



PATOKA VALLEY

MATEUR RADIO CLUB





WIRES-X

Fully Decoded!

Agenda

- What is WIRES-X
- The Access Methods Available
- Set Up and Use each Method

YAESU

WIRES-X

Wide-Coverage Internet Repeater Enhancement System

YAESU

System Fusion

Make the **MOST out of your
System Fusion Radios by using
WIRES-X to achieve global
communications**

**WIRES-X is not System Fusion
&
System Fusion is not WIRES-X**



- Yaesu's implementation of **C4FM**
- Newest amateur radio digital mode
- Introduced in 2013
- Backward compatible with analog FM
- VERY easy to use

***2M & 440 MHz DIGITAL REPEATERS
WITHIN 60 MILES OF JASPER**

■ WIRES-X (13)

System Fusion (28)			DMR (5)			D-STAR (5)		
Location	Call Sign	Frequency	Location	Call Sign	Frequency	Location	Call Sign	Frequency
Bloomington, IN	K9IU	147.180 MHz	Evansville, IN	W9OG	442.1875 MHz	Bloomington, IN	K9IU	444.900 MHz
Chrisney, IN	KC9FTG	146.910 MHz	Ferdinand, IN	K9CFM	441.175 MHz	Kirksville, IN	WB9TLH	443.050 MHz
Cincinatti, IN	W9HD	444.800 MHz	Kirksville, IN	WB9TLH	443.050 MHz	Mitchell, IN	W9QYQ	444.050 MHz
Evansville, IN	W9OG	147.150 MHz	Mitchell, IN	N9UMJ	147.345 MHz			
Evansville, IN	W9KXP	146.835 MHz	Owensboro, KY	WB9TLH	444.9625 MHz			
Henderson, KY	W4KVK	145.490 MHz						
Jasper, IN	N9MZF	444.675 MHz						
Kirksville, IN	WB9TLH	443.050 MHz						
Linton, IN	N9BII	145.170 MHz						
Linton, IN	W9ILS	444.425 MHz						
Lynville, IN	W9KXP	145.250 MHz						
Mitchell, IN	N9UMJ	147.345 MHz						
Mitchell, IN	W9QYQ	444.050 MHz						
Mount Carmel, IL	AI9H	146.940 MHz						
Mount Carmel, IL	K9BJE	444.775 MHz						
Mount Carmel, IL	W9KTL	442.150 MHz						
Newburgh, IN	AE9OZ	145.430 MHz						
Owensboro, KY	K4HY	147.210 MHz						
Paxton, IN	W9ILS	146.925 MHz						
Princeton, IN	KB9NEJ	145.410 MHz						
Princeton, IN	KC9MEW	442.050 MHz						
Shoals, IN	KA9PSX	145.210 MHz						
Vincennes, IN	W9EOC	146.670 MHz						
Vincennes, IN	W9ILS	443.925 MHz						
Vincennes, IN	W9EOC	443.675 MHz						
Washington, IN	W9ILS	443.225 MHz						
Westview, KY	KY4SP	147.060 MHz						
Wickliff, IN	KC9BUH	145.370 MHz						

74% of the digital repeaters in Southwest Indiana are System Fusion

*Based on RepeaterBook Directory search and W9ILS Directory search on 08/14/22

WIRES-X

- WIRES (Wide-coverage Internet Repeater Enhancement System) is a Internet communication system for amateur radio *(Yaesu introduced in 2002)*
- WIRES-X supports World Wide Communications
- Similar to EchoLink and IRLP but with more features



Advantages of WIRES-X

- Supports **C4FM** digital and **Analog FM** over the internet
- Easily link repeaters
- Automatically connects to nodes and “rooms”
- Call sign, name, distance between stations included in each transmission



Terminology

NODE

An individual radio or repeater connected to WIRES-X via the Internet

ROOM

A community space where many WIRES-X nodes can connect (like a party line)

How to Access Wires-X

WIRES-X Access

INTERNET

Digital Data

Digital Data

(Default Room ILS)



LOCAL
REPEATER

Wi-Fi



FT50/FT3D/FT2D

Internet



Access Point
or Direct

**System Fusion
Repeater linked to
Wires-X**

**Hot Spot Linked to
Wires-X (via Reflector)**

**Local Node Linked
to Wires-X**

443.225 MHz
Washington

Anywhere

Home Station

WIRES-X

Access via a Local Repeater

Connecting to Wires-X via Repeater



Use WIRES-X Room#

WIRES-X ACCESS

- Hit "F" Key + AMS
- Says "Connect"

SELECT ROOM

- Dial Knob
- Select or Enter Room #
- Hit "AMS" Key

DISCONNECT ROOM

- Hit "Band" Key

NORMAL RADIO OPERATION

- Hold "Mode" Key

<u>ROOM ID▲</u>	<u>DTMF ID</u>	<u>Act</u>	<u>Room Name</u>	<u>City</u>	<u>State</u>	<u>Country</u>	<u>Comment</u>
<u>_____0A</u>	27472	000	Bedfordshire Gateway	Dunton	Bedfordshire	UK	Covers most of West Anglia
<u>_____1A</u>	89062	000	MB6HG West Lancs UK	Ormskirk	Lancashire	UK	Chat for all. And it's G7EVY's Home!
<u>_____2A</u>	86163	000	Chase Chat	CANNOCK	Staffordshire	UK	
<u>_____SFG</u>	41405	005	Staffs Fusion Group	Hednesford	Staffordshire	UK	Hednesford Staffs
<u>_____34DD</u>	86043	000	The 34DD room	Northwich	Cheshire	UK	Because too ample is just ample enough.
<u>_____NERV</u>	22945	000	NERV-統幕司令部	Nagoya-city	Aichi	Japan	U.N.NERV 主幹通信指揮システム
<u>_____SFTR</u>	80209	001	SFTR	trinidad	Colorado	USA	SANTA FE TRAIL RANCH
<u>_____CQ-UK</u>	27793	025	CQ-UK	ABERDEEN	Aberdeenshire	UK	World Wide Room
<u>_____GB3WF</u>	27292	001	GB3WF - Otley	Leeds	West Yorkshire	UK	
<u>_____PRIDE</u>	85527	001	LGBTQIA+ HAMS	Yuma	Arizona	USA	Linked with the Pride Radio Network. See https://prideradionetwork.com for more info.
<u>_____CQ-SCV</u>	64726	000	CQ Santa Clarita	Santa Clarita	California	USA	431.550 100w Santa Clarita, CA
<u>_____FREESTAR</u>	41729	002	FreeSTAR UK	Aberdeen	Aberdeenshire	UK	FreeSTAR UK & International Multi-Mode Network

https://www.yaesu.com/jp/en/wires-x/id/active_room.php

Popular Rooms

- America Link - #21080
- Texas Nexus - #21636
- MNWIS - #21493
- CQ America - #2100 (Yaesu)
- Yaesu PDN - #43369 (Yaesu)
- Indiana Link South - #43844



