

# Getting Started with Allstar - Digital Bridges

Introductions to the digital radio field of /software/hardware and relationship/connectivity with Allstar software

- Introduction
  - Who we are
  - Background, etc
- Allstar
  - Quick history lesson
  - Linking nodes
    - To other nodes
    - To other services (Echolink, etc)
    - On demand linking and control
- Digital networks
  - Different flavors (DMR, YSF, P25, DSTAR, NXDN)
  - Different networks
    - BrandMeister
    - DMR-MARC
    - DMR Plus
    - P25NX
    - DPlus, DExtra, XRF, XLX
    - Reflector based (YSF, NXDN, P25)
- Bridging the gap
  - WHY???
  - Emergency communications
  - AD-Hoc connections
  - Access to your repeaters from other places and modes (hotspots)
  - Because you can (experimentation)
  - DVSwitch
    - Analog\_Bridge
    - MMDVM\_Bridge
    - Quantar\_Bridge
    - DMRLink and HBLink
  - Cloud or PC/SBC based
    - No support for hardware Vocoder in the cloud
    - D-Star the only mode that really needs hardware
  - Considerations
    - Audio quality between the networks
      - ASL has EXCELLENT audio quality
      - Digital has no hiss
    - Control
      - Use private nodes to allow the maximum control
  - How does it work

- Stream conversion
    - Audio and metadata converted from one format to another
  - Adapters for each specific network
- Come join us at groups.io
  - <https://dvswitch.groups.io/g/main/topics>

# **Getting Started with Allstar - Digital Bridges**

**Introductions to the digital radio field of /software/hardware  
and relationship/connectivity with Allstar software**

# Introduction

- Who are we
- Background
  - Hardware
  - Software
  - Networking

# Allstar

- Quick history lesson
- Linking nodes
  - To other nodes
  - To other services (Echolink, etc)
  - On demand linking and control

# Digital networks

- Different flavors (DMR, YSF, P25, DSTAR, NXDN)
  - DMR
    - BrandMeister, DMR-MARC, DMR Plus
  - P25
    - P25NX, P25Reflector
  - DSTAR
    - DPLUS, DEXTRA, XREF
  - YSF
    - YSFReflector, FCS
  - NXDN

# Bridging the gap

- WHY???
- Emergency communications
- AD-Hoc connections
- Access to your repeaters from other places and modes (hotspots)
- Because you can (experimentation)

# Bridging the gap

- DVSwitch is composed of these tools
  - Analog\_Bridge
  - MMDVM\_Bridge
  - Quantar\_Bridge
  - DMRLink and HBLink
- Cloud or PC/SBC based



# Bridging the gap

- Considerations
  - Audio quality between the networks
    - ASL has EXCELLENT audio quality
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  - Control
    - Use private nodes to allow the maximum control
- How does it work
  - Stream conversion
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# DEMO!

- In this demo we will show cross mode operation
  - DMR < --- > ASL
  - DMR is Talk group 314
  - ASL is node number 29999
  - All traffic is transferred in each direction
  - DMR encode and decode is done in software

# How To?

- Install DVSwitch package
- ASL
  - Create a private node with USRP channel driver
- Analog\_Bridge
  - Configure Analog\_Bridge.ini
- MMDVM\_Bridge
  - Configure MMDVM\_Bridge.ini
  - Configure DVSwitch.ini

# Come join us at groups.io

- <https://dvswitch.groups.io/g/main/topics>
- ASL to DMR tutorial
  - <https://docs.google.com/document/d/1eN50Csr29eAprBu7eKA0Bfa2XUcsXw5iktY1Ey-Qjkg/edit?usp=sharing>
- DVSwitch overview
  - <https://docs.google.com/document/d/1-Ot5pGaibmEGmmFh-l8HUq2LRyZoujiJYulr-VSga9s/edit?usp=sharing>