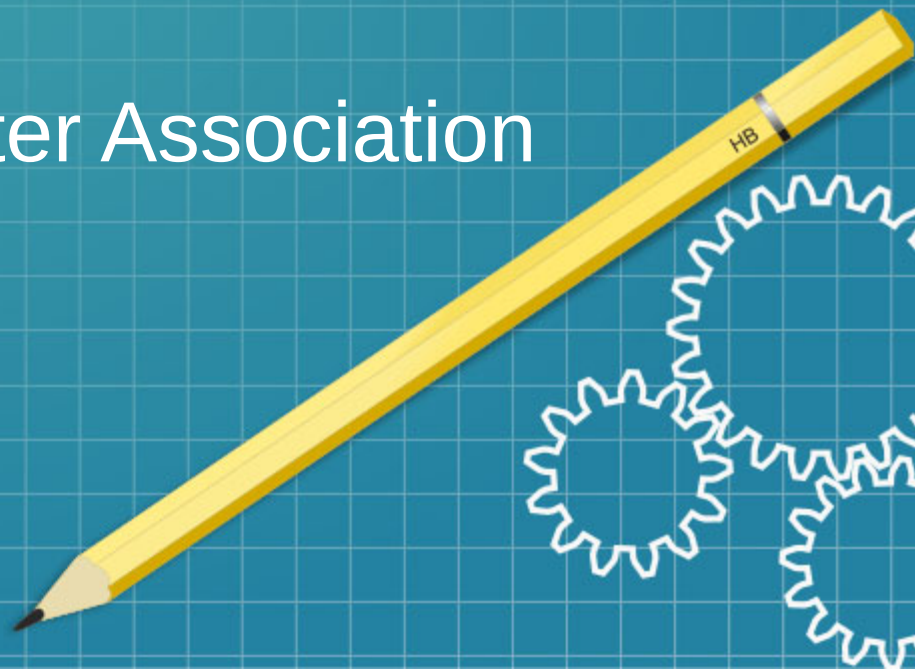
WIRES-X

Madison Area Repeater Association



Apologies

- First, My apologies. I know you geeks like to touch hardware. But for reasons I will discuss later (port forwarding) that is not possible tonight. You can touch some hardware but the working hardware is in my basement to which we will be communicating.

Program

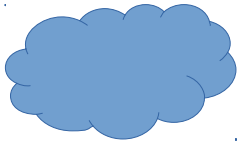
- Setting up a node and understanding Hardware and Software.
- Connecting to and Using a node.

Setting Up a Node and understanding the Hardware and Software

What is WIRES-X

WIRES (Wide-coverage Internet Repeater Enhancement System) is an Internet communication system which expands the range of amateur radio communication. For WIRES-X, an amateur node station connecting to the Internet is used as the access point and connects the wireless communication to the Internet. Users' stations can communicate with other amateur stations all over the world using a node within the radio wave range.

