NTS Packet Information

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NTS Packet
Nodes

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I hope this overview will give you the information you need to to send and pickup NTS messages by packet. I'm assuming that you are familiar with packet operations and know how to access a local PBBS (packet bulletin board system).

Initiating an NTS Message on Packet

Packet NTS messages can be sent from *any* PBBS . The format is as follows:

- **At the PBBS prompt, issue the command "ST xxxxx @NTSyy" where xxxxx is replaced with the 5 digit zip code for the destination and the yy is replaced with the 2 letter abbreviation for the state or province (e.g. NTSNJ, NYSNY, NTSTX etc.)**

- **When the PBBS responds with the "Title/Subject" prompt enter: "QTC AAAA BBB-BBB" , where "AAAA" is replaced with the destination city/town and "BBB-BBB" is replaced with the destination telephone area code plus the three digit exchange.**

- **When the PBBS asks you to send the message, type in the NTS message in standard radiogram format. For example:**

  NR 945 R WB2FTX 5 BUTLER NJ OCT 22
  BEN JONES
  110 MAIN STREET
  BLOOMFIELD NJ 07003
  BT
  THIS IS A TEST MESSAGE
  BT
  DAVE WB2FTX
  AR

  You can enter either 5 or 10 words to a line. The BT and AR are used in the same fashion as on Morse Code and Phone.

  See below for more information about radiogram format.

- **At the end of the message, enter either a Control-Z key combination or "/ex" to tell the PBBS that you have finished entering the message. The PBBS will then start to relay the message according to the xxxxx@NTSyy address.**

NTS Packet Delivery in NJ and Hudson County

State-wide System: I've designed a state-wide network for the delivery of NTS Packet messages which is based on zip codes. The state has been divided into 3 major areas, each handled by a different public NTS PBBS acting as a "hub".

For northern NJ zip codes, the NTS packet hub is my WB2FTX-4 station in Butler. For central Jersey, the hub is WB2COP-4 in Monmouth county, and for southern Jersey, the hub is K2UL-4 in Mercer County. These hubs pass messages to one another based on the zip codes each hub covers.

A hub does one of three things with messages for its coverage area. Messages with zip codes near the hub are held on the hub for pick up and delivery by NTS operators who live close to the hub (see procedures below).

Messages for zip codes slightly further away from the hub are passed to "local" NTS PBBSs. For example, messages for zip codes in Warren or Hunterdon county are forwarded to the N2QAE-4 PBBS in Long Valley, where NTS operators in those counties can pick them up. (Any "hub" can send messages to any "local" it can "hear".)

Still other messages are forwarded to "individual" NTS operators who have packet stations with private TNC mailboxes running all the time (or at regular intervals) to receive messages destined for their immediate locale. For example, in northern NJ, messages for Sussex county are sent to the private packet mailbox of a cooperating NTS operator in that area. These individual operators are responsible for delivery or forwarding of the messages they receive in their mailboxes. Other NTS operators do not have access to these mailboxes or the messages there. (If you would like information about becoming an "individual" mail drop, please contact me. Several zip codes are unspoken for and I'd appreciate the help.)

Hudson County:

- **TBA**

Picking up an NTS Packet Message for Delivery

- **If you can communicate directly with the NTS PBBS, use the CONNECT command in Command mode, e.g. "C WB2FTX-4" or "C BBSNTS" (BBSNTS is an alias for WB2FTX-4).**

- **If you can't connect directly to the NTS PBBS, try to connect through another station that you can hear. There are two ways, the first way is the preferred way:**

    - **NODES: Find a network NODE station which you can hear, e.g. WA2SNA-2 on 145.01 MHz. (List of Flexnet and Neighboring non-Flexnet Nodes)**

First CONNECT to the node. Then, while still connected to the node, try to connect to the NTS BBS by sending a "C WB2FTX-4" or "C BBSNTS" statement in Converse mode, not Command mode. In some cases, you might need to connect to yet another node which can "hear" the NTS PBBS. (Some nodes may require a 2 Meter or 220/440 MHz port number between the "C" and the PBBS name, e.g. "C 2 WA2SNA-2".

Example (going through 2 NODES):

C KA2UGQ-3 (in COMMAND mode), then after connecting,
C 2 WA2SNA-2 (in CONVERSE mode), then after connecting,
C WB2FTX-4 (in CONVERSE mode)

or, combining the last two commands with a VIA command:

C KA2UGQ-3 (in COMMAND mode), then after connecting,
C 2 WB2FTX-4 VIA WA2SNA-2 (in CONVERSE mode)

Using a NODE network is preferred over the "Digipeater" method below for two reasons. The NODE software helps ensure that packets make it correctly over each leg of a packet's journey -- from you to the NODE station and then from the NODE station to the PBBS. If there is a failure on any leg, the NODE will work with the station to get the packet through correctly. This technique is called *node-to-node acknowledgements*. In addition, NODE-to-NODE packets are often carried on quieter 220 MHz links. Together, these features make for a faster and more reliable connection.

- **DIGIPEATERS: Use the VIA addendum in your CONNECT command, e.g. "C WB2FTX-4 VIA WA2SNA-2".**

  This is less efficient. The "VIA" station acts as a "dumb" repeater. It doesn't check to see if the packets it has digipeated are received correctly. So, if a packet -- and it's acknowledgement -- don't *both* make it over *every* "hop" of the journey without problem, the FROM station will send the packet over and over again, subject to the RETRIES limit. This technique is called *end-to-end acknowledgements*. The chances that a outgoing packet and the returning acknowledgement packet will both make it safely end-to-end could be very small, especially on a busy frequency.

