

### Node User Level Commands

<b>?</b>	Displays a list of commonly used node commands, starting with all the sysop-defined applications first, then followed by the standard ones.
<b>Attach</b>	Get exclusive control of the port before connecting (for a single user, such as WINMOR or Pactor ports).  <code>ATTACH [P]</code> <code>C [CALL]</code>
<b>BBS</b>	[sysop defined] Usual command to access the BBS and Mail system, but could be anything else defined by the SysOp.
<b>Bye or Quit</b>	Disconnect from Node
<b>CHAT</b>	[sysop defined] Usual command to access the Chat system, but could be anything else defined by the SysOp.
<b>Connect</b>	Initiates a connection to another node, or to a normal AX.25 user.  <code>C P C ALL  AL IAS [vi a di gi1 [di gi2 ...] ] [S]</code>  <b>P</b> is the port number if you have more than 1 <b>S</b> for STAY to remain connected to the current node, when the connection to the next one is closed The system will make an L4 (NETROM) connect to a call that is in your NODES table. You can force a level 2 connect by specifying a port number and preceding the call with a !
<b>CQ</b>	Sends a beacon to address CQ. Can only be used in LISTEN mode and only if LISTENing on one port.
<b>IDLEtime</b>	Sets the Idle session timeout for this session.
<b>Info</b>	Display information about this Node from the text from the config file
<b>L4T1</b>	Displays or sets the Level 4 timeout used for the current session. Sets the Level 4 (Netrom) retry timer for this session

### Node User Level Commands (cont)

<b>Links</b>	Lists the currently active AX.25 Sessions  <b>S</b> is the link state: 2=connecting, 4=disconnecting, 5=connected.  <b>P</b> is the port.  <b>T</b> is the link type: 1=Uplink, 2=Downlink, 3=Node-Node link.  <b>V</b> is the AX.25 Version (1 or 2).  <b>Q</b> are the queued frames. To reset a link:  <code>LINK RESET DESTCALL ORIGINCALL PORT</code>
<b>LISTen</b>	Enters Listen mode on the specified port(s).  <code>LIS P1... Pn</code>  <b>P</b> port numbers While in Listen mode you can't connect to other stations, and if someone calls you Listen is cancelled. Type LISTEN OFF to exit listen mode.
<b>MHeard</b>	Lists stations heard recently on the specified port.  <code>MHEARD P [CALL]</code>  <b>P</b> port number Output can be filtered with a partial callsign, eg MH 2 G8 There are three variants: <b>MHV</b> which lists in a more structured (verbose) way <b>MHU</b> and <b>MHL</b> which display timestamps in clock time (UTC or Local) instead of the default of time since last heard.



### Node User Level Commands (cont)

**Nodes** Lists all the other NETROM/THENET/BPQ Nodes known to your node.

```
N [VIA] [ NOD ECA LL| NOD EAL IAS ] [* ] [ C ] [ T ]
```

**N** on its own displays the whole table in alias order

**NODECALL** or **NODEALIAS** you can list the routes that the system will use to access that node

**NODECALL\*** will display information for all SSID's of the specified call.

**VIA NODECALL** will display all stations reachable via the specified neighbour.

**C** Displays the whole table in callsign order. Can be placed before or after the pattern, eg N C GB7\* or N GB7\* C

**T** The Round Trip Times and frame counts for all nodes with a non-zero count.

Use of ? and \* wildcards are allowed

The information after the callsign are only shown if some frames have been send to that node.

**RTT** stands for Round Trip Time, and is a rolling average of the time taken to get a response from that node (in seconds).

**FR** means Frames, the number of info frames sent to the node.

**B** if present, indicates the target is a BPQ node, and the number following the B is the number of hops to the target. Up to 3 possible routes to the node are listed.

**1<sup>st</sup> number** displayed is the *quality*, the relative desirability of using this route rather than another.

**2<sup>nd</sup> number** is the *obsolesance count*, an indication of how long it is since the system was last told about (or successfully used) this route. The number starts at a value set in the config file (typically 5) and is decremented each time a **NODES** broadcast is sent (typically every hour).

**3<sup>rd</sup> number** is the port.

> indicates the currently active route.

### Node User Level Commands (cont)

**NRR** Sends a Netrom Record Route message to the specified node. If the node is reachable and supports NRR, a message will be displayed showing the path that the message took to the target node and back.

```
NRR CALL
```

**PAClen** Displays and sets the PACLEN value used for messages generated by the node (eg command responses).

**Ports** Lists available ports and shows the frequency and baud rate used as defined in the configurarion file.

**RADio** Used by the Rig Control Interface.



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Published 26th February, 2020.  
Last updated 13th June, 2025.  
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### Node User Level Commands (cont)

**Routes** Lists the stations which this node can hear.

`r [r]`

> indicates that there is an active link to the node.

