Internet Party Line Installation and Use
November 12, 1995

Introduction
Internet Party Line (IPL) is a multi-party audio chat program designed to work over relatively low-bandwidth connections such as the Internet. Instead of mixing audio from each participant in real-time, Internet Party Line queues statements and plays them one at a time. This way, a group of people can audio chat without taking turns speaking. It's something like using an IRC (Internet Relay Chat) style of conversation with audio instead of text.

Internet Party Line is implemented by two applications: IPARTY.EXE (the client) and IPARTYD.EXE (the server, or "deamon"). You may run just the client, or choose to also host Internet Party Line sessions by running the server as well.

Installing IPL

Machine Requirements
- 60MHz Pentium(R) processor or better.
- Windows '95, or Windows NT. IPL should run under Windows 3.11 if you've installed Win32S, but it has not been tested in this configuration.
- WinSock. A simple test for this is "Does Netscape run on your machine?" If so, you have it.
- Audio hardware, such as Creative Labs' SoundBlaster board.
- Speakers or headphones.
- A microphone. I've had good luck with Creative Labs' MC1000 Microphone. Many other microphones don't seem to provide adequate levels to the sound board.
- Internet Party Line has not yet been tested over a modem. I expect a 28.8 modem would be necessary.

Installation
- Create an installation directory, for example, "C:\IPARTYL"
- Copy the archive file "ipartyl.exe" into that directory.
- Run "ipartyl.exe -d" to unpack the archive -- Don't forget the **-d** parameter.
- Edit the file c:\ipartyl\iparty\sessions\client.ipl, replacing the string "<Your Name>" with the short name you wish to use in chats.
- Run iparty.exe (but don't open any session yet.)
- Test the microphone level by pressing the "Push to Talk" button, saying a short sentence, then releasing the "Push to Talk" button. IParty should then repeat your sentence. If you don't hear the sentence you said, see "Trouble-shooting", below.

Using IPARTYD.EXE to Host Internet Party Line sessions
The Internet Party Line server, IPARTYD.EXE comes configured to host two sessions, named "default.ipl" and "testtalk.ipl". To host these two sessions, simply run IPARTYD.EXE. Supposing your machine is named "toga.party.com", IPL clients can connect to one of these two sessions at "iparty://toga.party.com" or "iparty://toga.party.com/testtalk.ipl", respectively.
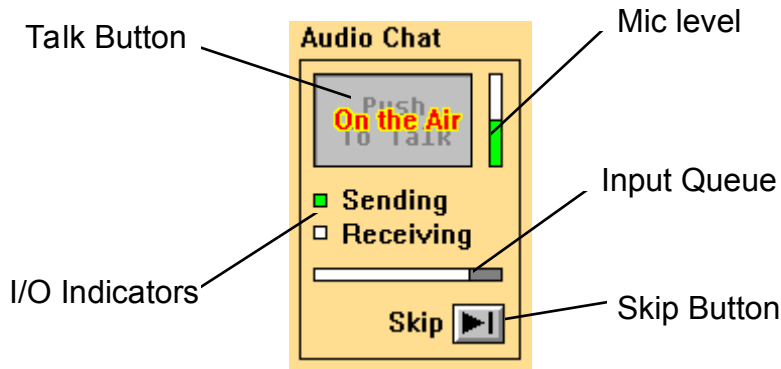
To host more sessions on your machine, follow the instructions in the file "c:\ipartyl\ipartyd\sessions\default.ipl". After creating a new sessions file, you must exit and re-run IPARTYD.EXE to make the session available to others.

Using IPARTY.EXE to connect to an existing Internet Party Line session

To connect to an Internet Party Line session:
- Run IPARTY.EXE
- Select the "File/Open Location" menu item. This opens the "Go To URL" dialog.
- Enter the URL of the session you wish to connect to. For example
"iparty://toga.party.com/testtalk.ipl" is the URL of the session "testtalk.ipl" hosted by the machine
"toga.party.com".
- Press OK.
- If successful, the status bar will say "Connected to toga.party.com".
- to leave a session, select the "File/Exit" menu item.

Audio Controls

The above figure illustrates the audio controls on the IParty screen.
1. Mic Level - This area displays the volume of microphone audio. When speaking, try to keep
     this volume in the upper half of the bar.
2. Talk Button - To speak, press the Talk Button, say your statement, then release the Talk Button.
     Try to keep your thoughts short (less than 20 seconds each).
3. I/O Indicators - The "Sending" indicator is lit whenever you are speaking. The "Receiving"
     indicator is lit whenever someone else is speaking. Note: since IParty queues audio, you will
     not hear that person speak until they've finished their statement.
4. Input Queue - this meter shows roughly how much audio you have yet to hear.
5. Skip Button - Press this button once to skip the statement you are currently hearing.

Other Controls
Other areas on the screen complete the chat interface.
1. Active Members - This area shows a list of the names of current participants in the chat. The
     name of the person you are currently hearing is highlighted.
2. Text Chat - The text other people type appears here.
3. Type Here - Type in this area to compose a text message. Press the "Enter" keyboard key to
     send the text.