WIRES-X

Access via a Hot Spot

Connecting to Wires-X via Hot Spot



**SAME AS
CONNECTING
THROUGH A
REPEATER**

except

**USE
YSF REFLECTOR #
INSTEAD OF
WIRES-X ROOM #**

Use YSF Reflector #

PI-STAR

Pi-Star Digital Voice Software

Home

+ Information

+ Pi-Star Tools

+ Multi Reflector

+ D-Star Mode

+ DMR Mode

+ YSF Mode

+ P25 Mode

+ NXDN Mode

+ Downloads

+ Links

Print



PDF



YSF Reflector List

This table of YSF reflectors is pulled from the Pi-Star YSF Database (updated every 5 mins).

YSF Number	Description	YSF DTMF	DMR2YSF TG	DMR2YSF TG via DMRGateway
62674	-----	#62674	TG 62674	TG 7062674
44513	-----NO	#44513	TG 44513	TG 7044513
65911	-----USA	#65911	TG 65911	TG 7065911
21909	-----YES	#21909	TG 21909	TG 7021909
98002	-----FURRY	#98002	TG 98002	TG 7098002
95569	-----GAYYY	#95569	TG 95569	TG 7095569
85527	-----PRIDE	#85527	TG 85527	TG 7085527
01701	-----STAR-TREK	#01701	TG 01701	TG 7001701
11111	-RAMSES-USA	#11111	TG 11111	TG 7011111
24465	00-CQ-SOUTH-AUST	#24465	TG 24465	TG 7024465
27793	00-CQ-UK-C4FM	#27793	TG 27793	TG 7027793
22003	00-CQ-UK-VW	#22003	TG 22003	TG 7022003
91944	00-CQ-WORLD	#91944	TG 91944	TG 7091944
32888	00-DoDropIn	#32888	TG 32888	TG 7032888
41619	00-GB7AB	#41619	TG 41619	TG 7041619
96265	00-HUBNet-00	#96265	TG 96265	TG 7096265
41562	001-CQ-UK	#41562	TG 41562	TG 7041562
13586	001-KP3AV-System	#13586	TG 13586	TG 7013586
96259	003-YSF	#96259	TG 96259	TG 7096259
34108	007-YSF	#34108	TG 34108	TG 7034108
32642	021YSF	#32642	TG 32642	TG 7032642
41444	042-YSF	#41444	TG 41444	TG 7041444
84905	096ysf-Busan-KR	#84905	TG 84905	TG 7084905
74652	119-YSF	#74652	TG 74652	TG 7074652
68800	2007-DXGROUP	#68800	TG 68800	TG 7068800
06015	00525	#06015	TG 06015	TG 7006015
97629	79435	#97629	TG 97629	TG 7097629
65947	843IPSC2	#65947	TG 65947	TG 7065947
19813	A1-MAWCG-Fusion	#19813	TG 19813	TG 7019813
17950	AH-HUH.NET	#17950	TG 17950	TG 7017950
83071	ALBA-SCOTLAND	#83071	TG 83071	TG 7083071
21887	ANDALUCIA	#21887	TG 21887	TG 7021887

https://www.pistar.uk/ysf_reflectors.php

WORLD WIDE

ACTIVE WIRES-X
ROOMS

1,634

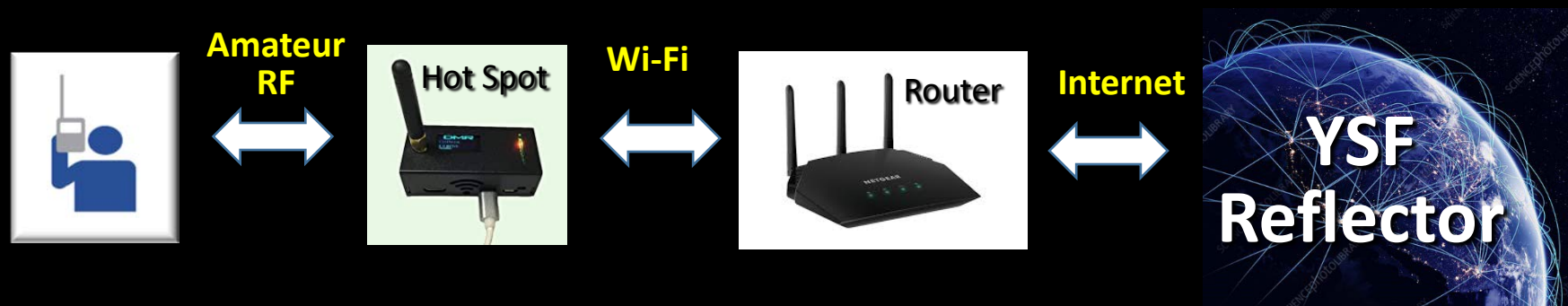
*YSF
REFLECTORS

1,307

* Includes DMR2YSF TG

More About Hot Spots

Hot Spots



- Provide an RF interface to **REFLECTOR SYSTEMS** such as **YSF & FCS** via Wi-Fi/Internet
- Reflector Systems are **Not a direct connection to WIRES-X** (they are bridged connections)
- **Not all WIRES-X Rooms & Nodes are available on Reflectors**

Hot Spots



Can be
purchased fully
assembled
(**\$100 to \$200**)



Can be
purchased as
Kits
(**Under \$100**)

Some can handle many digital modes, including DMR,
D-STAR, YSF, P25, NXDN,



Roll over image to zoom in



Hotspot Module Board, Jumbo Spot RTQ MMDVM Hotspot Support P25 DMR YSF+OLED Screen+Antenna+8G TFT Card,Fully Assembled and Tested Jumbo Spot RTQ with Acrylic Enclosure(Black)