Infrastructure



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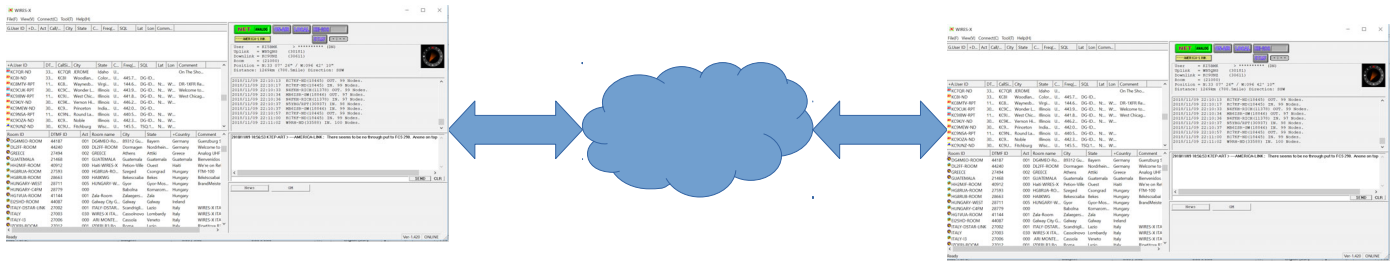
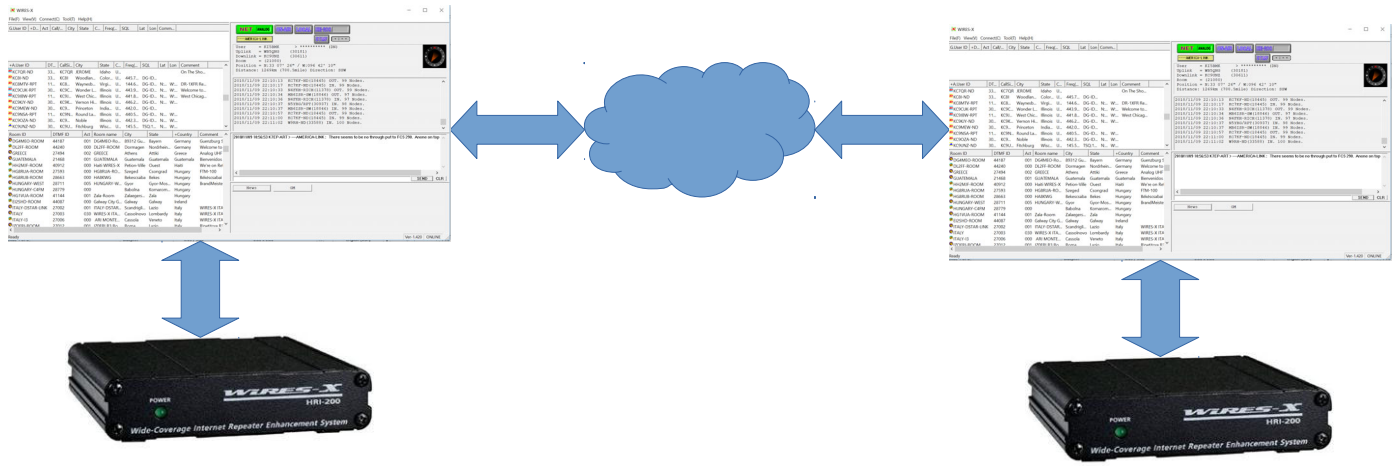
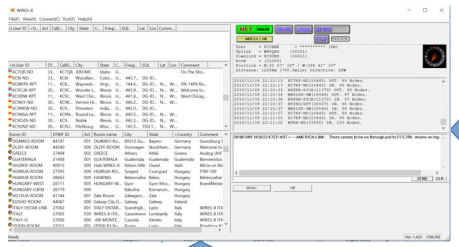
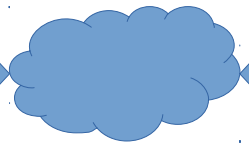


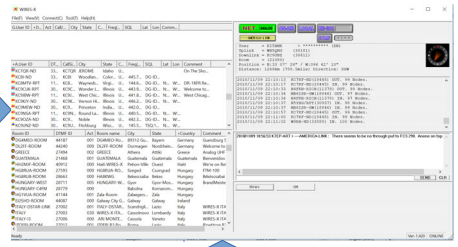
Infrastructure



Infrastructure







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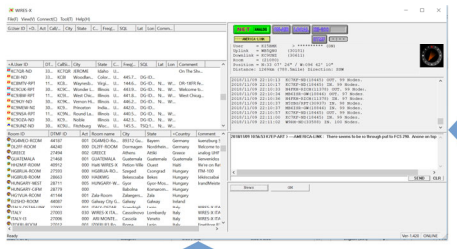

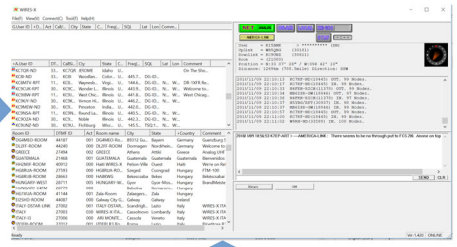

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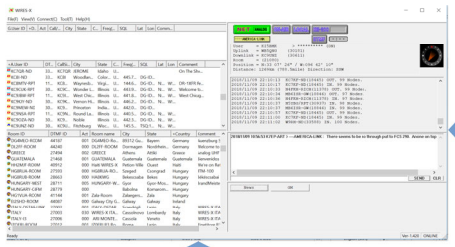
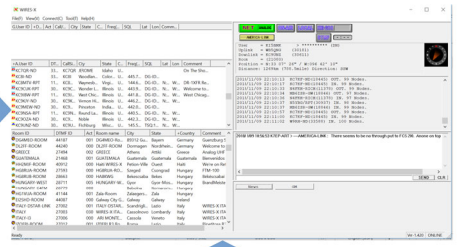




