Packet Node Etiquette

by Don Felgenhauer (K7BFL)

The packet network, like any system or piece of equipment, is meant to be used, but not abused. The node owners and operators WANT you to use their nodes; it gives them great satisfaction to see bits and bytes flowing To and From their node. They have invested much money and time into making their nodes function correctly.

However a node owner gets discouraged when their node is “broken”, caused by what they view as a “user error”, or “lack of training”.

Packet Nodes sometimes get “locked up” because of mis-use by users. This may be aggravated by the “less than robust” software sometimes associated with a particular node.

The 1200 baud “user” packet system is supported by a “backbone” packet system. This Backbone system is usually on different frequencies from the “user” system, and is usually running at a higher baud rate. The purpose of the Backbone system is to enable information to flow between the nodes, which will enable users to use nodes other than nodes to which they can directly connect.

One of the dilemmas of a packet network (1200 baud, in particular) is that it is usually very lightly loaded. This leads users to believe that “they can do anything they want”, while using the network. However it only takes a few (2-3) simultaneous users to max out the throughput capability of a node. If a few more users are added, NO ONE gets any packets through!

Packet radio is NOT “plug and play”. If you want to use it, but are not interested in learning about the electrical aspects of packet radio, get someone else to set up your radio and TNC. If you are not interested in learning about the software mechanics and proper operating methods associated with packet radio, please do not use packet radio. We all started out as “beginners”. That is OK. Mistakes are OK. Just commit yourself to becoming more technically qualified, more experienced, and a better packet radio operator!

Following are some general guidelines for Users to follow when using the packet system, which will minimize “lockups” of nodes, and increase the overall throughput of the packet network.

1) Learn about, and adjust your TNC for the proper significant parameters, before attempting to connect to a node. Do this with another packet station, directly.

a. Be sure that both stations are on the same frequency.
b. Check your wiring for correct connections of transmit audio, receive audio, and PTT line.
c. Transmit audio level – enough, but not too much. LISTEN to your signal in another receiver.
d. TXDELAY – increase, and then reduce until you can’t connect anymore, then increase slightly. This is the length of time that between when your radio starts transmitting, and when the packet audio tones begin.

e. Receive audio level - increase if your station is not responding to a known “good” station signal.
f. Acquire and read a good book on packet radio, such as “Practical Packet Radio” by Stan Horzepa, WA1LOU. Available from amazon.com for less than $10. Or go to help sites on the web, such as:

N8UR has excellent basic packet audio level setup information available at:
http://www.febo.com/packet/layer-one/transmit.html

VK1OD has an excellent web page on “Amateur Radio application of Frequency Modulation” at::
http://www.vk1od.net/FM/FM.htm

KC2RLM has a great web page regarding “Sound Card Packet” at:
http://www.patmedia.net/ralphmilnes/soundcardpacket/

KA7FVV has a good primer at: http://www.vhfclub.org/packet_radio_primer.htm

2) If you are able to directly contact your “station of interest”, don't use a node. Better yet, use a frequency which does not have any node activity. This “rule” does not apply when contacting BBS stations associated with a node.

3) Use as few linked nodes as possible to accomplish your communications needs.

4) When finished using nodes, especially linked nodes, "back out" gracefully, using Bye; instead of doing a Disconnect.

5) Monitor the frequency you are using. Choose a “less busy” frequency.

6) When using busy Nodes, reduce MAXFRAME to 1 and increase FRACK to 15 seconds. MAXFRAME is the maximum number of packets to be sent before waiting for an Acknowledgement of Receipt. FRACK is the length of time to wait, between re-sending a packet of information which has not received an Acknowledgement.

7) When using Airmail (in the Handshake) mode, or when using Paclink AGW, try not to compete with another Airmail/Paclink user on the same frequency. They both require a very brief intense use of the frequency, and timesharing the frequency generally does not work very well for anyone.

8) “DXing” on a packet network is highly discouraged. It is an invitation to disaster for the Node Table of one or more packet nodes, which takes time and effort by the node operator to fix. If you have a desire to do “DXing”; do it on 20 meters or on 2 meters, using voice or CW.

9) If you are using a KPC+ TNC, and you are not using it in the KISS mode, do not attempt to disable the KA-Node function. This may result in your TNC sending beacons to the world that it is a Node with an alias of DISABL. The other nodes pick up that message, but are unable to deal with the DISABL alias, and lock up.