**1<sup>st</sup> number** is the port.

**Call** remote station call

**2<sup>nd</sup> number** is the *quality*. This may be derived from the 'default quality' parameter in the PORTS section of the config file, or may be specified explicitly in the ROUTES section. A value of zero will prevent the route from being used, and is normally used when you have a one-way or marginal path.

**3<sup>rd</sup> number** is the number of NODES list entries which refer to this route. This isn't used by the software, it is just information for the user. .

! indicates a *locked route*, one entered in the CONFIG file or via SYSOPH. Other entries come and go as this node hears NODES broadcasts.

Additional information may be obtained by entering `r r`

The fields are:

- \* Info frames sent
- \* Info frames retransmitted
- \* Retry Rate: the ratio of the above 2, as a percentage (or \* if both are zero)
- \* Non-standard maxframe (from Config file)
- \* Non-standard frack (from Config file)
- \* Time the last NODES broadcast was heard from this node.
- \* Number of frames queued to be sent.
- \* Remaining quality

### Node User Level Commands (cont)

**Stats** Displays a number of counters.

**Uptime (Days Hours Mins)** Is the time since the system was loaded.

**Semaphore Get-Rel/Clashes**

**Buffers:Max/Cur/Min/Out/Wait** Out is the number of times a request to allocate a buffer failed because there were none available.

**Known Nodes/Max Nodes**

**L4 Connects Sent/Rxed**

**L4 Frames TX/RX/Resent/Reseq** Resent is the number retransmitted because an ACK wasn't received within the L4 timeout period. The Reseq is the number of frames received out of sequence, but subsequently used because the missing frame(s) eventually arrived.

**REJ Frames Rxed** A large number may indicate that your Maxframe is too high. Similarly a large number in 'RX out of sequence' may indicate the the station talking to you has too large a maxframe.

**RX Overruns** indicate characters lost because the software didn't process the interrupts fast enough.

**Undrun/Poll T/o** indicate a problem in responding to TX interrupts. Only used for HDLC cards.

**Frames abandoned** number of frames discarded because they have been waiting to be sent (for DCD to clear) for more than 60 secs. Only used for HDLC cards.

**Link Active %** The first is the % of time in the last minute that your station was transmitting, and the second the % the channel was active. Only used for HDLC cards.

There is one set of level 2 counters for each port. If you have more than 7 ports the display starts to look a bit untidy, so there are now two options on the STATS command:

**S S** Displays just the system and L3/4 stats

**S n** Displays just the port stats, starting with port N, for a maximum of 7 ports.



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Published 26th February, 2020.  
Last updated 13th June, 2025.  
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### Node User Level Commands (cont)

<b>SYSOP</b>	[sysop defined] Usual command to Talk to the SysOp (if available) but could be anything else defined by the SysOp.
<b>UNproto</b>	<p>Enters UNPROTO mode, where you can send UI messages.</p> <p>UN P CALL [Digis]</p> <p>When in Unproto Mode anything you type will be send as a UI frame to the port and destination you specified. This could be used in conjunction with the LISTEN command to have an multiuser conversation.</p> <p>Use Ctrl/Z to exit UNPROTO mode</p>
<b>Users</b>	<p>Lists the stations currently using the node.</p> <p>The Number on the end of the header line is the number of free buffers.</p> <p><b>Host</b> is an internal (Normally BBS Port)</p> <p><b>Circuit</b> is a link from/to another node.</p> <p><b>Uplink</b> is a connection from a normal AX.25 station.</p> <p><b>Downlink</b> is a connection to a normal user.</p> <p>&lt;--&gt; indicates an active session.</p> <p>&lt;~~&gt; indicates a session being set up.</p>
<b>Version</b>	Displays the version number of the Node software

Only the **bolded** part of each command is required

### Node SysOp Level Commands

<b>PASSWORD</b>	<p>When accessed remotely, a password prompt is sent, containing 5 random numbers in the range 1 to the length of the PASSWORD string as defined in the configuration file.</p> <p>Enter PASSWORD followed by the corresponding five letters from the password string.</p> <p>If entered from a local terminal or via a Telnet session with SYSOP flag set you will go straight to SYSOP mode.</p>
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### Node SysOp Level Commands (cont)

#### Supported commands:

#### Port Parameters

Display or update the corresponding parameter for a specified port

#### BBSALIAS

**DIGIFLAG** DIGIFL AG= 0/1/255  
Digipeat control flag for this port.  
0 = dont digi, 1 = digi everything, 255 = digi UI frames only.

