

Network/Connecting

Connecting to UNC-CH via Modem



General Notes

This document explains the basics of connecting to the campus network via modem and is not software-specific. ATN has prepared the following individual handouts for connecting with specific communications software packages:

- *Using MS-Kermit at UNC-CH* (ncd01)
- *Using MacKermit at UNC-CH* (ncm01)
- *Using Telix at UNC-CH* (nct01)
- *Using ZTerm at UNC-CH* (ncz01)
- *Windows 95: HyperTerminal* (nch01)

MS-Kermit and Telix are for PCs, while MacKermit and ZTerm are for Macs. All of these software packages, as well as the documentation explaining them, are available via disk swap from ATN's Technical Assistance Center located in Suite 300 in the basement of Wilson Library. Please bring a blank high-density disk to exchange for the disk containing the program. Using one of the ATN-supported software packages eliminates the command-line interface used by some older programs. ATN disks also are pre-configured for UNC-CH, which means that you will not need to worry about settings.

Choosing a Modem

It was formerly the case that a 2400 baud modem (baud measures the speed of the modem) was adequate for most email users; all one looked at on the Internet was text, which does not take much horsepower to move back and forth over the phone lines. Now, with the advent of the World Wide Web, your modem is moving large amounts of graphics and sound along with the normal text load. Combine this trend with a huge price decrease for modems over the last two years, and you find that it makes sense to invest in a better modem.

Thus, the minimum a user would want to buy would be a 14,400 baud modem, and a Web user (with Explorer or Netscape) would definitely want a 28,800 baud modem or faster. Access to the Web is functional with a 14,400 baud modem, but more efficient with the faster model. The golden rule in modem purchases, however, is to buy the right speed for your location. A modem will communicate at the maximum speed of the place to which it connects -- if you have a faster modem connected to a slower one, you move at the slower speed.

Software and/or Equipment Settings

Make sure your communications equipment or software is set as follows:

- no parity
- 8 data bits; 1 stop bit
- full duplex
- the highest baud rate compatible with your modem
- vt100 or vt102 terminal emulation

How to Connect

When you dial in to UNC-CH you are connecting to a terminal server which presents you with a menu of services for the campus data network.

1. To dial the network, enter **ATDT 9629911** (for 14,400 baud or slower modems) or **ATDT 9629991** (for 28,800 baud modems or faster) into the appropriate field in your modem program. Note: if you are dialing in with a rotary phone line, preface the number with **ATDP** rather than **ATDT**.
2. Choose the dial option for your modem program after you configure the number for UNC.
3. If you get a busy message, try connecting later. Many modem programs allow you to choose a redial option.
4. Press **<Return>** after you get the **CONNECT** message. (Pressing any key before this will cause a disconnection.)
5. Type the menu item number for the service you want and press **<Return>**. You should then get the welcome screen or message of that service and can login as normal.

NOTE: Residence hall users will not be able to dial out via modem if Message Notification is turned on and there is a message waiting. To correct this problem, check messages before dialing out or turn Message Notification off.

The UNC-CH Data Network Menu

1. **Create an ATN UserID**

Choose this option to create a user ID on Isis.

3. **UNC-CH Library Services**

This menu item gives you access to the UNC-CH libraries' catalogs, which also include holdings from Duke University and NC State University. Online bibliographic services, such as UnCover and InfoTrac, are also available here, as are several other services offered by the library.

5. **ATN Isis Email/Internet**

This menu item gives you email and Internet access through the Isis Email/Internet system. The services include disk space and world-wide access to libraries, digital archives, newsgroups, the Web, and much more.

6. **ATN SunSITE Services**

SunSITE offers several public services for which you do not need an account. To get access to a service, you log on to SunSITE with a login reserved for that specific service. The services with the public logins are listed on the opening screen of SunSITE. To have an ftp session on SunSITE, **ftp** to **sunsite.unc.edu** and then login as **anonymous**. For more information about SunSITE, send email to **info@sunsite.unc.edu**.

7. **ATN Molecular Biology (GCG)**

This option provides access to ATN's biology-related databases and software.