Some Hardware Pics

Connected to the computer

Analog port

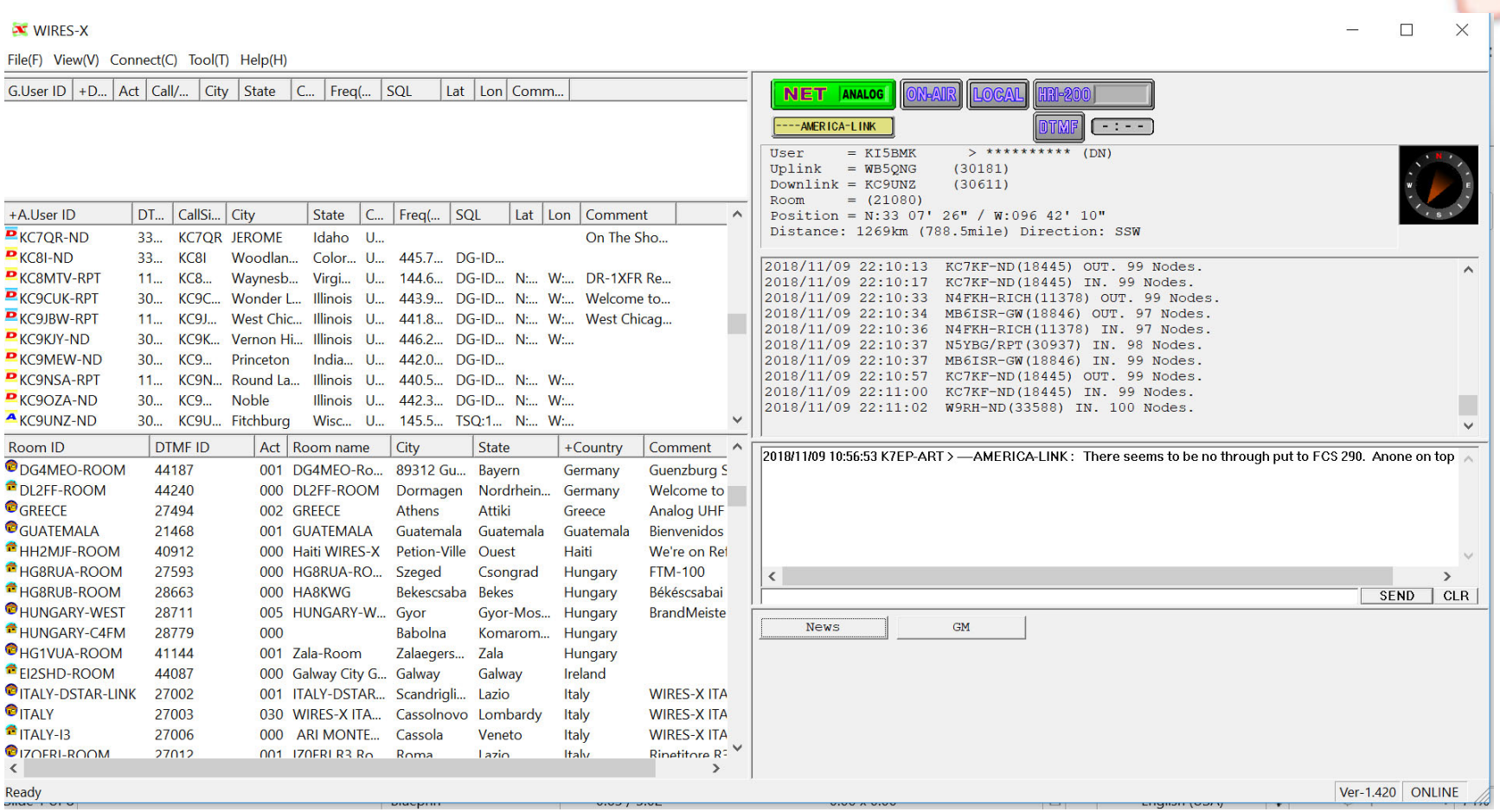
digital port

Rear of HRI-200

Analog

Digital

WIRES-X Software



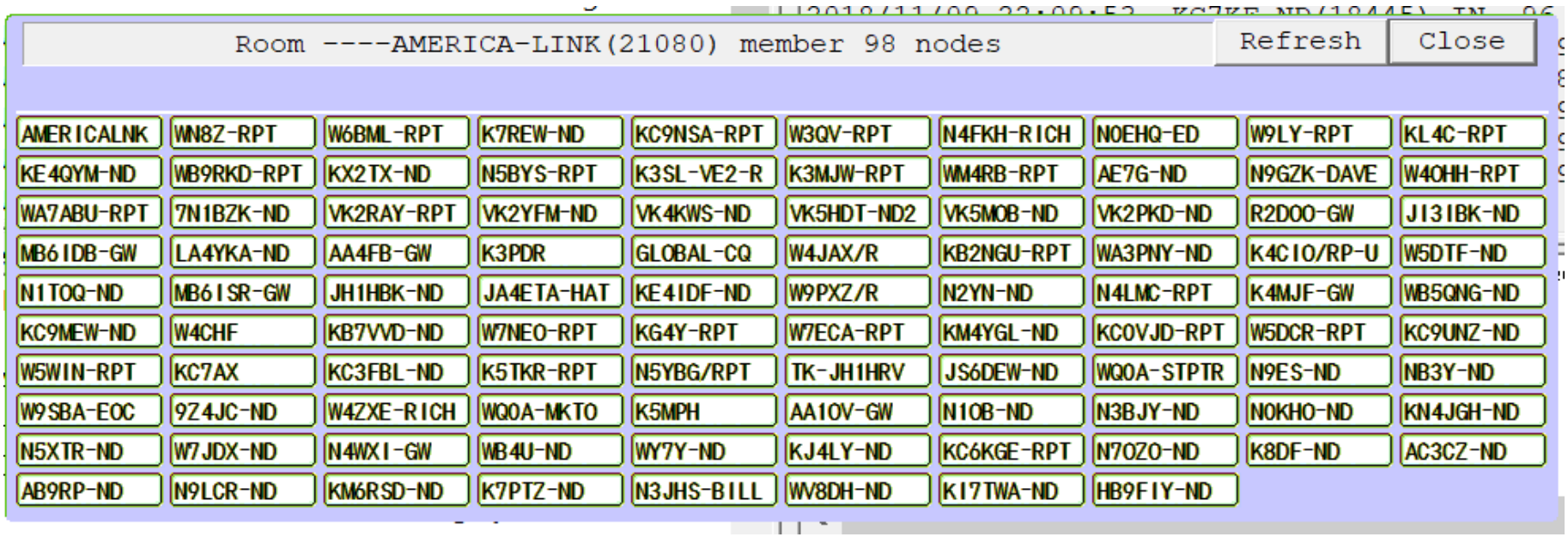
Online Users

+A.User ID	DT...	CallSi...	City	State	C...	Freq(...	SQL	Lat	Lon	Comment
KC9CUK-RPT	30...	KC9C...	Wonder L...	Illinois	U...	443.9...	DG-ID...	N:...	W:...	Welcome to...
KC9JBW-RPT	11...	KC9J...	West Chic...	Illinois	U...	441.8...	DG-ID...	N:...	W:...	West Chicag...
KC9KJY-ND	30...	KC9K...	Vernon Hi...	Illinois	U...	446.2...	DG-ID...	N:...	W:...	
KC9MEW-ND	30...	KC9...	Princeton	India...	U...	442.0...	DG-ID...			
KC9NSA-RPT	11...	KC9N...	Round La...	Illinois	U...	440.5...	DG-ID...	N:...	W:...	
KC9OZA-ND	30...	KC9...	Noble	Illinois	U...	442.3...	DG-ID...	N:...	W:...	
KC9UNZ-ND	30...	KC9U...	Fitchburg	Wisc...	U...	145.5...	TSQ:1...	N:...	W:...	
KC9WKE-RPT	11...	KC9...	Youngsto...	Ohio	U...	144.9...				
KD0CNC-RPT	30...	KD0C...	Warsaw	Miss...	U...	147.3...	DG-ID...	N:...	W:...	Benton Cou...
KD0ENX-RPT	11...	KD0E...	Grand Isla...	Nebr...	U...	147.3...	TSQ:1...	N:...	W:...	NEBRASKA-...