**DIGIPORT** DIGIPORT=N  
Port to send digied frames on. Zero means the port it was received on, any other number means send on that port.

**FRACK** FRACK=nnnn  
Level 2 timeout in milliseconds

**FULLDUP** FULLDU P=0|1  
Passed on to TNC if using KISS.  
Used to allow transmission whilst DCD is active on HDLC cards, and to allow connection of a NETROM cluster via a diode matrix.

**L3ONLY** L3ONLY=0|1 If set to 1 will stop users (but not HOST sessions) issuing downlink connects on this port.

**MAXFRAME** MAXFRAME=n  
Maximum outstanding frames.

**MAXUSERS**  
**PACLEN** PACLEN=nnn  
Default maximum packet length for this port

**PERSIST** PERSIS T=nnn  
'Probability to transmit' value (1-255)



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Published 26th February, 2020.  
Last updated 13th June, 2025.  
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### Node SysOp Level Commands (cont)

QUALITY	<p>QUALIT Y=nnn</p> <p>Default quality for nodes heard on this port. Set to zero to suppress all level 3/4 activity (including NODES broadcasts) on this port.</p>
RESPTIME	<p>RESPTI ME=nnnn</p> <p>Level 2 delayed ack timer in milliseconds</p>
RETRIES	<p>RETRIES=n</p> <p>Level 2 maximum retry value</p>
SOFTDCD	<p>SOFTDC D=0 1</p> <p>If set to 1, system uses the detection of a valid frame to indicate that the channel is busy, rather than the DCD signal from the modem. Used only for HDLC cards.</p>
TXDELAY	<p>TXDELA Y=nnn</p> <p>TX Keyup delay in milliseconds</p>
TXTAIL	<p>TXTAIL =nnnn</p> <p>TXTAIL timer in ms. Used only by KISS TNCs.</p>
VALIDCALLS	<p>VALIDC ALL S=CALLS</p> <p>Up to about 40 callsigns, separated by single commas.</p> <p>If present, only stations in the list will be allowed to connect to you on this port.</p> <p>The SSID should not be specified. The total length of the list, including commas, is 256 bytes.</p>
XMITOFF	<p>Read or change the transmitter DISABLE flag for one port.</p> <p>XMITOFF port# to read.</p> <p>XMITOFF port# 1 to disable a port.</p> <p>The default is 0, meaning the transmitter is not stopped.</p>

### Node SysOp Level Commands (cont)

#### System Parameters

Display or update the corresponding Node parameter.

BTINTERVAL	Time interval the beacon is sent by the Node
FULLCTEXT	
HIDENODES	Suppresses the display of NODES with an Alias that starts with a # sign.
IDINTERVAL	IDMSG is sent every IDINTERVAL minutes. It is sent from the PORT Callsign if one is defined, otherwise from NODECALL. The main purpose of this is to satisfy the requirements of those administrations that require a regular station identification in the same mode as used for communication.
L3TTL	Maximum Level 3 hops
L4DELAY	Level 4 Delayed ACK timer
L4TIMEOUT	Level 4 Timeout
L4RETRIES	Level 4 Retries
L4WINDOW	Level 4 Window
LINKEDFLAG	
MHeard	<p>Clears list of recently heard stations</p> <p>MH p CLEAR</p>
MINQUAL	<p>MINQUA L=NNN</p> <p>Defines the minimum quality for a destination to be included in a 'Nodes' broadcast on this port.</p>
NODEID-LETIME	If there is no traffic for IDLETIME seconds, the link will be closed.
NODESINT	Time between NODES broadcasts (seconds)
OBSINIT	Initial Obsolescence value
OBSMIN	Minimum Obsolescence value to be included in NODES broadcasts.



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Published 26th February, 2020.  
Last updated 13th June, 2025.  
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### Node SysOp Level Commands (cont)

REMDUMP

**T3** Link Validation Timer. If there is no activity for T3 seconds, an RR(P) command will be sent to make sure the other station is still there.

