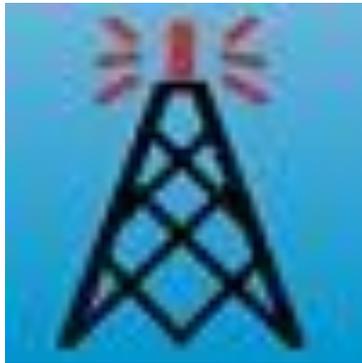


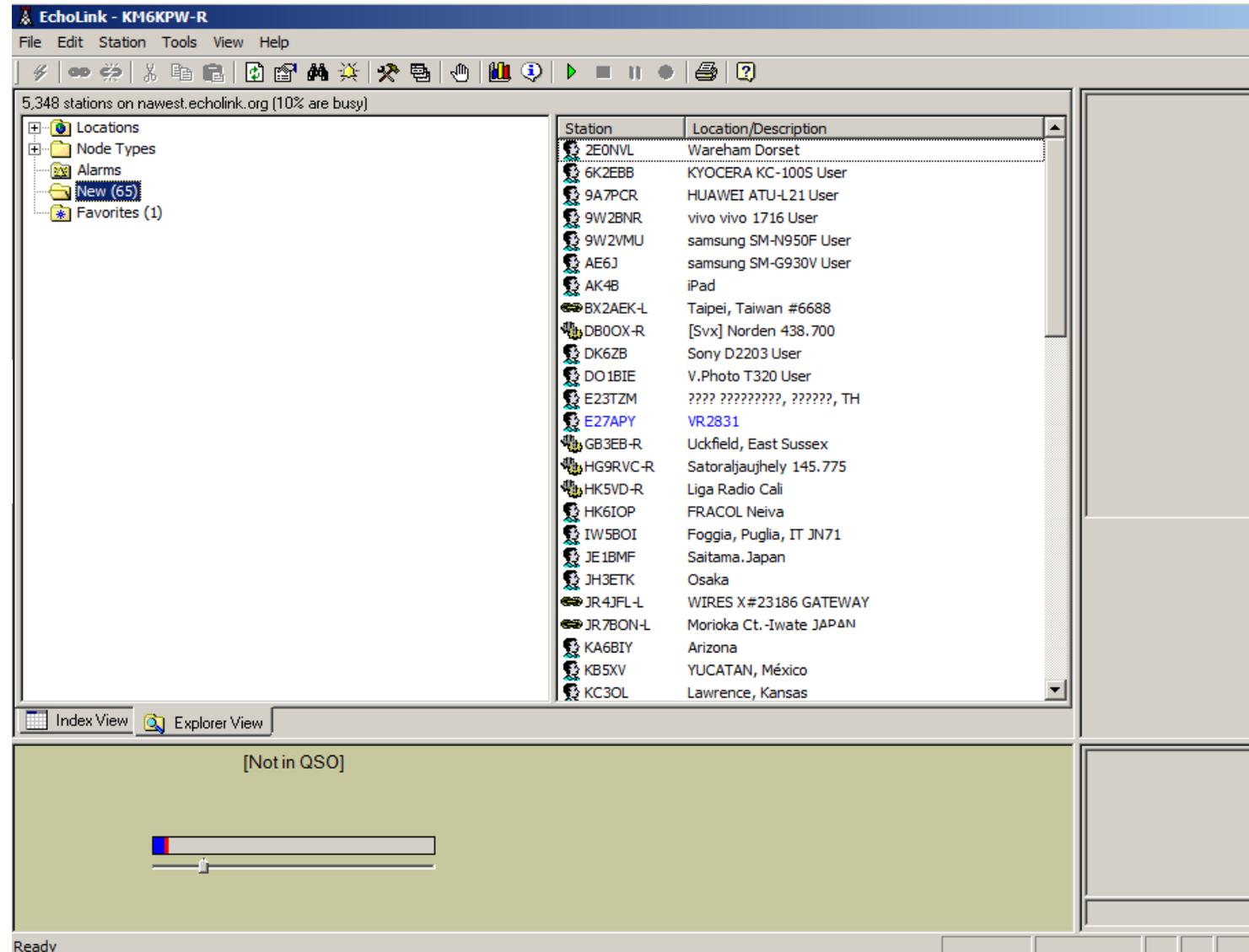
# EchoLink for RCARA (W6TJ)