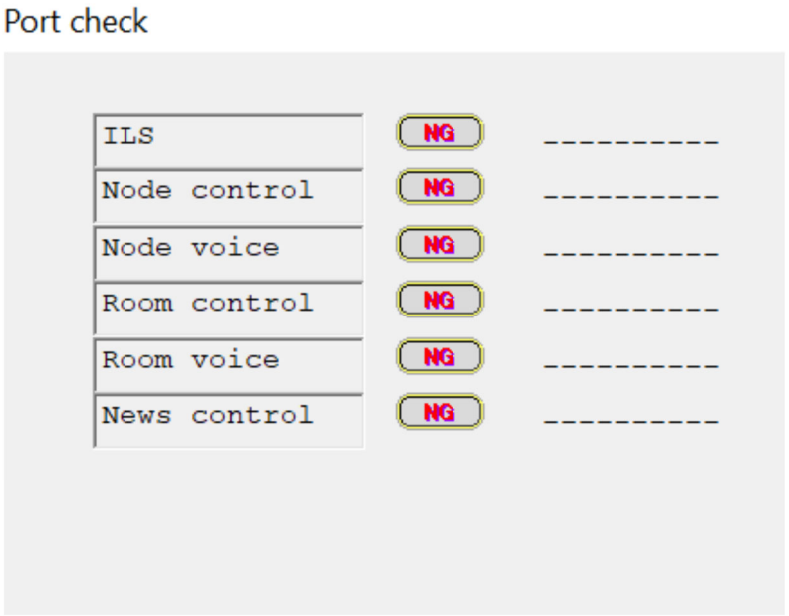
Online Rooms

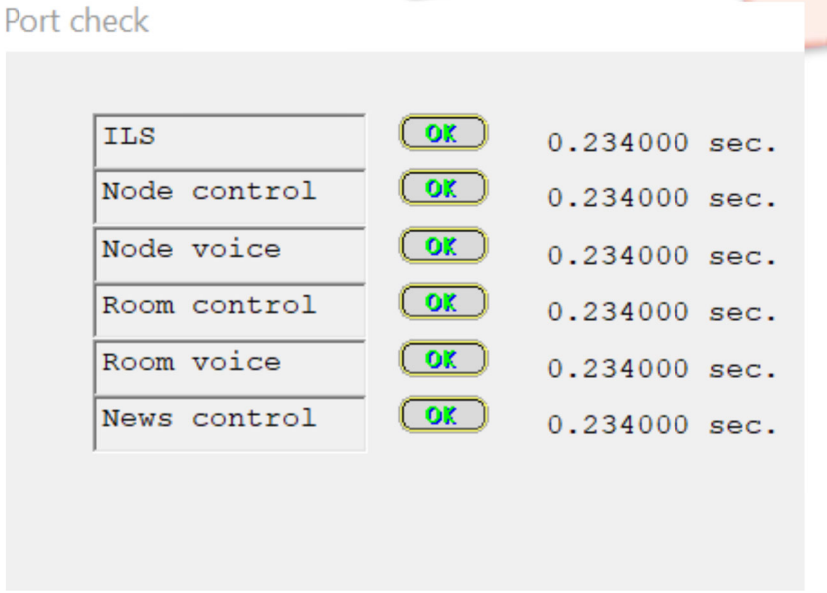
Room ID	DTMF ID	Act	Room name	City	State	+Country	Comment
DG4MEO-ROOM	44187	001	DG4MEO-Ro...	89312 Gu...	Bayern	Germany	Guenzburg S
DL2FF-ROOM	44240	000	DL2FF-ROOM	Dormagen	Nordrhein...	Germany	Welcome to
GREECE	27494	002	GREECE	Athens	Attiki	Greece	Analog UHF
GUATEMALA	21468	001	GUATEMALA	Guatemala	Guatemala	Guatemala	Bienvenidos
HH2MJF-ROOM	40912	000	Haiti WIRES-X	Petion-Ville	Ouest	Haiti	We're on Ref
HG8RUA-ROOM	27593	000	HG8RUA-RO...	Szeged	Csongrad	Hungary	FTM-100
HG8RUB-ROOM	28663	000	HA8KWG	Bekescsaba	Bekes	Hungary	Békéscsabai
HUNGARY-WEST	28711	005	HUNGARY-W...	Gyor	Gyor-Mos...	Hungary	BrandMeiste
HUNGARY-C4FM	28779	000		Babolna	Komarom...	Hungary	
HG1VUA-ROOM	41144	001	Zala-Room	Zalaegers...	Zala	Hungary	
EI2SHD-ROOM	44087	000	Galway City G...	Galway	Galway	Ireland	
ITALY-DSTAR-LINK	27002	001	ITALY-DSTAR...	Scandrigli...	Lazio	Italy	WIRES-X ITA
ITALY	27003	030	WIRES-X ITA...	Cassolnovo	Lombardy	Italy	WIRES-X ITA
ITALY-I3	27006	000	ARI MONTE...	Cassola	Veneto	Italy	WIRES-X ITA
IZ0ERI-ROOM	27012	001	IZ0ERI R3 Ro	Roma	Lazio	Italy	Ripetitore R3