Visit the Sanpyl Store

★★★★☆ 6 ratings

\$165⁴²

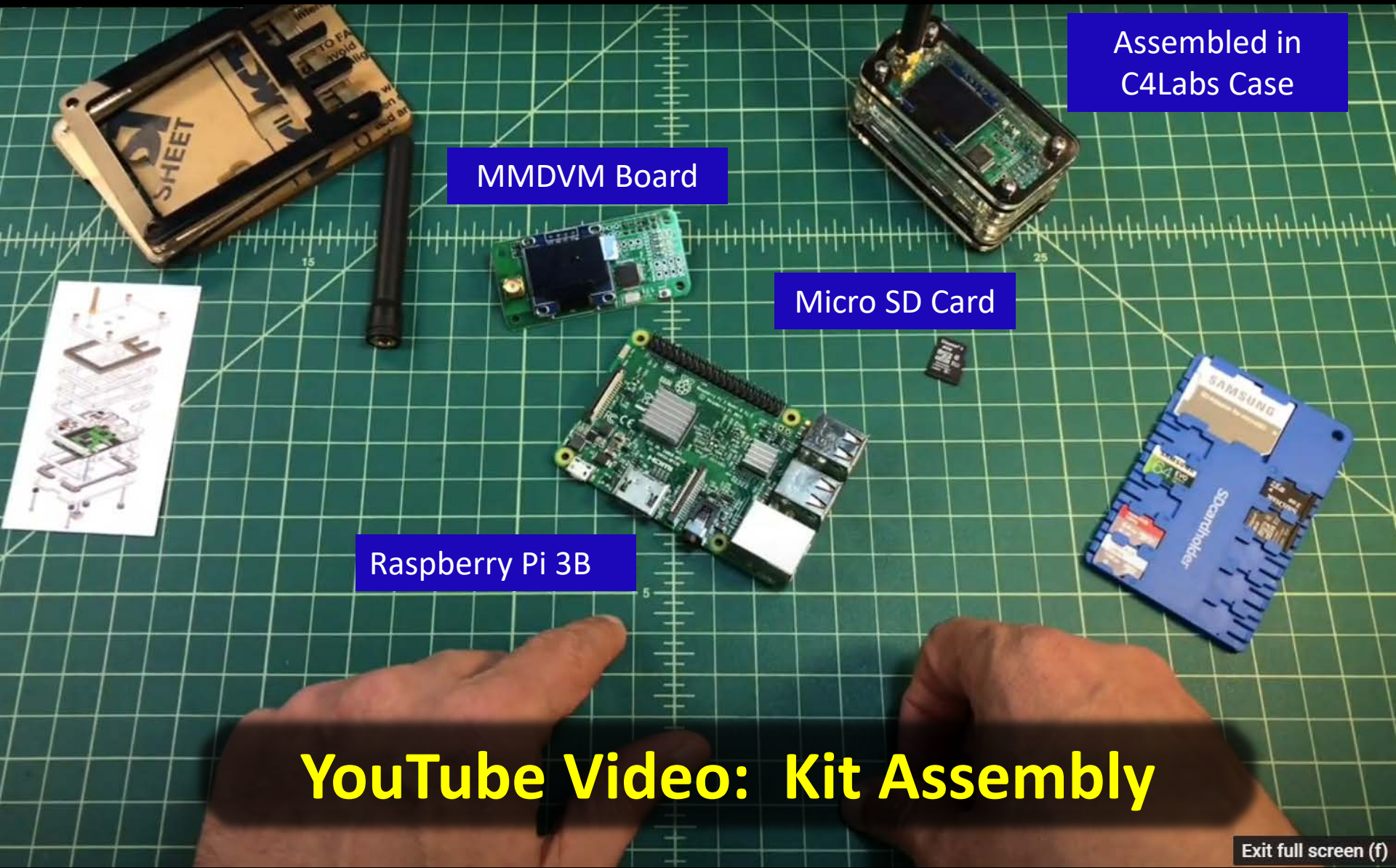
& FREE Returns

- Support PI STAR's web based digital voice dashboard and configuration tool.
- Support all four digital amateur modes DMR, D Star, P25 and System Fusion.
- Built in OLED system status display indicating Mode,Talk Group and Call Sign.
- Built in LED indicators for status of Power, PTT, COS and Mode.
- Console port SSH 22 for root level access to the operating system.

Fully Assembled

**Many models are available
on Amazon**

How to Build a Pi-Star Hotspot on Raspberry Pi 3 - TheSmokinApe



Assembled in
C4Labs Case

MMDVM Board

Micro SD Card

Raspberry Pi 3B

YouTube Video: Kit Assembly

NICE THING ABOUT HOT SPOTS:

**They provide your own private
connection to WIRES-X**

You do not need a repeater!

NICE THING ABOUT HOT SPOTS:

MINIMAL NETWORK REQUIREMENTS

EXAMPLE: The openSPOT4 uses VERY LITTLE internet traffic. Depending on the active connector, the data rate estimates are as follows:

- Quiet channel is 36-180 kB / hour
- Active channel is 3-6 MB / hour

ANOTHER NICE THING ABOUT HOT SPOTS:

**Your System Fusion (C4FM) radio can
talk to DMR, D-Star, NXDN, & P25**

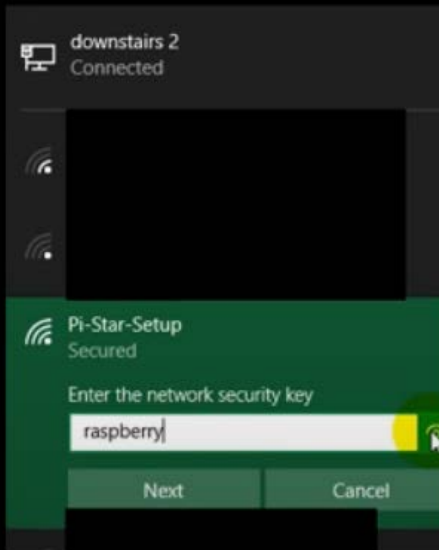
(Cross Mode)

ANOTHER NICE THING ABOUT HOT SPOTS:

Put one in your vehicle, tether it to your cell phone or mobile router, and your mobile can stay connected to WIRES-X rooms/nodes (possibly your home repeater)