Presented by Alan Serl / KM6KPW



# What is EchoLink and what can you do with it?

- EchoLink can be used to connect to repeaters outside of your normal reach
- Conferences allows groups and clubs to connect in a Net with and without a radio 
- Share your transceiver with other Ham's.
  - Out of range Net participation
- Traveling away from your QTH and still want to connect to home area activities



The screenshot shows the EchoLink software interface. The title bar reads "EchoLink - KM6KPW-R". The menu bar includes "File", "Edit", "Station", "Tools", "View", and "Help". The status bar at the top indicates "5,348 stations on newest.echolink.org (10% are busy)".

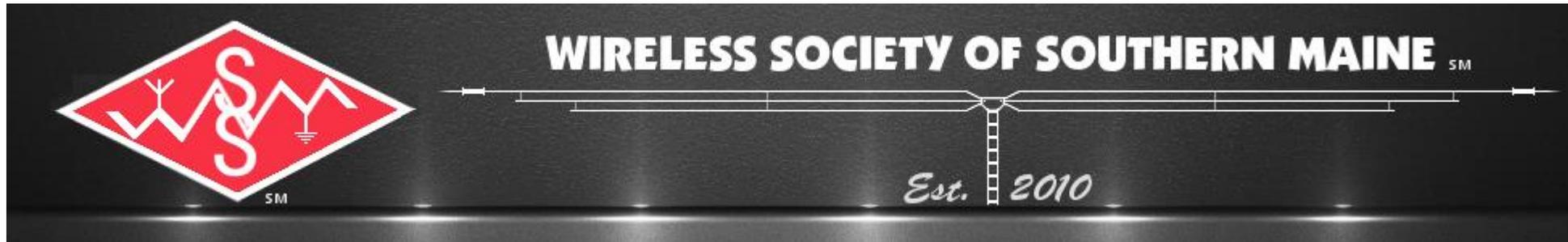
The main window is divided into two panes. The left pane shows a tree view with "Locations" expanded, containing "Node Types", "Alarms", "New (65)", and "Favorites (1)". The right pane displays a list of stations with columns for "Station" and "Location/Description".

Station	Location/Description
2E0NVL	Wareham Dorset
6K2EBB	KYOCERA KC-100S User
9A7PCR	HUAWEI ATU-L21 User
9W2BNR	vivo vivo 1716 User
9W2VMU	samsung SM-N950F User
AE6J	samsung SM-G930V User
AK4B	iPad
BX2AEK-L	Taipei, Taiwan #6688
DB00X-R	[Svx] Norden 438.700
DK6ZB	Sony D2203 User
DO1BIE	V.Photo T320 User
E23TZM	???? ?????????, ?????, TH
E27APY	VR2831
GB3EB-R	Uckfield, East Sussex
HG9RVC-R	Satoraljahely 145.775
HK5VD-R	Liga Radio Cali
HK6IOP	FRACOL Neiva
IW5BOI	Foggia, Puglia, IT JN71
JE1BMF	Saitama, Japan
JH3ETK	Osaka
JR4JFL-L	WIRES X#23186 GATEWAY
JR7BON-L	Morioka Ct. -Iwate JAPAN
KA6BIY	Arizona
KB5XV	YUCATAN, México
KC3OL	Lawrence, Kansas

At the bottom of the interface, there are tabs for "Index View" and "Explorer View". Below these is a green area with the text "[Not in QSO]" and a horizontal slider control. The status bar at the very bottom shows "Ready".