### System Commands

**FINDBUFFS** Used to help track down missing buffers if the buffer count goes very low, normally should only be used if I request it

**GETPOR-TCTEXT** Re-read your Port CTEXT files

**KISS p c v** Send KISS command/value pair (eg for setting TXDELAY). Parameters are port, command and value (all in decimal)

**REBOOT** Performs a shutdown -r -f in linux. This reboots the machine the node is running on.

**RESTART** Instructs the node software to quit immediately by setting CLOSING

**ROUTES** To update  
 ROUTES CALL P parms  
 Use ! flag to toggle locked routes after parms

**SAVEMH** Tells Node to save and restore MH lists when shut down and restarted

**SAVENODES** Saves the NODES and ROUTES tables, so that they can be reloaded when the software is restarted, ; rather than having to wait for the tables to be rebuilt.

SENDNODES

**STARTCMS p** These can be used to simulate CMS or Internet outage

**STOPCMS p** Disable CMS access on Telnet Port p.

### Node SysOp Level Commands (cont)

**STOPPORT n** Close or reopen Port n. Enables another program to use the port to allow the tnc to be reconfigured without closing the node

**TELReconfig** Reconfigure Telnet Port p.

TELRec onfig p ALL

TELRec onfig p USERS

ALL does a complete reconfig and disconnects users. This is equivalent to EXTRESTART p 1.

USERS just re-reads the USER records from config file.

**WL2KSYSOP** Display information from your WINLINK 2000  
**WL2KSYSOP SET** SYSOP record, or create a basic record if you don't have one.

### BBS User Level Commands

**? or Help** Displays a list of commands.

**A** Abort the BBS output while paging.

**Bye** Disconnects from the BBS.

**CMSPASS** Sets *password* for access to Winlink COM Servers.  
*password*

**D num** Flag NTS Message(s) as Delivered

**FILES** or **LISTFILES** List files available for download

**Home** Enters or modifies the Home BBS. A point deletes the current Home BBS.

**I** Displays information about this BBS.

**I *callsign*** Gives the information on *callsign* taken from the white pages database. Callsign can include wildcards.

**I@ *bbs*** Gives the users of *bbs* found in the WP database.

**IH *route*** Gives the users of the hierarchical *route* area from the WP database.

**IZ *zip*** Gives the users of the *zip* code area from WP database.

**K-commands delete messages sent by you or to you.**



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Published 26th February, 2020.  
 Last updated 13th June, 2025.  
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### BBS User Level Commands (cont)

<b>K</b> <i>msg#</i>	Deletes a message identified by its number.
<b>KM</b>	Deletes all the messages addressed to you, that you haven't yet read.
<b>L-commands list message headers.</b>	
<b>L</b>	Lists the new messages since the last usage of this command.
<b>L&lt;</b> <i>callsign</i>	Lists message from <i>callsign</i>
<b>L&gt;</b> <i>callsign</i>	Lists message to <i>callsign</i>
<b>L@</b> <i>bbs</i>	Lists the messages via <i>bbs</i> .
<b>L</b> <i>msg#</i>	Lists all messages, starting from <i>msg#</i>
<b>L</b> <i>msg#-msg#</i>	Lists messages between the given numbers.
<b>Lx</b>	List messages with status <i>x</i> - <i>x</i> can be N Y H K F D \$.
<b>LB</b>	Lists bulletins.
<b>LC</b>	Lists all Bulletin "categories" (TO Fields)
<b>LL</b> <i>n</i>	Lists the last <i>n</i> messages.
<b>LM</b>	Lists the messages to you.
<b>LP</b>	Lists personal messages
<b>LR</b>	Equivalent to L but the messages are listed in reverse order.
<b>LT</b>	List Traffic (NTS-messages).
<b>N</b>	Enters or modifies your name (max 12 characters allowed).
<b>NODE</b>	Exits BBS and returns to Node.
<b>OP</b> <i>num</i>	Enables or disables the paging of output by specifying the <i>num</i> of lines. 0 disables paging
<b>POLLRMS</b>	nables or disables polling RMS for messages for you.  POLLRMS Enable  DI SABLE POLLRMS SSID1 SSID2 ... SSIDn (for the base call, specify SSID of 0) eg POLLRMS 0 1 15 will look for messages to CALL, CALL-1, CALL-15