Users connected to Room



Testing the Port Forwarding

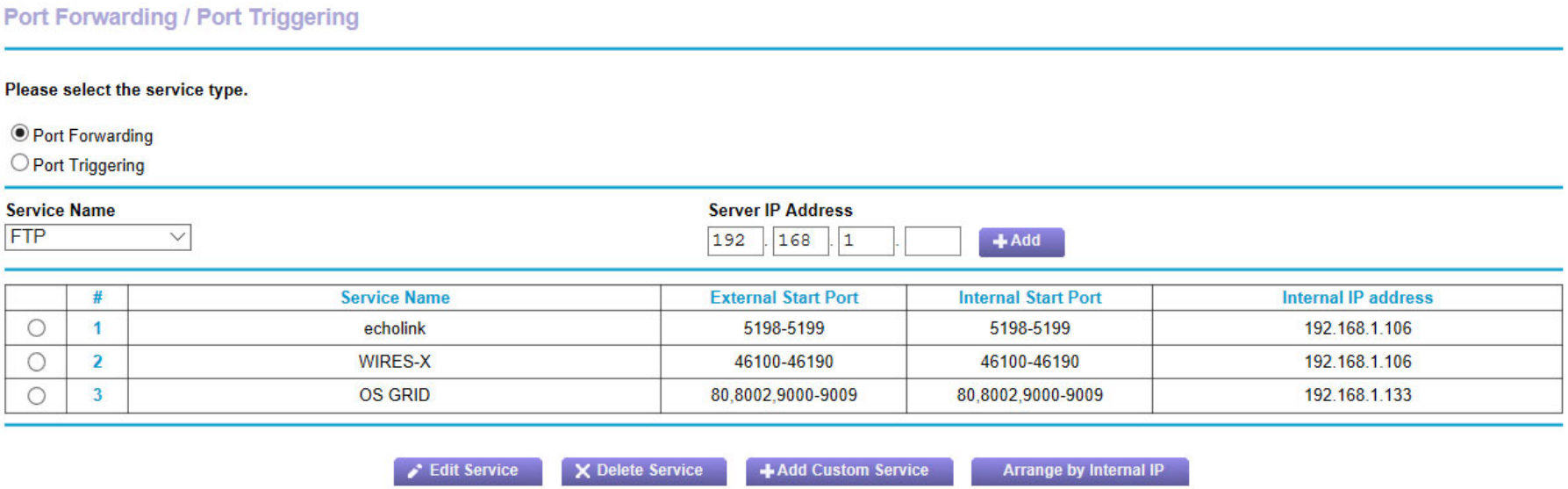




- Using the tools you can test to see if your ports are open correctly.
- Any connection behind a router for which you do not have control will probably not work. Particularly if you cannot forward the ports.
- My cell phone give me an address inside a local network segment, 192.168.x.x and would need port forwarding.

Network Requirements

- The WIRES-X software requires certain UDP ports to be forwarded to the machine running the software.
- UDP ports (46100, 46110, 46112, 46114, 46120, 46122)
- TCP port 46190
- My Netgear forwarding below:



Port Forwarding / Port Triggering

Please select the service type.

