NØAGX

WIRES-X
Wide-Coverage Internet Repeater Enhancement System

As implemented by the Hibbing, MN Repeater

The repeater is operating in AMS mode
Automatic Mode Selection

- Repeater is either tadeonal FM – analog, or Yaesu C4FM Digital
- The mode is determined by the mode of the last received signal
- The repeater operates with a "split personality"
  - Digital users can not hear the analog transmissions
  - Analog users can hear the digital transmissions

                    - UNLESS –

  ➢ **User's Fusion Radio is in AMS**
  ➢ **FM User's Radio uses CTCS or Tone Squelch**

Make use of the node
Local Area WIRES-X Nodes

Location	Call	Node ID	Room ID
Two Harbors	N0MR	11570	21570
Knife River	KC0MKS	11388	21388
Brainerd	W0UJ	11473	21473
Brainerd	W0UJ	11554	21554
Hibbing[2]	N0AGX	35475	NA
Ely[1]	W0PHX	18272	28272
Superior	WA9KLM	18373	28373
Duluth*	N0EO	30494	40494

1 – Analog only

2 – Digital only

* - Arrowhead Skywarn Response Team

Local **node** will announce its status every 60 minutes.

Make use of the node

Known Active
Remote WIRES-X Nodes

Location	Call	Node ID	Room ID
Phoenix, AZ	AE7JG	11452	
Lino Lakes, MN	AD0MI	11493	
Test Node			21310
The-DARC-Room			28439

Local **node** will announce its status every 60 minutes.

WIRES-X Analog Connection Protocol

1. Confirm frequency not in use. Status may be determined by #66666
2. ID and announce "Attempting to connect WIRES-X to [node name]"
3. Transmit DTMF Node ID† prefixed by # using 1 sec tones
4. Connection to rooms (21XXX) rather than nodes is encouraged . Connection should be among analog users only. Do not mix modes.
5. Node will announce connection status
6. Listen and ID with location announcing your intent
7. When in QSO wait for signal to drop before starting to transmit - limit key down time to <3min. Utilize a turnover technique.
8. ID prior to disconnecting
9. Disconnect from node using * or #99999* (more reliable)
10. Local Node will confirm disconnect by three beeps
11. ID and announce "WIRES-X terminated. Frequency returned to normal use."

† Active DTMF Node IDs (subject to greater than 20 minute lag) are available from :
https://www.yaesu.com/jp/en/wires-x/id/active_node.php

WIRES-X Listening Tips

- The system can be linked to other repeaters or users by joining a room.

- The user may be unaware of being in a room

- UNLESS –

  - ➢ **A room member is transmitting**
  - ➢ **WIRES-X is enabled on your radio**
  - ➢ **You listen to the repeater's analog ID**

WIRES-X Transmitting Tips

- If using AMS mode and operating digital, be aware that the repeater ID given every hour on the half-hour or a user may drop you out of digital mode – breaking your QSO

- There is a **three (3) minute transmit timer** while in a room

- Allow sufficient time between transmissions to compensate for internet lag – about 15 seconds.

- Loss of internet connection while WIRES-X is active is not uncommon. An indication of the quality of service (QSQ) is provided by the repeater ID when the repeater is in a room and QSQ is poor.

Node Courtesy

- Digital and analog modes do not play well together on WIRES-X nodes. Limit use of our WIRES-X node to digital nodes only.

- Analog and digital users share the repeater. Respect each other's use by confirming the repeater is not in use before starting to transmit.

NØAGX WIRES-X Node Schedule

- Node is being monitored
- If active, the system and node will ID every 60 minutes
- Digital mode on +147.120 MHz (NØAGX Hibbing Repeater)
- 24/7 Operation *
  - Switched to The-DARC-Room at midnight
  - Select rooms on schedule
  - Open for visiting other rooms. Please return to DARC
- Limit key down time to less than 3 minutes
- Inform NØAGX, control operator, of any issues

* During Severe Weather Alerts, node can be captured by NWS