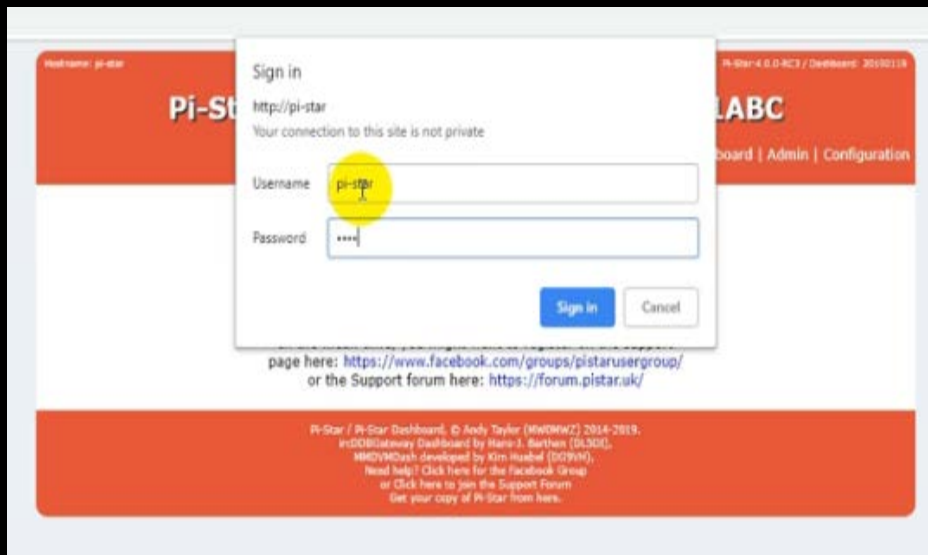
ANYWHERE IN THE COUNTRY!

Setting up a Hot Spot



TURN ON HOT SPOT

- Discover Hot Spot on computer Wi-Fi & connect



Log In to Hot Spot

- Use Browser
- Go to “pi-star/”
- Bring up Dash Board
- Login with “pi-star” and “raspberrypi”

Hot Spot Setup

Pi-Star:4.1.2 / Dashboard: 20200813

Pi-Star Digital Voice - Configuration

Dashboard | Admin | Expert | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

Hostname	Kernel	Platform	CPU Load	CPU Temp
pi-star	4.19.97+	Pi Zero W Rev 1.1 (512MB)	3.95 / 1.64 / 0.6	33.6°C / 92.5°F

Control Software

Setting	Value
Controller Software:	<input type="radio"/> DStarRepeater <input checked="" type="radio"/> MMDVMHost (DV-Mega Minimum Firmware 3.07 Required)
Controller Mode:	<input checked="" type="radio"/> Simplex Node <input type="radio"/> Duplex Repeater (or Half-Duplex on Hotspots)

MMDVMHost Configuration

Setting	Value
DMR Mode:	<input checked="" type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
D-Star Mode:	<input type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
YSF Mode:	<input checked="" type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
P25 Mode:	<input type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
NXDN Mode:	<input type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
YSF2DMR:	<input type="checkbox"/>
YSF2NXDN:	<input type="checkbox"/>
YSF2P25:	<input type="checkbox"/>
DMR2YSF:	<input type="checkbox"/> Uses 7 prefix on DMRGateway
DMR2NXDN:	<input type="checkbox"/> Uses 7 prefix on DMRGateway
POCSAG:	<input type="checkbox"/> POCSAG Paging Features
MMDVM Display Type:	OLED Type 3 <input type="button" value="v"/> Port: <input type="text" value="/dev/ttyAMA0"/> Nextion Layout: <input type="text" value="G4KLX"/> <input type="button" value="v"/>

Setting up the connection to your home's Wi-Fi, frequency, digital mode, etc.

Setting Up a Hot Spot

Hostname: pi-star Pi-Star: 4.0.0-RC3 / Dashboard: 20190205

Pi-Star Digital Voice Dashboard for 2E0KZA

Dashboard | Admin | Configuration

Modes Enabled

D-Star	DMR
YSF	P25
YSF XMode	NXDN
DMR XMode	POCSAG

Network Status

D-Star Net	DMR Net
YSF Net	P25 Net
YSF2DMR	NXDN Net
YSF2NXDN	YSF2P25
DMR2NXDN	DMR2YSF

Radio Info

Trx	IX YSF
Tx	433.575000 MHz
Rx	433.575000 MHz
PW	HS_Hat:v1.4.6
TCXD	14.7456 MHz

YSF Network

Linked to: PARROT

Gateway Activity

Time (GMT)	Mode	Callsign	Target	Src	Dur (s)	Loss	BER
16:23:40 Feb 17th	YSF	KC1KIP	ALL at FCS002-90	Net	IX		
16:23:19 Feb 17th	YSF	N9IUA	ALL at FCS002-90	Net	16.1	0%	0.0%
16:21:29 Feb 17th	YSF	WB2PVY	ALL at FCS002-90	Net	40.3	0%	0.0%

Local RF Activity

Time (GMT)	Mode	Callsign	Target	Src	Dur (s)	BER	RSSI
------------	------	----------	--------	-----	---------	-----	------

Ready to Go!

Pi-Star / Pi-Star Dashboard, © Andy Taylor (M4WDMWZ) 2014-2019,
ircDDBGateway Dashboard by Hans-J. Barthen (DL5DI),
MMDVMDash developed by Kim Huebel (DG9VH),
Need help? Click here for the Facebook Group
or Click here to join the Support Forum.
Get your copy of Pi-Star from here.

Hot spot set up for System Fusion Reflector (YSF)

WIRES-X Access via Your OWN Local Node

Already Have a System Fusion Radio?

Already have a PC & High Speed Internet?

***Then all it takes is a \$29 cable and a little
time & effort!***

WIRES-X Local Node

Personal WIRES-X Connection



A radio (home station or repeater) connected to the internet via a PC running WIRES-X

