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The TPRFN Network

TPRFN Network online is at <https://www.tprfn.net/>

The TPRFN Network Stations

Users

A user is any station that constructs a message and inserts it into the BBS system with the intention of having the TPRFN network deliver that message to the destination established by the TPRFN protocols.

Users may use any method available to post the message to a participating Polling or Hub Station.

A user may deliver the message directly to the destination established by the TPRFN protocols, if possible.

Polling Station

A Polling Station is a designated full-service BBS having the responsibility to receive messages from users and deliver those messages to a Hub Station for further routing.

Ideally, Polling Stations have multiple means of forwarding messages via RF modes to multiple Hub Stations or directly to the destination established by the TPRFN protocols, if possible.

Polling Stations may deliver the message directly to the destination established by the TPRFN protocols, if possible.

Hub Stations

A Hub Station is a designated 24/7 full-service BBS with the capability of receiving messages from users or polling stations, then forward those messages to another Hub Station.

A Hub Station may forward the message directly to the intended destination established by TPRFN protocols, if possible.

Messages Addressed to the TPRFN Network

Routine Messages

A routine message is defined as any message not containing any critical information and having no urgency to be delivered.

Check-in messages.

Messages should be addressed to 'PKTNET'

Messages should have the destination identified in the net call. i.e. 'USA', 'PA.USA', 'N3MEL.PA.USA'

Check-in message should have a subject as requested in the net call message.

Check-in messages should be sent as a bulletin, or Type B message.

Informative messages

Informative messages may be sent at any time.

Informative messages should be sent to 'TPRFN'

Informative messages should have the destination 'USA' so that all users, Polling Stations, and Hub Stations will receive the message.

Informative messages should be sent as a Bulletin, or Type B messages.

Critical Messages

Critical Messages are any message with emergency, disaster, grid-down, or mission critical information.

Critical messages should be addressed to 'TPRFN'

Critical messages should have a subject line that contains a description of the event causing the need for the critical message. i.e. 'Grid Down', 'Hurricane', 'Flooding', etc.

Critical messages should have a scope of the event following the main subject. i.e. 'Hurricane – Gulf Coast', 'Flooding – Mississippi River'

Critical messages should have the destination of 'USA' so that all users, Polling Stations, Hub Stations, and other BBS users have the opportunity to receive the message.

Critical messages should be sent as a bulletin or Type B message.

The initial critical message should be brief but contain a summary of the event that triggered the message.

A follow-up message should be sent with detailed information.

Additional follow-up messages should be sent as necessary.

Traffic Messages

Traffic messages, sometimes known as NTS messages, are messages intended to be forwarded and delivered pursuant to the ARRL National Traffic System or Radio Relay International networks.

TPRFN does not deliver these messages directly, although individual users, polling stations, or hubs, may be traffic handlers and will accept and deliver traffic messages when appropriate.

Each Hub and Polling station has the capability of forwarding traffic messages, and has specific routes for forward traffic messages so that the message will reach a NTS or RRI liaison.

For compatibility traffic messages traversing the TPRFN network have the same address format and message format as traffic messages originated elsewhere.

Traffic messages are addressed TO the ZIP Code of the recipient.

Traffic messages are addressed AT NTS+the two letter state identifier of the recipient. i.e. @NTSPA if the recipients is in Pennsylvania.

The message type should be Type T.

Message Routing

Users

Users should make every attempt beforehand to identify any full-service BBS in their area available for use.

Users should pre-arrange for the use of every BBS available with the SYSOP of those BBS's. This may include registration on each BBS.

Registration on a BBS

Should include name.

Should include City and State

Should include Zip

Must include a Home BBS which is designated as the BBS for which you will receive personal mail. (See references for Hierarchical Routing)

Connecting to post a message

Each BBS may have multiple means to connect to that BBS for the purpose of sending and receiving messages. Contact the System Operator for details.

Users may connect to any full-service BBS, any TPRFN Network Polling Station, or any TPRFN Hub Station to send messages.

Polling Stations

Forwarding Messages ¹

Polling Stations should identify each Polling Station and each Hub Station he has the ability to connect to in order to send and receive messages.

Polling Stations should make sure users, and each Polling Station and Hub Station have the necessary rights within your BBS to leave and retrieve messages.

Polling Stations should create a route to each of those stations.

The route should include both 'TPRFN' and 'PKTNET' in the TO routing field.

The route should include 'USA.NOAM' in the Flood Bull routing field.

Polling Stations should identify each mode and frequency, by time, that each station uses to receive messages over RF and create a connect script to send messages over RF.

Polling Stations may include ELSE clauses to utilize multiple frequencies to attempt to send messages over RF.

Polling Stations may include an ELSE clause to forward over AXIP when RF connections fail.