# Some examples of repeaters with EchoLink access

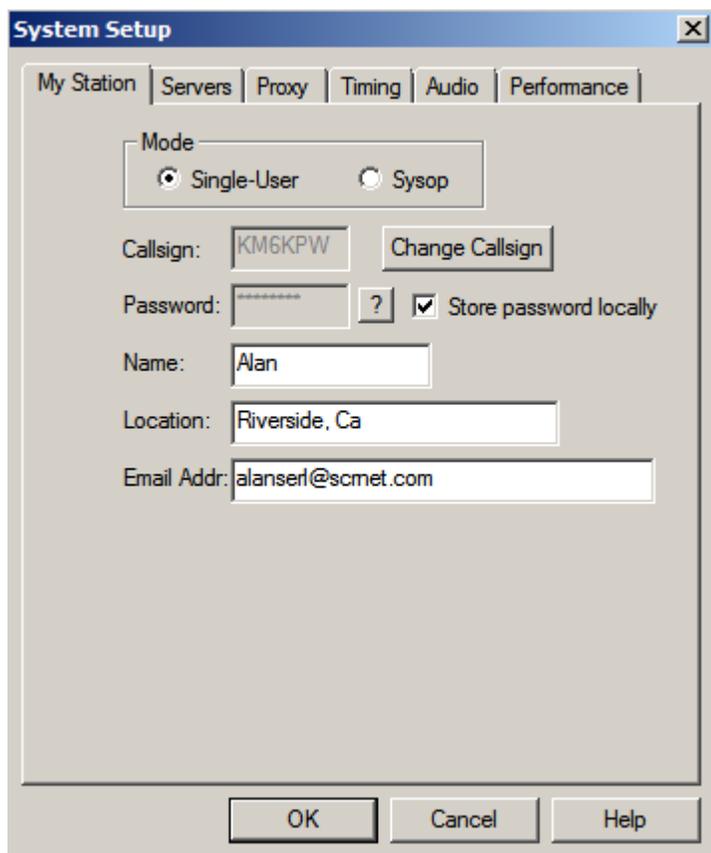


# Nuts and Bolts

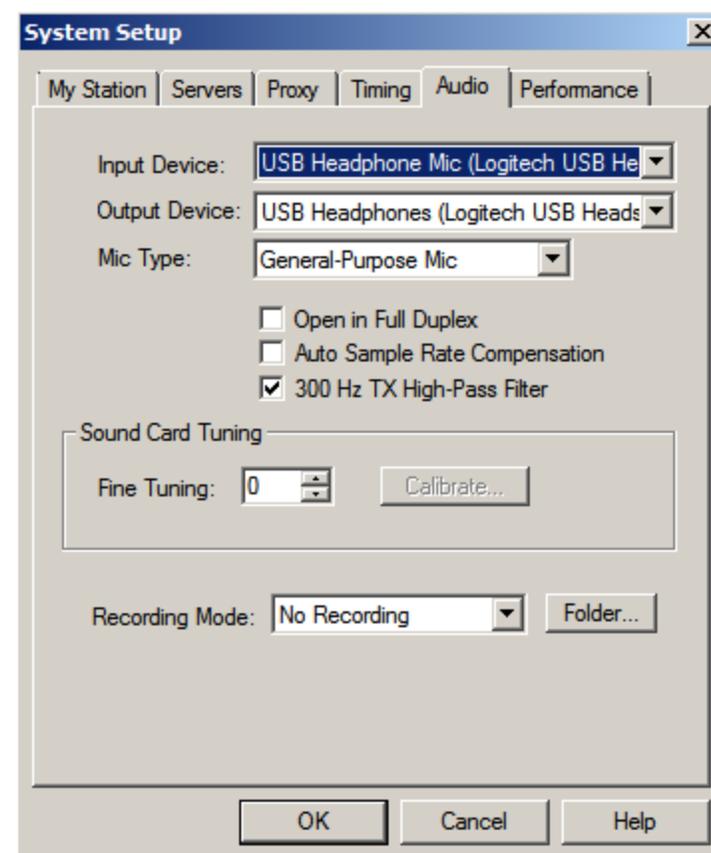
- Basic EchoLink node configuration
  - A computer with EchoLink installed
  - Internet access
  - Microphone and speakers or Headset



# The two most important setup screens



As an operator, you will need to submit a valid copy of your FCC license to EchoLink.org to authorize your account. A password will be issued to you for use with the Windows, Linux, Android or Apple IOS version of EchoLink



Your audio devices are your connections to EchoLink. Be sure you select the correct devices!

