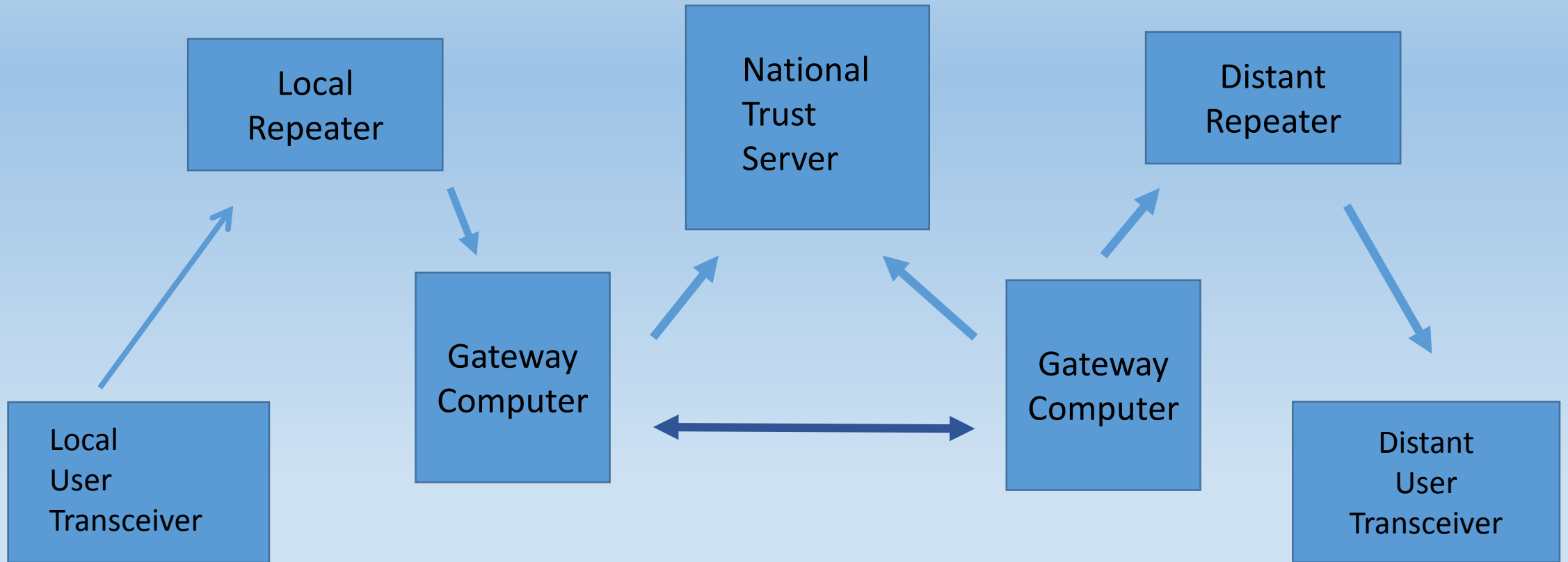


# D-Star Gateway User Training

Sponsored by the

**Western Oregon Radio Club**

# Hardware relationships



# Radio Setup - Memory Channels

- Frequency, Offset, Name are similar to the entries you are familiar with on the FM repeaters. The one difference is to set MODE to DV.
- New for D-Star are the Call Sign settings. The four call sign settings are:
  - Yourcall ( UR )
  - Repeater1
  - Repeater2
  - Mycall

# Radio Setup - Memory Channels

- Banks allow for grouping call signs into collections of your choice. Bank selection allows you to quickly change the focus of your radio. This feature is built in to most of the newer D-Star radios.

# Radio Setup – Call sign entry

## The real D-Star Magic



- Call sign entries all have 8 places. The first six are the primary routing information.
- Character 7 may designate the port for routing your packets or it may be blank.

<u>W</u>	<u>B</u>	<u>7</u>	<u>D</u>	<u>Z</u>	<u>G</u>	<u>_</u>	<u>C</u>
1	2	3	4	5	6	7	8

# Radio Setup – Call sign entry

## The real D-Star Magic



- Character 8 may have several different uses.
  - 1) It can designate the port you are using.
  - 2) It can be a command for controlling your connection.
    - L for link
    - U for unlink
    - I for interrogate
    - E for echo
    - Character 7 and 8 blank is a special case for MULTICAST

<u>W</u>	<u>B</u>	<u>7</u>	<u>D</u>	<u>Z</u>	<u>G</u>	<u>_</u>	<u>C</u>
1	2	3	4	5	6	7	8

# Connections between Gateways – Linking or Routing

- Callsign routing
- Simple to enter. Just put the callsign in ***yourcall***
- Requires user inform called station of routing method.
- Can be routed locally or nationwide.
- Requires called station to take action to respond.

