only supports a limited number of network segments. Finally, the reliability of your internet connection will be no better than the reliability of the cable system. Can you depend on it enough to suit your needs?

We hope this overview of competing technologies will help you decide which service is best for you. Please contact us if you have any questions about these, or other Internet connection technologies.

Are You a Two-Line Household?

Do you have a second phone line so you can connect to the Internet and still have a phone available for calls? For about the same price, you can get a digital ISDN phone line with the same benefits, and more.

- Can be used like two phone lines. Make calls on two separate lines, or connect to the Internet (at 64Kb/s) on one line while making a phone call on the other. You can even connect using both lines (128Kb/s), and have it automatically drop the speed of your Internet connection to 64Kb/s when a call comes in so you can answer it.
- Connection is always at full 64Kb/s or 128Kb/s data rate in both directions. It doesn't depend on line quality, weather conditions, or time of day.
- Some custom calling services, like phone number caller-ID, are included at no extra cost.
- Residential rates are identical to analog phone rates for calls.

Ameritech ISDN service is around \$37 a month, which gives you the equivalent of two phone lines, and reliable digital phone service. Contact us for details.