# Connecting to a location

The screenshot shows the EchoLink software interface. The title bar reads "EchoLink - KM6KPW [KM6KPW]". The menu bar includes "File", "Edit", "Station", "Tools", "View", and "Help". The toolbar contains various icons for navigation and control. The main window is divided into several sections:

- Left Panel:** A tree view showing "Locations", "Node Types", "Alarms (1)", "New (48)", and "Favorites (15)".
- Center Panel:** A table of stations with columns "Station" and "Location/Description".
- Right Panel:** A chat window titled "EchoLink 2.0.908 - KM6KPW (2)" showing messages from "KM6KPW Alan" and "KM6KPW-R Alan".
- Bottom Panel:** A status bar showing "2 stations connected" (KM6KPW-R, KE6TZG-R) and a progress bar.
- Bottom Right:** A "Send" button and a status indicator showing "Connected" and "RX".

Station	Location/Description
*CATALINA*	Catalina Island, CA [0/20]
*CROSSRDS*	Crossroads Conf [0/73]
*ECHOTEST*	Audio test server
*FMCA-ARC*	VPS Lenexa, KS [0/50]
*TALARC*	American Legion ARC. [2/90]
*VKEMCOMM*	VK Emergency Comms [0/500]
KB9RRN-L	In Conference *SCARS*
KC1JMH-L	off
KE6TZG-R	In Conference KM6PGV
KM6KPW	Riverside, Ca (1)
KM6KPW-R	Riverside (1)
KM6ZFW-L	off
N6LMA	off
W7RSO	off
WA6SFY-L	Azusa, CA.



5,258 stations on nawest.echolink.org (10% are busy)

- Locations
- Node Types
- Alarms (1)
- New (48)
- Favorites (15)

**Keller Peak Repeater**

Station	Location/Description
*CATALINA*	Catalina Island, CA [0/20]
*CROSSRDS*	Crossroads Conf [0/73]
*ECHOTEST*	Audio test server
*FMCA-ARC*	VPS Lenexa, KS [0/50]
*TALARC*	American Legion ARC. [2/90]
*VKEMCOMM*	VK Emergency Comms [0/500]
KB9RRN-L	In Conference *SCARS*
KC1JMH-L	off
<b>KE6TZG-R</b>	<b>In Conference KM6PGV</b>
KM6KPW	Riverside, Ca (1)
KM6KPW-R	Riverside (1)
KM6ZFW-L	off
N6LMA	off
W7RSO	off
WA6SFY-L	Azusa, CA.

EchoLink 2.0.908 - KM6KPW (2)

KM6KPW Alan

KM6KPW-R Alan

> KE6TZG-R (KE6TZG-R EchoIRL...)

Index View Explorer View

2 stations connected  
KM6KPW-R, KE6TZG-R

Send



5,258 stations on nawest.echolink.org (10% are busy)

- Locations
- Mode Types
- Groups (1)
- Channels (48)
- Favorites (15)



Click on the Green link to connect to the location

Station	Location/Description
*CATALINA*	Catalina Island, CA [0/20]
*CROSSRDS*	Crossroads Conf [0/73]
*ECHOTEST*	Audio test server
*FMCA-ARC*	VPS Lenexa, KS [0/50]
*TALARC*	American Legion ARC. [2/90]
*VKEMCOMM*	VK Emergency Comms [0/500]
KB9RRN-L	In Conference *SCARS*
KC1JMH-L	off
KE6TZG-R	In Conference KM6PGV
KM6KPW	Riverside, Ca (1)
KM6KPW-R	Riverside (1)
KM6ZFW-L	off
N6LMA	off
W7RSO	off
WA6SFY-L	Azusa, CA.

EchoLink 2.0.908 - KM6KPW (2)

KM6KPW Alan

KM6KPW-R Alan

> KE6TZG-R (KE6TZG-R EchoIRL...)