WA7HJR\_\_

# Connections between Gateways – Linking or Routing

- Node routing
- Enter a gateway call sign prefixed with a slantbar in ***yourcall***.
- Put the port ( A, B, C ) to be routed to in place number 8.
- This is the method of connection used in DR ( D-Star Repeater ) Method of setting up a radio.
- Requires user inform called station of method.        /WA7HJRB
- Requires called station to take action to respond.



# Connections between Gateways – Linking or Routing

- Gateway Linking
- Enter a gateway call into ***yourcall***, with the port as the seventh character, and L as the eighth character.
- After connection is established, the calling station must reset ***yourcall*** to CQCQCQ.
- Called station takes no action to respond.

WA7HJRBL

# Connections between Gateways – Linking or Routing

- Reflector Linking
- Enter a Reflector call into ***yourcall***, with the port as the seventh character, and L as the eighth character.
- After connection established, the calling station must reset ***yourcall*** to CQCQCQ.
- All Gateways connected to the Reflector hear any transmissions routed to the Reflector from anywhere.

REF029AL

# Connections between Gateways – Linking or Routing

- Multicasting
- Requires intervention of Gateway administrators to designate specific gateways that will transmit when they get a packet with the correct *yourcall*. **Cannot be created by users.**

/SOMNAME

# The D-Star Magic - Call Sign Memories

- The FOUR call sign settings are the part of D-Star that sets it apart from other transmission modes. They let you control the path of your audio packets to the correct destination.
- The four call signs are:
  - Mycall
  - RPT1
  - RPT2
  - Yourcall

# The D-Star Magic - Call Sign Memories

- MYCALL setting

This is the simplest setting. It identifies your stations and serves as the ultimate return setting for responses from other stations. It will be your FCC issued call sign, sometimes modified by a sub unit designating alphabet character.

MYCALL includes 8 possible characters. Positions 1 to 6 are for your own call sign.

Position 7 is normally blank in MYCALL.

Position 8 in MYCALL may be used for a radio designator initial when you operate more than a single D-Star radio simultaneously.

# The D-Star Magic - Call Sign Memories

- RPT1 ( repeater one ) setting

This is the call sign of a repeater you are transmitting on. The call sign must match your transmit frequency.

RPT1 includes 8 possible characters. Positions 1 to 6 are for the repeater call sign

Position 7 will be blank in RPT1.

Position 8 in RPT1 must be used for a Node ( Band ) designator initial. This may be A, B, C, or possibly D.

# The D-Star Magic - Call Sign Memories

- RPT2 ( repeater two ) setting

Repeater 2 is not used for simplex transmissions or local single band transmissions.

RPT2 includes 8 possible characters. Positions 1 to 6 are for the repeater call sign

Position 7 will be blank in RPT2.

Position 8 in RPT2 designates the port or the gateway as the ultimate local destination of your transmission. This designation will ordinarily be A, B, C or G.

For most local activity RPT2 should be set like: AA9AAA G

# The D-Star Magic - Call Sign Memories

- YOURCALL ( UR ) setting

This is the setting you will need to change most often.

After sending a link or other command, return this setting to CQCQCQ to carry out your communication. .

To create a link from your local gateway to another location, enter the 6 character call sign, followed by the port designator, followed by the command letter L ( for link ). When you hear the connect message, reset UR to CQCQCQ.

For most local activity UR should be set like: CQCQCQ



# The D-Star Magic - Call Sign Memories

- YOURCALL ( UR ) setting LINKING (pg 2)

This is the setting you will need to change most often.

To send a link command, you will change YOURCALL by setting the destination call sign, followed by the port character, then the command letter **L**.

The YOURCALL will then look like this WA7HTJBL .

For most local activity UR should be set like: CQCQCQ

# The D-Star Magic - Call Sign Memories

- YOURCALL ( UR ) setting UNLINKING (pg 3)

This is the setting you will need to change most often.

To end a link command, you will change YOURCALL by setting the destination call sign, followed by the port character, then the command letter **U**.

The YOURCALL will then look like this WA7HJRBU .

The alternate universal form of the unlink command is UR call set for seven spaces followed by the letter U.

It looks like this -----U

# Required Settings and Precautions

- When you program a memory channel, the frequency for transmit must match the call sign in RPT1. If these two items do not match the repeater there will be no response from the repeater.
- After sending a link, unlink or other command do not forget to reset *yourcall* to **CQCQCQ**. If you do not reset to CQCQCQ you will hear a message from the Gateway every time you transmit.

# Cross Band Operation

- On repeaters with more than a single band module, cross band operation can be established by any user.
- This can be done between any of the three possible voice modules. A to B, B to C, or C to A.
- The node you are cross banding to is set in RPT2.
- This method requires you tell the other stations how you are operating. It will require the operator you are calling to set up their own radio to cross band transmit back to you or change to your same repeater/frequency.