**What's so Great About Having
your Own Local Node**

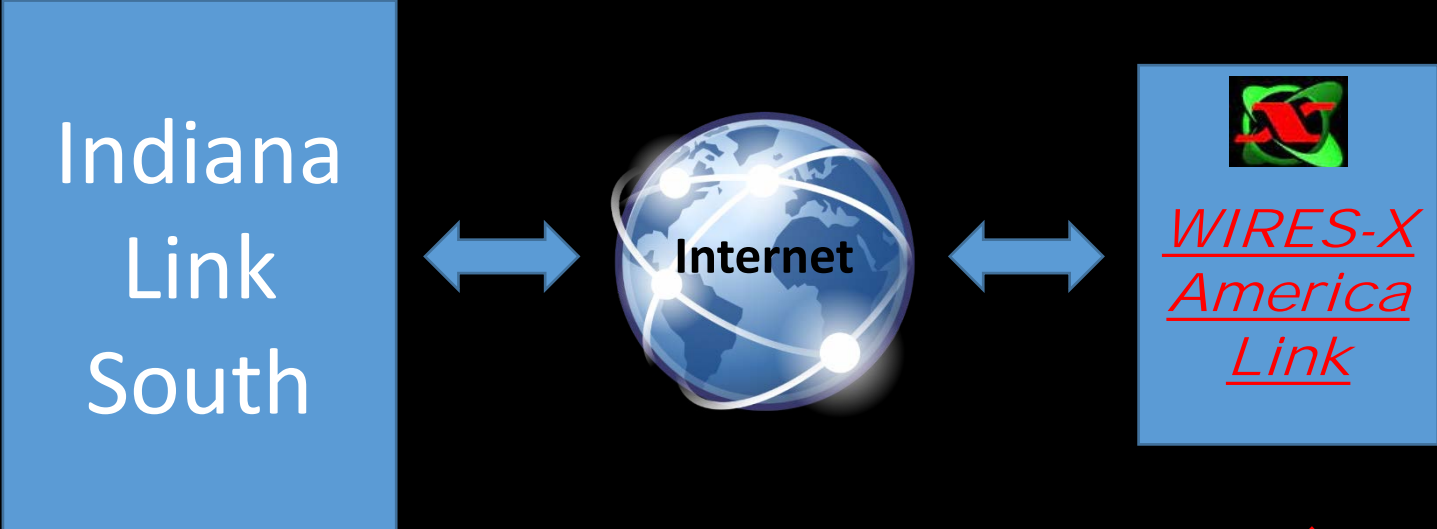
A home node station is YOUR private connection to Wires-X

You are NOT tying up a repeater while connecting to other rooms and nodes around the world

Your home node station ALSO serves as a wide area hot spot

**WIRES-X Repeaters / Systems
are normally “parked” on their own room**

Indiana Link South



Indiana, Illinois, Kentucky



Canada, Japan,
Hot Spot Roaming



Linked
Repeaters
Evansville, Princeton, etc.

WIRES-X Software
Is VERY easy to use

How to Set Up your Local Node

Local Node Compatible

FT2DR



FT3DR



\$399

FT5DR



\$479

FTM100-DR



\$379

FTM200-DR



\$459

FTM-300DR



\$589

FTM400-DR



© 2012 by YAESU

PC Requirements

- OS: Microsoft® Windows® 11 / 10 / 8.1
- Clock frequency: 2.0 GHz or more
- HDD: 1 GB of empty space or more
- RAM: 2 GB or more
- USB port: 2.0 (Full-speed)
- Display resolution: 1366 x 768 or more
16-bit high color or more (32-bit true color is recommended)
- LAN port: 100BASE-TX/1000BASE-T
A wired connection is recommended.

Internet Requirements:

ADSL 8 Mbps or More

(High-speed connection is recommended)

Setting Up you Local Node

**Step #1: Purchase Required
Interface Cable**

Purchase Interface Cable

FT5DR/DE, FT3DR/DE or FT2DR/DE

- SCU-57 or SCU-39 WIRES-X Connection Cable Kit

(The SCU-57 or SCU-39 includes the SCU-55 or SCU-19, CT-44, and two audio cables.)

FTM-400XDR/XDE/DR/DE or FTM-100DR/DE

When communicating with the digital node station in the portable digital node mode

- SCU-56 or SCU-20 PC Connection Cable (Supplied with the transceiver) **Digital Only**

When communicating with a digital node station or an analog node station in the portable HRI mode via the Internet

- SCU-58 or SCU-40 WIRES-X Connection Cable Kit

(The SCU-58 or SCU-40 includes the SCU-56 or SCU-20 and an audio cable.)

FTM-300DR/DE or FTM-200DR/DE

- SCU-58 or SCU-40 WIRES-X Connection Cable Kit

(The SCU-58 or SCU-40 includes the SCU-56 or SCU-20 and an audio cable.)

Required interface cable depends on radio model

\$29.95 - \$38.95

Setting Up you Local Node

Step #2: User Registration

User Registration

The screenshot displays the YAESU WIREX website interface. At the top left, the YAESU logo is accompanied by the tagline "The radio". To its right, the "WIREX" logo is prominently displayed. A vertical navigation menu on the left side contains the following items: "What is WIREX-X?", "User page", "WIREX-X ID list", and "Opening a node". Below this menu is a "Member login" section with input fields for "User ID:" and "Password:", an orange "Login" button, and links for "WIREX-X ID registration >> [Member registration]", "Forgot your member ID?", and "Forgot your password?". The main content area features a blue-themed banner with a world map background. The banner text reads: "Meet the Next Generation of WIREX The Leader in VoIP Communication for Amateur Radio". Below the text, it states: "WIREX-II, the Amateur Radio internet communications network takes another leap forward with WIREX-X and support for the new C4FM Digital radio communications mode. Enjoy many new and exciting features, including superior audio quality, intuitive user IDs, and advanced operating convenience, thanks to digital technology. Have fun and do more, with greater ease! WIREX-X is the network linking system Amateur Radio Operators have been waiting for." Two small inset images are included: one of a man in a blue shirt and another of a person at a computer workstation. The "WIREX-X" logo is repeated at the bottom of the banner.

Access the WIREX-X web page and register with the “Radio ID” of your System Fusion Radio

After Submission Processed



The screenshot shows the YAESU WIREX website. At the top left is the YAESU logo with the tagline "The radio". To its right is the WIREX logo. Below the logo is a navigation menu with the following items: "What is WIREX-X?", "User page", "WIREX-X ID list", and "Opening a node". Below the menu is a "Member login" section with fields for "User ID:" and "Password:", a "Login" button, and links for "WIREX-X ID registration >> [Member registration]", "Forgot your member ID?", and "Forgot your password?". The main content area features a blue banner with the text: "Meet the Next Generation of WIREX The Leader in VoIP Communication for Amateur Radio". Below this text is a paragraph: "WIREX-II, the Amateur Radio internet communications network takes another leap forward with WIREX-X and support for the new C4FM Digital radio communications mode. Enjoy many new and exciting features, including superior audio quality, intuitive user IDs, and advanced operating convenience, thanks to digital technology. Have fun and do more, with greater ease! WIREX-X is the network linking system Amateur Radio Operators have been waiting for." The banner also includes two small images: one of an older man in a blue shirt and another of a man in a cap talking on a radio. The WIREX-X logo is at the bottom of the banner.