Index View Explorer View

2 stations connected  
KM6KPW-R, KE6TZG-R

Send



5,277 stations on newest.echolink.org (10% are busy)

- Locations
- Node Types
- Alarms (1)
- New (68)
- Favorites (15)

Station	Location/Description
*CATALINA*	Catalina Island, CA [0/20]
*CROSSRDS*	Crossroads Conf [0/73]
*ECHOTEST*	Audio test server
*FMCA-ARC*	VPS Lenexa, KS [0/50]
*TALARC*	American Legion ARC. [2/90]
*VKEMCOMM*	VK Emergency Comms [0/500]
KB9RRN-L	In Conference *SCARS*
KC1JMH-L	off
KE6TZG-R	In Conference KM6PGV
KM6KPW	Riverside, Ca (1)
KM6KPW-R	Riverside (1)
KM6ZFW-L	off
N6LMA	off
W7RSO	off
WA6SFY-L	Azusa, CA.

EchoLink 2.0.908 - KM6KPW (1)

> KM6KPW Alan

KM6KPW-R Alan

Index View Explorer View

1 station connected  
KM6KPW-R

**TX**

Click into the shaded area when ready to transmit.

The spacebar is your Push-to-Talk button

Send



5,277 stations on newest.echolink.org (10% are busy)

- Locations
- Node Types
- Alarms (1)
- New (68)
- Favorites (15)

Station	Location/Description
*CATALINA*	Catalina Island, CA [0/20]
*CROSSRDS*	Crossroads Conf [0/73]
*ECHOTEST*	Audio test server
*FMCA-ARC*	VPS Lenexa, KS [0/50]
*TALARC*	American Legion ARC. [2/90]
*VKEMCOMM*	VK Emergency Comms [0/500]
KB9RRN-L	In Conference *SCARS*
KC1JMH-L	off
KE6TZG-R	In Conference KM6PGV
KM6KPW	Riverside, Ca (1)
KM6KPW-R	Riverside (1)
KM6ZFW-L	off
N6LMA	off
W7RSO	off
WA6SFY-L	Azusa, CA.

EchoLink 2.0.908 - KM6KPW (1)

> KM6KPW Alan

KM6KPW-R Alan

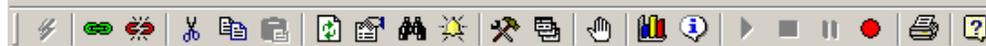
Index View Explorer View

1 station connected  
KM6KPW-R

**TX** [Progress Bar] Voice modulation will show on this bar

[Scroll Bar]

[Send Button]



5,295 stations on newest.echolink.org (10% are busy)

- Locations
- Node Types
- Alarms (1)
- New (56)
- Favorites (15)

Station	Location/Description
*CATALINA*	Catalina Island, CA [0/20]
*CROSSRDS*	Crossroads Conf [0/73]
*ECHOTEST*	Audio test server
*FMCA-ARC*	VPS Lenexa, KS [0/50]
*TALARC*	American Legion ARC. [2/90]
*VKEMCOMM*	VK Emergency Comms [0/500]
KB9RRN-L	In Conference *SCARS*
KC1JMH-L	off
KE6TZG-R	In Conference KM6PGV
KM6KPW	Riverside, Ca (1)
KM6KPW-R	Riverside (1)
KM6ZFW-L	off
N6LMA	off
W7RSO	off
WA6SFY-L	Azusa, CA.

Station KM6KPW-R

Alan  
Riverside

Index View Explorer View

Connected to: KM6KPW-R Alan  
United States  
71-84-75-104.dhcp.rvsd.ca.charter.com

Receive modulation will also be on this bar

Send



5,295 stations on newest.echolink.org (10% are busy)

Locations

- None types
- Alan (1)
- New (6)
- Favorites (15)



When you want to disconnect from a location, click on the broken link

Station	Location/Description
*CATALINA*	Catalina Island, CA [0/20]
*CROSSRDS*	Crossroads Conf [0/73]
*ECHOTEST*	Audio test server
*FMCA-ARC*	VPS Lenexa, KS [0/50]
*TALARC*	American Legion ARC. [2/90]
*VKEMCOMM*	VK Emergency Comms [0/500]
KB9RRN-L	In Conference *SCARS*
KC1JMH-L	off
KE6TZG-R	In Conference KM6PGV
KM6KPW	Riverside, Ca (1)
<b>KM6KPW-R</b>	<b>Riverside (1)</b>
KM6ZFW-L	off
N6LMA	off
W7RSO	off
WA6SFY-L	Azusa, CA.