Polling stations should identify the nearest polling station or hub that can properly and reliably forward traffic messages and create a forwarding rule by entering NTS* in the AT field of a stations forwarding record.

A polling station may logically divide traffic messages to more than one station by using the extended state to the AT forwarding record to forward specific traffic messages to specific stations. To forward Texas traffic to a specific station add NTSTX in the stations AT field of that station's forwarding record. That station will forward traffic messages addressed to Texas while all others will still go to the station with NTS* in his forwarding record.

No station shall send multiple copies of traffic message to multiple stations.

Hub Stations

Forwarding Messages ¹

Hub Stations should identify each Polling Station and each Hub Station for which he has the ability to connect with in order to send and receive messages.

Hub Stations should make sure that users and each Polling Station and Hub Station has the necessary rights within your BBS to post messages.

Hub Stations should create a route to each Hub Station for which he has the ability to connect.

The routing should include both 'TPRFN' and 'PKTNET' in the TO routing field.

The routing should include 'RFONLY' in the AT routing field.

The routing should include 'USA.NOAM' in the Flood Bull routing field of any polling station.

The routing should not include any Flood Bull routing in any hub stations forwarding record.

Hub Stations should identify each mode and frequency, by time, that other Hub Station uses to receive messages over RF and create a connect script to send messages over RF.

Hub Stations may include ELSE clauses to utilize multiple frequencies to attempt to send messages over RF.

Hub Stations may include an ELSE clause to forward over AXIP when RF connections fail.

Hub stations should identify the nearest polling station or hub that can properly and reliably forward traffic messages and create a forwarding rule by entering NTS* in the AT field of a stations forwarding record.

A HUB station may logically divide traffic messages to more than one station by using the extended state to the AT forwarding record to forward specific traffic messages to specific stations. To forward Texas traffic to a specific station add NTSTX in the stations AT field of that station's forwarding record. That station will forward traffic messages addressed to Texas while all others will still go to the station with NTS* in his forwarding record.

No station shall send multiple copies of traffic message to multiple stations.

SYSOP Recommendations

The following recommendations primarily apply to Hub Stations and Pollins stations but may be employed by any BBS.

SYSOPS should consider, but is not required, to remove restrictions to register so that new users will make successful connections on the first attempt. Most BBS software will notify a sysop when a new user is added to the users list.

SYSOPS should endeavor to assist new users with the education required to connect to his station to send and receive messages.

SYSOPS should monitor their BBS systems for both 'TPRFN' and 'PKTNET' messages to be sure each is forwarded appropriately or resolve any errors or non-forwarded messages.

SYSOPS of Hub Stations should look frequently for messages addressed to @RFONLY as these messages are meant for all Hub Stations.

SYSOPS should monitor logs frequently to ensure that forwarding is occurring as planned.

SYSOPS should seek out and advertise their BBS when possible.

- Over the air beacons.

- APRS

- In person.

- Establish MOU's with radio emergency services. i.e. ARES, RACES.

SYSOPS should indicate in a Hub Station or Polling Station user record that the user is an EXPERT. Additionally, the Expert User Prompt message in the Welcome Messages and Prompts should only contain "de [callsign]>". This will reduce the time a station is connected by not including long welcome messages to commonly connected polling stations and hubs.

SYSOPS should allow Binary in the forwarding records of all users.

SYSOPS are encouraged to use SESSIONTIMELIMIT in either the Vara port configuration or in the connect script of individual forwarding records to prevent excessive connection time caused by low bit rates. To limit both incoming and outgoing times place the SESSIONTIMELIMIT in the Vara port configuration. To limit only the outgoing time, place the directive in the connect script. This also provides for different times for each forwarding partner.

SYSOPS are encouraged to be familiar with the HUF and Fof2 charts when selecting frequencies to scan and/or connect, keeping in mind both origin and destination of

the connection and the propagation at the time of the connection. When practical scan every frequency 24/7.

SYSOPS should not send WP Update messages over RF. They are not necessary, and they consume airtime.

SYSOPS should consider all resources when choosing frequencies and bandwidths to utilize, including but not limited to 47 CFR Part 97, IARU Region 2 Band Plan, and Local standards.

Notes

1. The instructions shown may not apply to all BBS software. Adjust these instructions to apply to the software you use.
2. By reference, an ICS-205, Radio Communications Plan shall become a part of this document.

References

TPRFN

<https://www.tprfn.net/>

Hierarchical Addressing

<https://www.tapr.org/pdf/DCC1995-Recommendation4HAP-WO5H-WD5IVDAA4RE-W0RLI.pdf>

Propagation Chart

<https://prop.kc2g.com/fof2/>

FCC Rules

<https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-97?toc=1>

IARU Band Plan

<https://www.iaru-r2.org/wp-content/uploads/2020/02/IARU-Region-2-Band-plan.pdf>

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