- A Node ID & Room ID is provided withing a couple of working days
- These are needed when you install the WIREX-X software on your computer

**Step #3: Install WIRES-X
Software on your PC**

Downloading WIRES-X

Node owner's page



On this page, we provide useful information for first-time node station operators and existing node station owners.

Downloading the software

(For Node station connected with the HRI-200 / Portable Digital Node Station)

 [WIRES-X PC Software Update Information \(Ver.1.540\)](#)

 [WIRES-X PC Software \(Ver.1.540\)](#)

Download

Unzip the downloaded zip file into any arbitrary location.

**Download & install WIRES-X software
and install it on your PC**

Step #4: Install USB Driver for the Interface Cable

Downloading USB Driver

YAESU
The radio

WIRES-X Connection Cable Kit SCU-57 / SCU-58 (for Windows 8.1/10/11) Driver Installation Manual

Installing the PC Connection Cable driver software on a computer makes data transmission possible. Furthermore, if you have an internet environment on the go, using a compatible transceiver: FTM-400XDR/DE / FTM-400DR/DE / FTM-300DR/DE / FTM-200DR/DE / FTM-100DR/DE / FT5DR/DE / FT3DR/DE / FT2DR/DE (as of May 2022), you can use the WIRES-X Portable Digital Node (PDN) function to open a digital node station and enjoy more agile operation.

WIRES-X Connection Cable included items:

- SCU-57:** PC Connection Cable SCU-55, CT-44, and two audio cables
- SCU-58:** PC Connection Cable SCU-56 and an audio cable
- SCU-39:** PC Connection Cable SCU-19, CT-44, and two audio cables
- SCU-40:** PC Connection Cable SCU-20 and an audio cable



Do not connect the transceiver to the computer via the PC Connection Cable until the driver installation process has been completed. Connecting the PC Connection Cable to the computer before the driver installation has been completed may result in the wrong driver being installed and preventing proper operation.

**Follow the instructions in the WIRES-X Cable Kit
Driver Installation Manual**

Step #5: Update the Radio's Firmware (if Needed)

Firmware Update

● The latest WIRES-X Software and Transceiver Firmware



Update to the latest software and firmware on YAESU website.

- **WIRES-X Software** : Ver.1.540 or later
- **FT5D** MAIN: Ver.1.01 or later, SUB: Ver.1.01 or later, DSP: Ver.7.11 or later
- **FT3D** MAIN: Ver.1.01 or later, SUB: Ver.1.01 or later, DSP: Ver.7.02 or later
- **FT2D** MAIN: Ver.3.10 or later, SUB: Ver.2.01 or later, DSP: Ver.4.31 or later
- **FTM-400XD** MAIN: Ver.4.40 or later, DSP: Ver.4.31 or later
- **FTM-300D** MAIN: Ver.1.0 or later, SUB: Ver.1.0 or later, DSP: Ver.7.10 or later
- **FTM-100D** MAIN: Ver.2.40 or later, PANEL: Ver.2.10 or later, DSP: Ver.4.31 or later

If your radio already has the latest software you do not need to do an update!

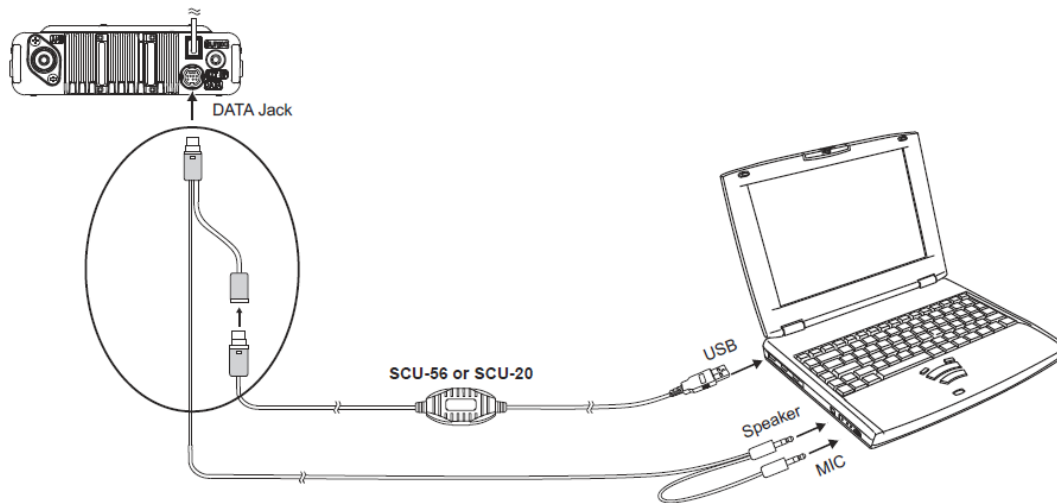
**Step #6: Connect the Radio
to the PC**

Connect Radio to PC

□ FTM-400XDR/XDE/DR/DE, FTM-300DR/DE, FTM-200DR/DE or FTM-100DR/DE

When using FTM-400XD/D, FTM-300DR/DE, FTM-200DR/DE or FTM-100DR/DE, the cable connection with the personal computer is the same for both Access Point and Direct Operation.

1. Refer to the below figure and connect the SCU-56 or SCU-20 PC connection cable that is supplied with the separately sold SCU-58 or SCU-40 WIRES-X connection cable kit, and the audio cable.