(•) Port Forwarding
( ) Port Triggering

Service Name: FTP

Server IP Address: 192 . 168 . 1 . [ ] + Add

	#	Service Name	External Start Port	Internal Start Port	Internal IP address
( )	1	echolink	5198-5199	5198-5199	192.168.1.106
( )	2	WIRES-X	46100-46190	46100-46190	192.168.1.106
( )	3	OS GRID	80,8002,9000-9009	80,8002,9000-9009	192.168.1.133

Edit Service | Delete Service | Add Custom Service | Arrange by Internal IP

Connecting to and Using a node

Connecting

- Transmit to the node as you would any radio
- FM – Frequency, PL if it is set up as an analog station
- C4FM – if it is a digital station
- Same as you would any repeater
- Currently I am running mine simplex at 145.575 with TSQL PL of 123.0
- Check with Facebook page: https://www.facebook.com/MadisonAreaRepeaterAssociation for additional Information. I may do some experimentation with digital mode and I'll put a note there if I change.
- I have it set up so that if it is not connected it will automatically reestablish the connection with America-Link.

DTMF Commands

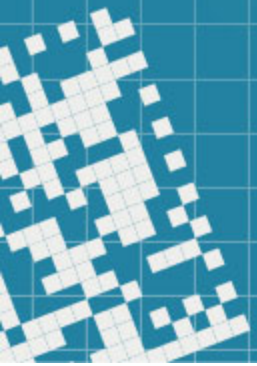
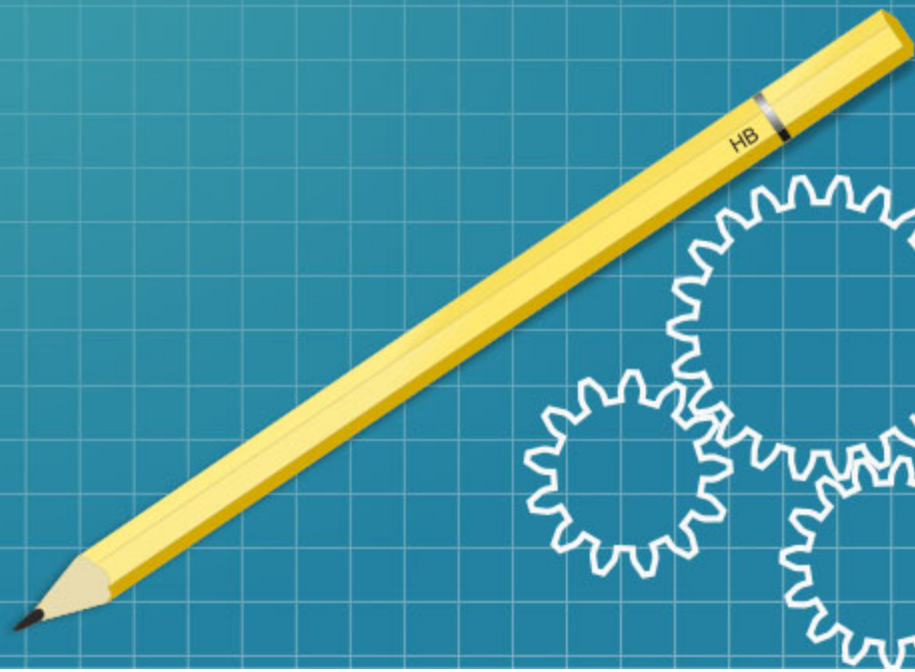
- #99999 or * - Disconnect
- #Node Number
  - #21080 America-Link
  - #21667 WI-Link
  - #20510 Japan (largest room)
  - #40611 KC9UNZ-Room
- #66666 – Status Report of Node
- https://www.yaesu.com/jp/en/wires-x/id/active_room.php

Helpful Info

- IDs of active rooms:
  https://www.yaesu.com/jp/en/wires-x/id/active_room.php

  IDs of Nodes: https://www.yaesu.com/jp/en/wires-x/id/id_usa.php

Demo

- Listen in on Stream
- See software in action
- Demonstration DTMF control codes
- I will place a PDF of this presentation up on www.w9hsy.org look under News
- Questions

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