### BBS User Level Commands (cont)

<b>Q</b>	Enters or modifies QTH.
<b>R-commands read messages.</b>	
<b>R</b> <i>msg# msg#</i>	Reads the messages by their numbers.
<b>RM</b>	Reads new messages to you.
<b>RMR</b>	Read my new messages in reverse order (oldest first)
<b>READ</b> <i>name</i>	Read File from Files area.
<b>S-commands send messages.</b>	
<b>S</b>	S[P B] <i>callsign</i> Sends a message or a bulletin. S <i>call</i> Sends a message as private.
<b>SP</b>	Sends a message as private.
<b>S @BBS</b>	S <i>callsign</i> @ BBSCAL LSIGN Sends a message to a station AT another BBS. The message must be terminated by a Ctrl/Z or /EX followed by a return.
<b>SC</b>	SC <i>Msg# callsign</i> @ BBSCAL LSIGN Copies a message or bulletin to the specified <i>callsign</i> .
<b>SR</b>	SR <i>Msg#</i> Replies to a message.
<b>V</b>	Displays Version number of the BBS and Node software.
<b>X</b>	Toggles Expert Mode.
<b>YAPP</b>	YAPP <i>name</i> Download file from File area.
<b>Z</b>	Enters or modifies the Zip Code.

### BBS SysOp Level Commands

<b>AUTH</b>	Authenticate for Remote SYSOP access. Use program BPQAUTH to generate passcode.
<b>DOHOUSEKE-EPING</b>	Run Housekeeping process
<b>EDITUSER</b> <i>callsign</i>	Display <i>callsign</i> falgs



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Published 26th February, 2020.  
Last updated 13th June, 2025.  
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### BBS SysOp Level Commands (cont)

<b>EDITUSER set flags</b>	Set: EDITUSER CALLSIGN FLAG1 FLAG2 .. . Clear: EDITUSER CALLSIGN -FLAG1 -FLAG2 ... Flags are: EXC(luded) EXP(ert) SYSOP BBS PMS EMAIL HOLD RMS(Express User)
<b>EXPORT</b>	EXPORT <i>nnn filename</i> Export Message <i>nnn</i> to file <i>filename</i>
<b>FWD <i>bbscall</i></b>	Display settings
<b>FWD interval</b>	FWD BBSCALL <i>interval</i> Set forwarding interval
<b>FWD rev</b>	FWD BBSCALL REV <i>interval</i> Set reverse forwarding interval
<b>FWD flags</b>	FWD BBSCALL +- <i>flags</i> Flags are EN(able) RE(verse Poll) SE(Send Immediately)
<b>FWD NOW</b>	FWD BBSCALL NOW Start a forwarding cycle now. Can specify a Connect Script to use, overriding the configured script.
<b>FWD QUEUE</b>	List BBS's with queued messages
<b>IMPORT <i>filename</i></b>	Import Messages from file <i>filename</i>
<b>KH</b>	Kills Held Messages.
<b>K&lt; <i>callsign</i></b>	Kills message from <i>callsign</i>
<b>K&gt; <i>callsign</i></b>	Kills message to <i>callsign</i>
<b>LH</b>	List HELD messages.
<b>LK</b>	List KILLED messages
<b>POLL RMS</b>	Sets the flags for other users. POLL RMS CALL ENABLE  DI SABLE
<b>REROUT-EMSGS</b>	Rerun message routing process
<b>SETNEXTMESSAGE- SSAGEN- UMBER</b>	Sets next message number
<b>UH</b>	Unhold messages. UH ALL UH msg# msg#...

### Chat User Commands

<b>/A</b>	Toggle Alert on user join.
<b>/Auto</b>	Toggle Automatic character set selection.
<b>/B</b>	Leave Chat and return to node.
<b>/C</b>	Toggle Colour Mode on or off (only works on Console or BPQTerminal)
<b>/E</b>	Toggle Echo
<b>/F</b>	Force all links to be made.
<b>/J <i>name</i></b>	Join Topic or Create new Topic. Topic Names are not case sensitive.
<b>/K</b>	Show Known nodes.
<b>/Keepalive</b>	Toggle sending Keepalive messages every 10 minutes.
<b>/N</b>	Enter your Name
<b>/P</b>	Show Ports and Links
<b>/Q</b>	Enter your QTH
<b>/QUIT</b>	Leave Chat and disconnect from node
<b>/S <i>call text</i></b>	Send Text to that station only.
<b>/ShowNames</b>	Toggle displaying name as well as call on each message.
<b>/T</b>	Show Topics
<b>/Time</b>	Toggle displaying timestamp on each message.
<b>/U</b>	Show users
<b>/UTF-8</b>	Toggle Character set Selection - UTF* or 8 bit.

### Credits

BPQ/BPQ32 system and documentation © by John Wiseman, G8BPQ  
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Contributions by Tadd C. Torborg, KA2DEW