

# D-STAR 101

Callsigns

How to use them

# Overview

- Power of one
  - Callsign confusion
- Your, Mine, Ours
  - Callsign Usage
- To route or not to route
  - Zones and Areas

# Power of one

- One callsign per network
  - Each callsign is assigned an IP Address
    - *Systems/Gateways* = Global IP
    - *Users* = Local IP

# Callsign Confusion

- Example (No Problems here)
  - Registered User:
  - N9JA = **System/Gateway** and **User**
    - **System/Gateway**
      - » Callsign = N9JA
      - » **System/Gateway** IP = 65.102.167.145
    - **User**
      - » Callsign = N9JA
      - » Reservation IP Block = 10.103.135.192
      - » Actual IP Address = 10.103.135.194

# Callsign Confusion

- WHY?
  - Systems cannot have trustee calls!
    - Example (Confusion Begins)
      - » **System/Gateway** IP Address = **65.102.167.145**
      - » ZONE Callsign = **N9JA**
      - » AREA Callsign = **N9JA**
      - » **USER** Callsign = **N9JA**
      - » **USER** IP = **10.103.135.194**
  - ***So, Where does the call get routed?***

# Callsign Confusion

- **Conclusion:**
  - **User** callsign will have an IP address assigned to a **System/Gateway** IP address.
  - Thus **One callsign** cannot be used for both a **System/Gateway** IP address and a **User** IP address
  - Get a club call for the repeater

# Yours, Mine, Ours

- 4 important Callsigns
  - My call = Originating *User*
  - Your Call = Destination *User*
  - Repeater 1 = Originating *User* System
  - Repeater 2 = Local or Gateway \*
- **Note:** If Originating *User* is **NOT REGISTERED** in the network for Gateway use, ALL CALLS will remain **LOCAL**

# 8 Characters

- EVERY CALLSIGN FIELD will have 8 characters!
  - The 8<sup>th</sup> character is a port designator for the *System/Gateway* fields (RPT 1 or RPT 2)
    - **NOTE:** IF left blank, the system assumes PORT A is used!
  - **DO NOT** use a letter or number in the 8<sup>th</sup> position in the *USER* callsign.
    - N9JA A is ok
    - N9JAA is NOT ok
      - This is a legitimate callsign for another person.



# What IF

- My call
  - No Callsign
    - Communication will occur
    - Local Only
- Your Call
  - No Callsign
    - communication will occur
    - Local Only
- Repeater 1
  - No Callsign
    - Signal will not be repeated
    - System will issue a RPT 1 Reprogram command
    - RPT? Appears on originating *User's* radio
- Repeater 2
  - No Callsign
    - System assumes “Not Used”
    - Communication Local Only

# What is Routing?

- Two Routing Methods
  - Site Routing
    - **Where** you want to talk
      - Specific **System/Gateway** and *Port*
  - User Routing
    - **Who** you want to talk
      - Specific **User**

# Site Routing

- Callsign of the System
  - K5TIT: Dallas, TX
  - W4DOC: Atlanta, GA
  - KI4PPF: Tuscaloosa, AL
  - K6MDD: Mt. Diablo, CA
  - N7IH: Bellevue, WA  
(ICOM America HQ)
  - G7ICM: ICOM UK
  - VK8RAD: Darwin, Australia
- Callsign Programming
  - MYCALL = N9JA
  - RPT 1 = N7IH---B
  - RPT 2 = N7IH---G
  - URCALL = /VK8RADB

## • Results

- My call would be routed from the N7IH repeater, over the gateway, and come out on the UHF module in Darwin Australia

# User Routing

- User Callsigns
  - N5MIJ: Dallas, TX
  - KJ4VO: Atlanta, GA
  - W4OZK: Huntsville, AL
  - K6BIV: Mt. Diablo, CA
  - N9JA: Bellevue, WA
  - VK8HF: Darwin, Australia
- Callsign Programming
  - MYCALL = N9JA
  - RPT 1 = N7IH---B
  - RPT 2 = N7IH---G
  - URCALL = N5MIJ

## • Results

- N9JA's voice and data communications would be routed from the N7IH repeater, over the gateway, and come out on the ***last RF module*** N5MIJ used in Dallas, TX

# User Routing (Fun Stuff)

- **Goal**

- To talk to as many D-STAR users as possible.

- **User Callsigns**

- N5MIJ: Dallas, TX
- KJ4VO: Atlanta, GA
- W4OZK: Huntsville, AL
- K6BIV: Mt. Diablo, CA
- N9JA: Bellevue, WA
- VK8HF: Darwin, Australia

- **Callsign Programming**

- MYCALL = N9JA
- RPT 1 = N7IH---B
- RPT 2 = N7IH---G
- URCALL = N5MIJ

**Then**

- URCALL = KJ4VO

**Then**

- URCALL = W4OZK

**Then**

- URCALL = K6BIV

**Then**

- URCALL = VH8HF

- **Result**

- Both Voice and Data Communications routed to the appropriate recipient!

# User Routing (More Fun Stuff)

- **PROBLEM**

- N9JA travels TOO much
  - How do we keep regular contact?

- N9JA's Travel Schedule
  - Monday: Dallas, TX
  - Tuesday: Atlanta, GA
  - Wednesday: Tuscaloosa, AL
  - Thursday: San Francisco, CA
  - Friday: Bellevue, WA

- Callsign Programming

- MYCALL = VK8HF
- RPT 1 = VK8RAD
- RPT 2 = VK8RAD
- URCALL = N9JA

- **Result**

- Both Voice and Data Communications routed to the appropriate recipient regardless of location!

# To Route or Not To Route

Local Communications

# 8 Characters (A reminder)

- EVERY CALLSIGN FIELD will have 8 characters!
  - The 8<sup>th</sup> character is a port designator for the *System/Gateway* fields (RPT 1 or RPT 2)
    - **NOTE:** IF left blank, the system assumes PORT A is used!
  - **DO NOT** use a letter or number in the 8<sup>th</sup> position in the *USER* callsign.
    - N9JA A is ok
    - N9JAA is NOT ok
      - This is a legitimate callsign for another person.



# To Route or Not To Route

- Local Communications
  - Local Net controls
    - Kid nets
    - Emcomm nets
  - D-PRS I-Gates
    - Software solutions to gate D-PRS to APRS
  - D\*Chat
    - Keyboard to Keyboard communications
      - Communications via Gateway possible too.

# To Route or Not To Route

- **Goal**

- To talk to friends on another band, same system.

- **System Configuration**

- 23cm DV                      Port A
- 23cm DD                     Port A
- 70cm DV                     Port B
- 2m DV                        Port C

- **Callsign Programming**

- MYCALL = N9JA
- RPT 1 = N7IH---B
- RPT 2 = N7IH---C
- URCALL = CQCQCQ

- **Result**

- Both Voice and Data Communications routed to N7IH Port C, which is 2m!

# To Route or Not To Route

- **Goal**

- To talk to friends on another band, same system.

- **System Configuration**

- 23cm DV            Port A
- 23cm DD           Port A
- 70cm DV           Port B
- 2m DV             Port C

- **Callsign Programming**

- MYCALL = N9JA
- RPT 1 = N7IH---B
- RPT 2 = N7IH---A
- URCALL = CQCQCQ

- **Result**

- Both Voice and Data Communications routed to N7IH Port A, which is 23cm!

# Moral of the story

- It is not difficult, just different!
  - Just go for it.