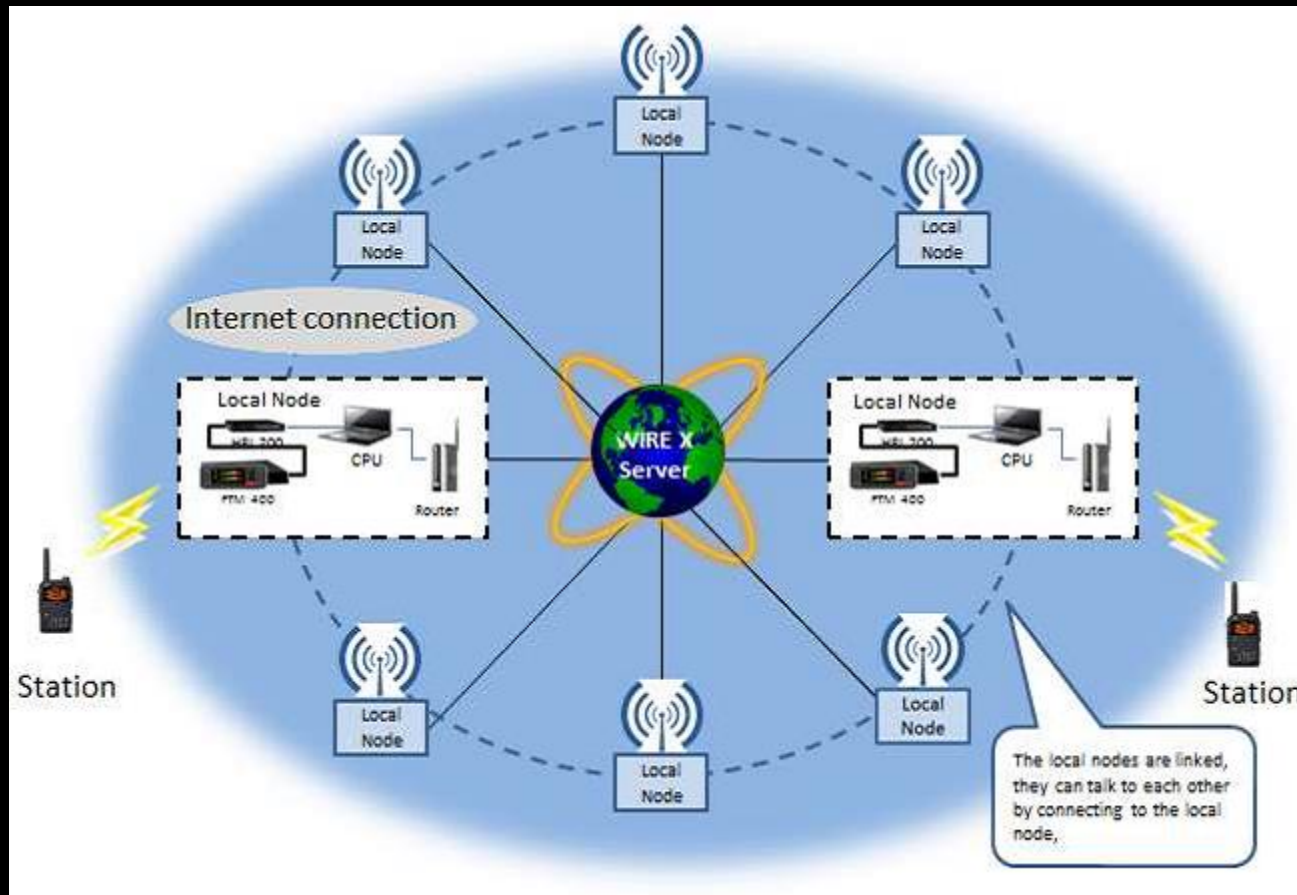
The connection is complete.



When communicating via the Internet in "Portable HRI Mode", refer to "Adjusting Audio Level in the Access Point (Portable HRI Mode)" (page 58) or "Adjusting Audio Level in the Direct Operation (Portable HRI Mode)" (page 60) and adjust the audio level of the computer.

Instructions are provided in the WIRES-X Portable Digital Node Instruction Manual

That's It!



To Activate your Local Node

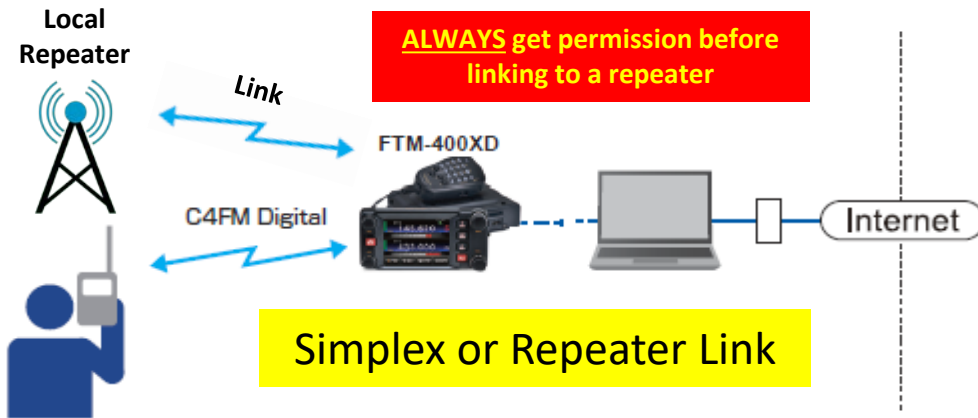
**Place your Radio
in WIRES-X Local Node Mode**

DIRECT OPERATION



No RF Involved

Access Point (Hot Spot)



ALWAYS get permission before linking to a repeater

Simplex or Repeater Link

SELECT
MODE
OF
OPERATION

G.User ID	+DTMF ID	Act	Call/Rm...	City	State	Cou...	Freq(MHz)	SQL	Lat	Lon	Comment
---AMERICA-LINK	21080	111	America ...	Beau...	Texas	USA					America Link ...
TEXAS-NEXUS	21636	040	TEXAS-N...	Austin	Texas	USA					Howdy! Linkin...
INDIANA-LINK-SO	43844	015	Indiana ...	Wash...	Indiana	USA					CONNECTED ILS Repeater N...