10. **UNC-CH Web Site (Info)**

This option opens up to a text version of the UNC-CH home page.

11. **ATN Research (chastity -- SGI)**

Scientific computing is provided to researchers who need high performance computation cycles. Applications include AVS, Gaussian, LIMDEP, Maple, and MOPAC.

12. **ATN Statistical (StatApps)**

ATN's statistical computing service, called StatApps, provides access to a host of research and statistical programs, including SAS, SPSS, and STATA.

15. **Other UNC-CH Services**

The site includes the following options: (1) **UNC-CH Host - enter address**, (2) **Rlogin to host - enter address**, and (3) **Dial-out Access (Limited)**

16. Other UNC host - enter address

This option allows you to connect to a computer on the UNC-CH campus that is not listed on the network menu. After you select this item, you will need to enter the host's Internet address.

17. Set Return-to-menu character

This option allows you to designate a key sequence that will automatically return you to the network menu from your session. Logging off from any service other than an IBM service will return you to the network menu.

People using an IBM service (MVS/TSO or VM/CMS) need to use this option to return to the network menu because logging off an IBM service returns you only to the VTAM screen (IBM services menu). IBM users who do not need to return to the network menu can ignore this option; hanging up their telephone will disconnect them from the menu.

NB: When selecting a key sequence, be certain to choose one that does *not* have a function within whatever service or application you are using. Ctrl-W is a good option.

18. Special Tools (Experts only)

This option is seldom needed by normal users.

20. Logout/Disconnect

When you are finished using the campus network, select this item to end your session. Hanging up your telephone will also disconnect you from the network.

Ending a Session

Once you have logged off the service you were using, the campus network will send you a prompt telling you to press <**Return**> to get the network menu. Once you have the network menu, you can either connect to another service or enter **20** to disconnect from the network.

Transferring Small Amounts of Text to your Computer

If you have a small amount of text on your screen, and you want to transfer it, typically it will not be much trouble. If you have a Macintosh or are running Win95, simply highlight the text you want to transfer, and use the **Copy** command to place it in the clipboard. Once the selected text is on the clipboard, open a text editor (e.g., MS Word), and **Paste** the data into a document. **Note:** this is also possible with a PC running Windows 3.x, however, it should be noted that Telix exhibits strange behavior when run in a Windows MS-DOS shell.

Transferring Text via a Capture Log

Another method of downloading text is to capture whatever is written to the screen in a local logfile. In Telix, you can start the Capture/Toggle with ALT-L. You will be prompted for the name of a local file, (this defaults to the filename established in the ALT-O Filenames and paths menu). Using Zterm, select Start Capture from under the File menu. In all versions of Kermit, look for the Log Session command. Once these logs have started, all characters (including, unfortunately, cursor relocation commands) are echoed to this file. You can close this log anytime without logging off (usually by running the command again). Once you are done using your modem software, you can then access this text file with an editor.

Transferring Large Amounts of Text/Programs to your Computer

ATN currently supports two methods of transferring large amounts of data to and from your home computer and a remote computer (e.g. ISIS): **zmodem** and **kermit**. Almost every modem program in existence supports kermit, while newer programs support both kermit and zmodem. Of the two, zmodem is easier to use, and transfers data faster. We highly recommend that you use zmodem to download your files; however, it is unreliable on uploads.

Zmodem

To transfer data to your home computer, make sure you know the filename of the file you wish to transfer. If you are not sure how to find out, look up the *ls* command in the *Unix: Getting Started* (cus01) handout. (Note: wildcards, such as the *, will work with both zmodem and kermit; it is not necessary to type out the entire string of a long name, just a defining set of characters). To start sending the file, use this command:

```
sz -e filename
```

e.g., `sz -e simpsons.doc`

If you are having trouble transferring an ascii file, add the switch **a**; for a binary file, add the switch **b**. Use the switch **r** to resume a file transfer--this is helpful when transferring large files. If the simpsons.doc above were an ascii file that you were having trouble transferring, and had been interrupted once, you could type the following to expedite the transfer:

```
sz -ear simpsons.doc
```