- **After you connect to a NTS PBBS, send the List Traffic command: LT**
  The PBBS will send you a list of all current NTS traffic.

- **Look at the status codes for each message on the list. They will be either TF, T$, TN, or TY.**

  - **TF means that the message has been forwarded to another bulletin board.**
  - **T$ means that the message is waiting to be forwarded to another PBBS.**
  - **TN means that the message is waiting to be taken by anyone for delivery.**

- **TY means that someone has read the message but did not kill it.**

- **IGNORE all TF and T$ messages. They do not need your help in moving them along, since the PBBS SYS OP (System Operator) is handling them.**

- **You can read a TN or TY message with the command "R ######", where ###### is replaced by the message number assigned by the PBBS.**

- **If you can accept a TN or TY message to deliver locally or to relay to a local voice net, first copy or print out the message and then use the "KT ######" command to "kill" (delete) the message. If you don't "kill" it, the message will stay on the list as a TY message and someone else will eventually pick it up and deliver it again. As you can see, it's very important to kill all messages you accept as soon as you accept them. Likewise, note that if you accept a TY message for delivery, you run the risk that someone else has already read and delivered it, but just forgot to kill it from the list. Still, it's better for you to try to deliver the message again rather than have the message never delivered at all.**

- **When you're done, sign off the PBBS with the BYE command. (You would then sign off the node with a "Q" or "Quit" command.)**

NTS Radiogram Format For Packet:

The table below shows the expected format of a typical packet Radiogram:

Component	Sample Text
Preamble	NR 351 R HXC K3RXK 21 WALKER MD FEB 21
Addressee	AL BAROLET KJ3E
Address	108 ELLIOTT CT
City State ZIP	CALIFORNIA MD 20619
Telephone	301 862 3201
Prosign	BT
Text in lines of five or ten words	CAN YOU ATTEND THE JUNE MEETING OF THE FREDERICK AMATEUR RADIO CLUB QUERY YOUR TRAFFIC HANDLING EXPERIENCES ARE INTERESTING X 73
Prosign	BT
Signature	TONY K3RXK
Prosign	AR

Components of the Radiogram

PREAMBLE: This info is for recording and tracking traffic. It includes a message number generated by the ham station where the message originated; a precedence which indicates how important the message is; the callsign of the station where the

message originated; a "check" which is the number of words in the text; the place of origin; and a date. It can also include special handling instructions and the time filed, although most messages don't have these.

Message Number: The ham originating the message assigns his/her next available message number with a "NR " prefix(some operators start over with a 1 at the start of a new month or year). This NTS message number must remain with the Radiogram from origination to delivery. Note that this number is different from any system numbers which packet bulletin boards may assign to messages as they are received.

Precedence: This is where the original ham tells everybody down the line just how important the message is. Choices include Routine, Welfare, Priority and Emergency. If a message is fiction -- for example, a test or drill message -- the precedence will be Test Routine, Test Welfare, Test Priority or Test Emergency. Don't create improper precedences, such as Priority Welfare or Emergency Routine. They will be meaningless to other hams.

Handling Instruction Codes (optional) - All start with an "HX":

- **HXA - (Followed by a number.) Collect landline delivery authorized by addressee within (the number) miles. (If no number, authorization is unlimited.)**
- **HXB - (Followed by a number.) Cancel message if not delivered within (the number) hours of filing time; service originating station.**
- **HXC - Report date and time of delivery (TOD) to originating station.**
- **HXD - Report to originating station the identity of station from which received, plus date and time. Report identity of station to which relayed, plus date and time, or if delivered report date, time and method of delivery.**
- **HXE - Delivering station get reply from addressee, originate message back.**
- **HXF - (Followed by a number.) Hold delivery until (the number).**
- **HXG - Delivery by mail or landline toll call not required. If toll or other expense involved, cancel message and service originating station.**

Station of Origin: This is the ham callsign of the originator.

Check: The number of words in the text including the "X" and "QUERY" and any groups of characters or numbers. Do not include address or signature.

Place of Origin, Time (optional), and Date: Written by the originating station and passed through "as is" by all stations handling the traffic.

ADDRESS: Enter the most complete name and address available for the recipient. Include ZIP code. Include callsign if addressed to a ham. Include telephone number with area code, since most messages are finally delivered by local phone call.

PROSIGNS: Are used to help the copying operator understand where one major

section of the message has ended and another will begin.

- **"BT" is digital/Morse code shorthand for the word "BREAK", which on voice nets is spoken both after the address and after the text. It's there merely to indicate a separation of the address from text and text from signature.**
- **"AR" is digital/Morse code shorthand for "END OF MESSAGE", and goes at the very end of your message to indicate there is nothing more.**

TEXT: Limit to 25-30 words. [This is not as important when you know the message will go its entire path via packet, but you can't be sure.] Use the letter "X" for a period. Use the word "QUERY" for a question mark.

Note that the ARRL has also prepared several conveniently-prewritten standard texts. Save time by using these ARRL "numbered" radiograms where suitable. These lists are available from many sources including the back of most log books and various ARRL publications.

SIGNATURE: Name which best communicates identity of party for whom the amateur radio originating station is sending the message. Include callsign if from a ham.

That's it in a nutshell!

73,

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