Modems

Setting up your modem to work with BulkRate is usually very easy. Unfortunately, there are many, many modem manufacturers, and so-called "Hayes-compatible" modems are not terribly compatible with each other.

The following info may help you determine the best settings you use with your modem.

erial ports
BulkRate currently works only with modems connected to the modem port or the printer port.   In some cases, modems ship with software that makes them appear to the Mac to be connected to the modem port, even if they are actually connected to an internal slot, as in the PowerBooks, or to an ADB port, as in the case of some models of Global Village modems.   BulkRate may or may not work with these types of modems.

Modem speed
BulkRate should work with any modem capable of a speed between 1200 bps and 28,800 bps. Typically,   high-speed modems use a method of connection in which the computer-to-modem speed is higher than the modem-to-modem speed.   With a modem that is rated at 14,400 bps it is usually recommended to raise the serial port speed to 19,200 or 38,400 bps to allow data compression to work.   The speed you specify in the Modem settings dialog is the COMPUTER-TO-MODEM speed, not the modem-to-

modem speed.

Upon connecting to the remote modem, your modem returns a "CONNECT" message.   This message can report one of two values, the computer-to-modem speed (DTE speed) or the modem-to-modem speed (DCE speed). Often it is possible in the initialization string to tell the modem which type of speed report to make.   If your modem is reporting the DCE speed and you are using hardware handshaking, you should uncheck the "Adjust BPS after connect" setting.   If this is checked, BulkRate will readjust the serial port speed to match the speed reported by the CONNECT message.   For low-speed modems, this is usually the right thing to do, but for high-speed modems, this is usually the wrong action to take.

Hardware Handshaking
Most high-speed modems currently support hardware handshaking.   If yours does, you may turn this feature on in the Modem settings dialog.   In fact, BulkRate forces you to do so at serial port speeds greater than 9600 bps.   Make sure you have a modem cable that is properly wired for hardware handshaking.

Note that due to the small number of pins in Macintosh serial ports, most modem cables use the same line to sense DTR (Data Terminal Ready) and to sense CTS (Clear To Send).   The DTR line is often used to support "hardware hangup," in which a voltage transition causes the modem to immediately disconnect.   CTS is one of the hardware handshaking lines. Since both lines are connected to the same cable pin, a voltage transition on one is indistinguishable from a voltage transition on the other.   If your modem is transferring data too fast for the Mac and the Mac pulls the CTS line to tell the modem to pause a bit, the DTR line will go down as well.   If the modem is set to disconnect on DTR transition, you'll be disconnected. The bottom line is that in most instances, if you turn hardware handshaking on, you must set the modem to ignore the status of the DTR line. (Typically the correct command is &D0, though your modem may vary.)   Failure to do this will cause unwanted disconnects, especially when downloading or otherwise transferring a lot of data to your Mac.

Note also that this advice is not unique to BulkRate; it applies to all uses of high-speed modems with the Macintosh.

Initialization strings
This can be a source of great confusion and frustration.   In most cases, the default modem settings for use with the Mac are the appropriate ones. Some manufacturers use "ATZ" to restore these settings, others "AT&F" or "AT&F1".   See your modem manual for details.
Specifically, your modem must be set up to echo local commands (typically "E1"), provide responses to commands (typically "Q0"), and provide

responses in verbal format (typically "V1").   If you wish BulkRate to properly respond to busy signals and no dialtone situations, the modem must support the "X4" command set.   Given these parameters, a default setup string for a 2400 bps modem would be "ATE1Q0V1X4".

If you are using hardware handshaking, this must be turned on in the modem by the setup string, and the modem must be set to ignore DTR. Unfortunately, the commands to do these things vary incredibly from modem model to modem model, so I can't give you specific commands here. Your modem manual should be of some help here. In the case of several popular high-speed modems, the default Macintosh init string takes care of all these details for you.

Here are some initialization strings that are known to work:

SupraFAXModem: AT&F1
Global Village Teleport Gold: AT&F1
Generic 2400:   ATE1Q0V1X4
Generic 1200:   ATE1Q0V1

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