Note: if the file you are downloading is in binary format (this could mean that it's a compressed archive, such as a zip or hqx file, or a spreadsheet or word processor document), you need to make sure that you do not corrupt it during the download. To do this, run the *sz* command with an additional set of arguments:

```
sz -ebr spreadsheet.doc
```

If you have a smart modem program, it will automatically start receiving the file you have sent with the zmodem protocol. Older modem programs will ask you to select a menu item or issue a command to receive zmodem files (usually ALT-R on PCs, something akin to *receive via zmodem* on Macs).

To send a file from your local computer to a remote computer, you must first type *rz* on the remote computer. Then, find the send zmodem file option in your modem program (usually ALT-S on PCs, *send via zmodem* on Macs) and choose the file you wish to upload. Note: on PCs, after you have selected your files, you must use the F10 function key to begin the upload.

Kermit

Note that this is not the same thing as the popular communications program called either MSKermit or MacKermit; almost all modem software packages in the world can use the kermit file transfer protocol. Once you have connected to the remote computer (e.g., ISIS), you must start the kermit protocol and correctly configure it. Here are the commands you need -- beneath each command is a comment on what it does.

kermit

(this command is issued from the remote machine's prompt and starts kermit)

set file type bin

(this command allows kermit to transfer both data and program files. If you forget it, your programs will NOT transfer correctly. Note that programs include all non-text data like graphics and sounds files)

set parity none

(this command makes kermit agree with your modem setting and is probably the default)

Optionally, you may also want to enter these commands to make kermit work faster. If they cause any problems, use **quit** to exit kermit and restart it without them:

set send packet 9024

set receive packet 9024

set block 3

set win 18

(these commands will not work if you have an older software package that does not support more advanced kermit features. Note, the values are different on various machines).

Once you have configured kermit, all you have to do is start sending files with the *send* command. The syntax is *send filename*, and you can use wild cards like *send *.doc*. When you hit enter after typing in a *send* command, kermit will give you the following message: "Escape back to your local kermit and give a RECEIVE command..." This means that you must now go back to your software package, and choose the option for *receive kermit file*. Some newer packages will do this automatically for you. The file will begin transferring, and your modem software will most likely beep when it is done.

To send files from your local computer to a remote computer, you must follow all of the instructions listed above. However, instead of sending a file, you will type *receive file* (or *server*, both entries will work) on the remote computer. Then, go to your modem program and choose *send file* (there are different ways to do this that depend upon your particular modem program) and choose the file you wish to upload.

Moving Large Documents out of Email (and Downloading Them)

The most common download you will wish to perform is with an email you have received. The trick is to save your email as a text file in your Unix account

If you are in either the INBOX (Folder Index) or the message itself, press the letter "e" to export the file to your Unix account. Pine will prompt you for a name, and then save the file in your home directory. When you exit your email session, look for the file with the "ls" command (for more Unix commands, take a look at our *Unix: Getting Started* (cus01) handout). The "ls" command will list all the files in your home directory, among them your saved email. To download the email, simply use zmodem, as described above.

Saving and Reading Attached Files Sent to You

When you receive a message with an attached file, a message will appear under the Subject line that says **Parts/attachments**. Use the View Attachments command (**V**) to save the attachment as a file in your Unix directory. After typing **V**, enter the attachment number that you would like to save (usually 2 since 1 is usually an attachment comment). Choose Save (**S**) or press **<return>**. You can change the name of the attachment at this point. A message will appear saying the file has been written to your home directory with the name you selected. If you wish to look at this file, and it is in text format, quit Pine (**Q**) and go to number 6 on the Isis Menu. At the Unix prompt ('%' or '>'), type the command **more** and the filename.

```
%more textfile
```

Use the **space bar** to scroll downward, one screen at a time.

If the attachment was in binary format (a picture, spreadsheet or word processing document), download it to your personal computer with zmodem in binary mode.