NET DIGITAL ON-AIR LOCAL FTM-3000 RADIO 1

INDIANA-LINK-SO

Room INDIANA-LINK-SO(43844) member 15 nodes

Refresh Close

N9NDB KD9MY-ND TARS-EVV W9ILS/RPTR W9KTL-GW2 K9RYN-RPT TARS-NE KD9LES-ND N9KNF-INDY N9BA-ND

K9KDJ-HRI W4WKY-RPT KO4GRX-ND N9LGO-ND WB9LIB-ND2

+A.User ID	DTMF...	CallSign	City	State	Cou...	Freq(MHz)	SQL	Lat	Lon	Comment
---NWRARC1	18284	AE7JG	Phoenix	Arizona	USA	442.900M...	DG-ID:00-00	N:3...	W:11...	Welcome To the NWRARC...
--9Z4RG--	30199	9Z4RG	Port-of-Spain	Trinidad	Trin...	147.850M...	TSQ:131.8...	N:1...	W:06...	9Z4RG Wires-X C4FM h...
--JE1UDL--	16671	JE1UDL	Takasaki-city	Gunma	Japan					
-IWAKUNI-	15403	JH4VIZ	Iwakuni-city	Yamagu...	Japan	430.800M...	DG-ID:00-00			
-KYOTO-	19414	JL3ZGV	Kyoto-city	Kyoto	Japan	430.820M...	DG-ID:00-20	N:3...	E:135...	OPEN NODE/Feel free t...
2531-KDRL	14935	JL3ZMX	Higashiosaka-c...	Osaka	Japan	144.560M...	DG-ID:00-00			
27-JP3EGU	39648	JP3EGU	Takarazuka-city	Hyogo	Japan					
2E0A00-ND	76731	2E0A00	LARBRECK PRE...	Lancashi...	UK			N:5...	W:00...	Also operational on HF ...
2E0WSJ-ND	78445	2E0WSJ	Northampton	Northa...	UK					NORTHAMPTON-UK-{...
2E0XVX-ND	34941	2E0XVX	Market Harbor...	Leicester...	UK	144.8275...	DG-ID:00-00	N:5...	W:00...	UK-Cluster Wires-X Roo...
3102-KDRL	13768	JE4YPZ	Sorachi-city	Okaya...	Japan	144.560M...	DG-ID:00-00	N:3...	E:133...	

```

2022/07/11 18:14:08 Transceiver Mode:Digital/Digital
2022/07/11 18:29:16 *--* Call Start No.43844 *--*
2022/07/11 18:29:16 Connected to INDIANA-LINK-SO(43844).
2022/07/11 18:29:17 Room Member 14 Nodes.
2022/07/11 18:29:28 K9RYN-RPT(51799) OUT. 14 Nodes.
2022/07/11 18:29:31 K9RYN-RPT(51799) IN. 15 Nodes.

```

SEND CLR

+Room ID	DTMF...	Act	Call/Rm...	City	State	Cou...	Freq(MHz)	SQL	Lat	Lon	Comment
-----0A	27472	000	Bedfordshire Gateway	Dunton	Bedford...	UK					Covers most of West Anglia
-----2A	86163	000	Chase Chat	CANNOCK	Stafford...	UK					
-----SFG	41405	000	Staffs F...	Stafford	Staffordshire	UK					Staffordshire.
-----NERV	22945	000	NERV	U.N.NERV@ZaS5EMZwSofVf... f... . Vf...	Japan						
-----SFTR	80209	002	SFTR	trinidad	Colorado	USA					SANTA FE TRAIL RANCH
-----CQ-UK	27793	023	CQ-UK	ABERDEEN	Aberdee...	UK					World Wide Room
-----GB3WF	27292	002	GB3WF - Otley	Leeds	West Yo...	UK					
-----PRIDE	85527	001	CQ PRIDE	Yuma	Arizona	USA					Linked with the Pride Radio N...
-----CQ-SCV	64726	000	CQ Santa Clarita	Santa Clarita	California	USA	431.550 100w				Santa Clarita, CA A CA
-----CQ-BANTS	86376	000	Relaxing Bants	Kings Lynn	Norfolk	UK					Wires X Only, Audio Reports, ...
-----FREESTAR	41729	001	FreeSTAR UK	Aberdeen	Aberdee...	UK					FreeSTAR UK & International ...
-----MOAB-ROOM	82572	000		Moab	Utah	USA					
-----NWRARC-SM	28284	000	Phoenix South Mtn	Phoenix	Arizona	USA					Three Wires-X repeaters coveri...
-----NWRARC-SP	21452	000	Surprise AZ Backyard	Surprise	Arizona	USA					Welcome to the AE7JG Backya...
-----X-TEN-LINK	22331	000	X-TEN Link	Fukuoka-city	Fukuoka	Japan					Radio Clib "X-TEN" FUKUOKA
-----FLORENCE-OR	40225	000	Florence Chat	Florence	Oregon	USA					Our local meeting place. Digit...
-----PUERTO-RICO	81197	001	KP3AV SYSTEMS PR	Toa Alta	Puerto R...	USA					KP3AV Systems HUB Connect...
-----AMERICA-LINK	21080	111	America Link Network	Beaumont	Texas	USA					America Link Network-Central
-----CANADA-LINK	40505	004	OTTAWA VE3ORF GR...	Ottawa	Ontario	Can...					VE3ORF/3730 Group Linked Sy...
-----FARS	64132	000	www.FARS.ca	Calgary	Alberta	Can...					Foothills Amateur Radio Socie...
-----MONTANA-LINK	40519	000	MONTANA-LINK	Great Falls	Montana	USA					Montana Fusion Network
-----RI-DIGI-LINK	21768	003	R.I. DIGITAL LINK	Warwick	Rhode Is...	USA					
-----ZEDNET	28598	003	WDTPRS Cafe: ZedNet	Morrisville	Pennsylv...	USA					Cross link to BM TG 31429
-----FUKUOKA-LINK-	20587	024	FUKUOKA-LINK	Fukuotsu-city	Fukuoka	Japan					Fukuoka-Link
-----FUKUOKA-LINK2	22567	000	FUKUOKA-LINK SUB...	Fukuoka-city	Fukuoka	Japan					
-----FUKUOKA-LINK3	42150	000	FUKUOKA-LINK Back	Chikubuhino-city	Fukuoka	Japan					

Select a Node or ROOM

Start the WIRES-X Software

IF YOU HAVE ANY ISSUES:

Local Experienced Amateur Radio Operators Can Assist
Excellent Yaesu Tech Support is Available

SUMMARY: WIRES-X Access Methods

Casual
User

RADIO ONLY (no extra cost)

- Requires repeater for WIRES-X access (default room)
- Will likely **NEVER** explore other rooms and nodes

Serious
User

HOT SPOT (\$100 - \$200)

- Requires NO repeater
- Limited WIRES-X Rooms
- **Easy** to Set Up, *Supports Mobile Use*
- Supports MULTIPLE digital modes

HOME LOCAL NODE (\$29.95)

- Requires NO repeater
- ALL WIRES-X Rooms & Nodes, *Wide-Range Access*
- Full Computer Control, *Very Easy to Use*
- **ULTIMATE HOME WIRES-X CONFIGURATION**

A blue-tinted image of Earth from space, showing the curvature of the planet and a grid of white lines representing global communication paths. The text "Enjoy WIRES-X Global Communications!" is overlaid in the center.

**Enjoy WIRES-X
Global Communications!**