

APRS RELAY, WIDE, TRACE

• **Relay**

Used by mobile stations to get to the next "Wide" station. This is important! If you are mobile and start your digipeating string with "Wide" and are not heard by a Wide station, your information is lost. Use relay only once.

• **Wide**

Wide should be run by fixed stations (non-mobil) with good antennas running comparatively high power (25 to 50 watts). The purpose of a "Wide" station is to provide communication over distances of more than twenty five miles (some, like WA0BAG-5, can handle distances up to almost 100 miles, because of the H.A.A.T.)

Unproto -> APRS,WIDE7-7

1st Digi -> APRS,WIDE7-6

2nd Digi -> APRS,WIDE7-5

3rd Digi -> APRS,WIDE7-4

4th Digi -> APRS,WIDE7-3

5th Digi -> APRS,WIDE7-2

6th Digi -> APRS,WIDE7-1

7th Digi -> APRS,WIDE7*

Advantage:

Keeps packet frame to the same size as the initial transmission consequently often travels further

Disadvantage:

Causes alot of QRM as digipeaters have a hard time telling if they have already digipeated this transmission so often digipeat more than once. The use of a checksum on the packet does ease this although if the packet is heard again after the specified amount of dupe time has expired it will be digi'ed again

• Trace

Trace is used by "Smart" digipeaters to track the route a packet took. The digipeater will add its call to the digipeat list as the packet is re-transmitted.

Example :

Unproto -> APRS,TRACE7-7

1st Digi -> APRS,M0AAA*,TRACE7-6

2nd Digi -> APRS,M0AAA*,M0BBB*,TRACE7-5

3rd Digi -> APRS,M0AAA*,M0BBB*,M0CCC*,TRACE7-4

4th Digi -> APRS,M0AAA*,M0BBB*,M0CCC*,M0DDD*,TRACE7-3

5th Digi -> APRS,M0AAA*,M0BBB*,M0CCC*,M0DDD*,M0EEE*,TRACE7-2

6th Digi ->

APRS,M0AAA*,M0BBB*,M0CCC*,M0DDD*,M0EEE*,M0FFF*,TRACE7-1

7th Digi ->

APRS,M0AAA*,M0BBB*,M0CCC*,M0DDD*,M0EEE*,M0FFF*,M0GGG*,TRACE7*

Advantages:

Allows plotting of digipeater paths and digi coverage maps for other people

Reduces QRM because the digipeater adds its callsign to the list ensuring that digipeater does not relay this particular packet again

Makes it easier for UI messaging to determine a return UI path

Disadvantage:

Makes packet frame larger and more prone to errors

Please NOTE: Both WIDE and TRACE can have an option of "n-n". A digipeater that supports "n-n" will digipeat any "n-n" packet that is "new" (to that digipeater) and will subtract 1 from the number to the right of the dash until that number reaches -0. The digipeater keeps a copy of the packet and will not digipeat that packet again within about the next twenty eight seconds. This considerably reduces the number of superfluous digipeats in high density areas.

You will set up your digipeat aliases as 1) Your call and 2) either Relay or Wide (depending on if you are mobile or fixed). Or worded differently:

- MOBIL = your-call,RELAY
- Fixed poor digipeat location (most of us) = your-call,RELAY
- Fixed excellent digipeat location (like W0AVV) = your-call,WIDE

You then set up your UNPROTO address to something like APRS,RELAY,WIDE or APRS,RELAY,WIDE3-3 (which replaces APRS,RELAY,WIDE,WIDE,WIDE) if you are mobile and reduces the digipeat duplication (see above on n-n). The

character string "APRS" in the UNPROTO address is to maintain compatability with those pieces of software that use those characters to convey other information.

What does all this mean? You are probably going to have an UNPROTO of "APRS,RELAY,WIDE2-2" or "APRS,RELAY,WIDE3-3" (without quotes).

Spend some time in APRS and learn your local network before you turn on digipeat.