How to Uncompress Downloaded Files

Many of the program files and a good number of the documents you will want to download will be compressed. This either means that they have been squeezed into a smaller program so they will not take as long to transfer to a computer over a modem, or consist of several files bonded together to form an archive. With all compressed Mac and PC files, the first step is to download the file to your computer. Once it is on your Mac or PC, follow these instructions to uncompress the file:

Macintosh

For the Mac, the program you need to uncompress files is called **StuffIt Expander**. StuffIt Expander primarily works on files which have been binhexed. (Note: all binhexed files will be in the form of "name.hqx".) You can get StuffIt Expander from the archive at <http://shareware.unc.edu> or walk over to the Technical Assistance Center in the basement of Wilson Library with a diskette and ask for a copy. Once StuffIt Expander is on your desktop, simply drop the compressed file onto the StuffIt icon and it will decompress. See the document *Decompressing Files with StuffIt Expander* (dmu01). Occasionally you will run across a file with a "name.cpt" format. This is a Compact Pro archive. (Compact Pro is also available at shareware.unc.edu in the /pub/mac/comm directory). Often, you will find that compressed files for the Mac are encased in self extracting archives (usually of the form "name.sea"); this simply means that if you run them as an application after downloading, the file automatically uncompresses.

Windows

For Windows, you need to get a copy of WinZip. You can download WinZip from the ATN Shareware page (<http://shareware.unc.edu>). Choose **Windows 95** or **Window 3.1** and then **Compression**. See the

document *Decompressing Files with WinZip* (dwu01) for more information. If you do a good deal of downloading, you will notice that there are other compression formats (e.g., *.arc, *.lzh, *.zoo, etc.).

Important Note for Graphics Users on Both Platforms

Many graphics files come in their own unique compressed format (these are in the form "name.jpg"). For both the Macintosh and for PCs programs exist (look in the above archives under the utils sub-directory) that will either read .jpg files directly, or change them into more common formats (e.g., *.gif or *.pcx files).

A Final Note for Campus Users

You may wish to download files from your Internet account to your PC or Mac, but since you are connected through the campus network (instead of by modem), a different protocol (ftp) is necessary. Several user-friendly packages do this for you, such as WS_FTP for Windows or Fetch for the Mac. Both programs are supported by ATN and discussed at length in *Windows: Telnet and FTP* (iis07) and *Macintosh: Telnet and FTP* (iis08). If you do not have these programs, you can get them from ATN (Wilson Library), your local system administrator, or download them from the ATN shareware site at <http://shareware.unc.edu/>.

Troubleshooting Tips

General

Send email to help@unc.edu; call 962-HELP (4357); or come by the basement of Wilson Library, Suite 300.

Problems Getting to the Campus Network

- When you dial the phone (for modem connections), nothing happens.
Double-check that the modem is on and connected correctly (e.g., correct com port, etc.).
- After you dial the network, the phone rings but is not answered.
Hang up and try dialing again.
- After you dial the network, the phone connects, but there is no menu or response from the keyboard.
Try pressing Ctrl-q (hold down the control or Ctrl key and then press the q). The menu should appear.

Problems Getting to a Service

- You dial in, connect, hit return, get menu, enter number of desired choice, cursor goes to beginning of bottom line (`Enter number . . .`) and nothing happens (you do not see the number you typed).
Databits/Parity is set wrong in your communication software; it is probably set as E7 (even parity 7 databits) instead of N8 (no parity, 8 databits). See page 1.
- You dial in, connect, press return, get the menu, you enter the number of a menu item, the number you entered appears at the bottom line (`Enter number`), but nothing happens (you do not get the welcome screen for the service you selected).
Try connecting again. If you still do not get the service's welcome screen, the service may not be available (it is "down"). Try connecting later.
- At the network menu, you enter an item number and get the message `press <RETURN> to continue . . .`, and then the menu redisplay.
You probably either used the Backspace key to correct a typing error or entered an invalid menu choice.
- You do not see SOMIN on the network menu.
Select item 16 and when prompted for the UNC host, type in a SOMIN computer host name.

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