Hints

Internet Party Line, like IRC, gets more interesting the more people join in. A chat with only two
people in it or one in which only one person speaks at a time is pretty dull. Chats of more than
seven people seem to work pretty well.

Keep your comments short. Nobody can hear what you're saying until you finish speaking and
release the "Push to Talk" button.

Don't be afraid to talk while someone else is speaking. When you push the Talk Button, playback
stops until you release that button. When you release the Talk Button, playback continues where
it stopped -- you won't miss anything.

Be a good network citizen and don't hog bandwidth. An Internet Party Line server consumes approximately 13Kbits of bandwidth per simultaneous speaker, multiplied by the number of listeners. Hosting a large party can consume significant bandwidth. For example, a chat of 25 people in which 3 people are talking simultaneously would consume approximately 1Megabit per second (13Kb * 3 * 25), which is a significant portion of the total bandwidth provided by a 10Mbit ethernet. To limit the number of people in an Internet Party Line session you host, edit the session file, for example "c:\partyl\ipartyd\sessions\default.ipl", and adjust the maximum number of simultaneous connections, given next to the "ConnectMax" keyword.

Integrating Internet Party Line with NetScape
Because Internet Party Line sessions are named by URLs (Universal Resource Locators -- Web links), you can advertise your hosted sessions via your home Web page.

Creating a link to a session
Since IPL uses a connection-oriented protocol, iparty, rather than the Web file-transfer protocol, http, making a link to a session is slightly more complicated than making a link to a file.

Suppose you are running IPARTYD.EXE on your machine named "toga.party.com", and you want to create a link to your session named "testtalk.ipl".

- Use a text editor to create a wrapper file named, for example, testtalk.ipu ("ipu" for "Internet Party URL).
- insert the URL of the session you wish to link to into your file "testtalk.ipu". For example, iparty://toga.party.com/testtalk.ipl (no quotes).
- Arrange that your Web server serves files with extension ".ipu" as MIME type "application/x-iparty". The details of this procedure depend on the particular server program.
- Insert a link to testtalk.ipu into your home page, for example
'I am running an IPL session <A HREF="testtalk.ipu">Here</A>.'

Following a link to a session
To use Netscape to follow a link to someone else's Internet Party Line session, you must configure Netscape to understand the wrapper file type described above. To do that, add the following information to Netscape's"Helper Apps" list:
>   MIME Type: application/x-iparty
>   Extensions: .ipu
>   Execute: iparty.exe
Once you've made this change, clicking on a .ipu link will run IPARTY.EXE and connect you directly to the referenced session.

Trouble-Shooting
Internet Party Line is an experimental prototype. In order to quickly test its usefulness, it has not been run through a rigorous testing program. Here are some common problems and how to fix them.

It keeps recording after I release the Talk Button
The most likely cause is that your machine isn't powerful enough to run Internet Party Line. IPL requires a 60MHz Pentium(R) processor or better.

Distortion/Clipping
Most distortion is caused by speaking too loudly into the microphone. When speaking, try to keep the Mic Level meter in the upper half of the bar.

Others can't hear you speak

The most common cause for this problem is that your system software has turned off your microphone input or auto-gain-control, or set the microphone volume too low. Find your system's volume/input control in the program manager's control panel. Turn on the microphone input and raise the microphone level using that volume control.

To adjust the microphone input level under Win '95:
- Double-click on the the small speaker icon in the lower right corner of the screen (in the task bar) to bring up the Audio Mixer.
- Click on the Options menu item and select Properties to open the Properties dialog.
- Select "Recording" in the "Adjust Volume For" section of the Properties dialog. This changes the title bar in the audio mixer to read "Recording Control".
- Click on the Options menu item again, and select the "Advanced Controls" item. This causes the "Advanced..." button to appear in the microphone level.
- Click on the "Advanced..." button to bring up the microphone controls dialog. At the bottom of that dialog is a checkbox. Click on it to make it checked.
- Adjust both the Recording gain and Microphone gain to set the volume.
NOTE: you may have to repeat this procedure each time you restart Windows.

Others STILL can't hear you speak

Some sound boards don't adequately support their microphone input under Windows. Try recording a clip of audio from the microphone using the Sound Recorder accessory. If you can't successfully record audio using that accessory, contact the manufacturer of your sound board.

You can't hear anything

Your speakers or headphones may be disconnected or connected to the wrong plug on your sound board.
The system volume output control may be set too low. Find your system's volume/output control in the program manager's Control Panel. Adjust the output volume to a comfortable level using that volume control.

Can't connect to an Internet Party Line session

There are several possible reasons for a connection attempt to fail:
- The server may be down at the moment, or may be on the other side of a firewall. This will produce a "Can't connect to ..." dialog.
- The session you wish to connect to may not be served by this server. You may have mistyped the name of the session.
- The session you wish to connect to may be full -- it may have exceeded the maximum number of connections allowed for that session (see ConnectMax under Hints, above).