Station KM6KPW-R

Alan  
Riverside

Index View Explorer View

Connected to: KM6KPW-R Alan  
United States  
71-84-75-104.dhcp.rvsd.ca.charter.com

Send

# Congratulations! You've had your first EchoLink contact!

## Here are a few things to remember:

- FCC rules still apply when using EchoLink.
- Watch your transmission length
  - Most locations limit key up time to 120 seconds
- Identify yourself with your callsign.
- Voice quality may be very different from what you would hear on a ham radio
  - Internet speed and quality can effect voice quality
  - Check your microphone levels.
  - Cheap computer microphones are notoriously bad.
- Ask an Elmer if you are having problems.
- YouTube and other search engines are your friend.
  - There are lots of Hams that have already invented this wheel, use their knowledge.

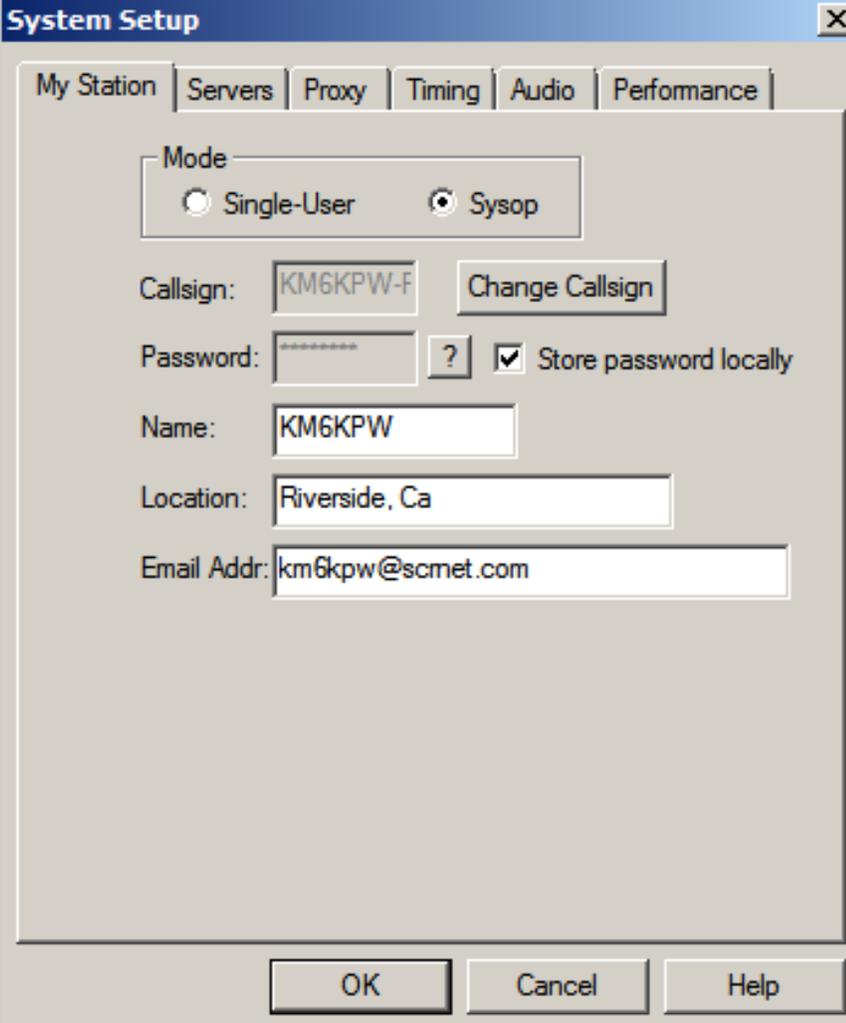
# Sysop Mode

Sysop Mode allows you to share or publish your radio to the Internet.

The -L after the callsign is a link radio, a remotely controlled base station that is normally on a simplex channel but could be set for duplex operation to access a distant repeater system.

The -R after the callsign is a repeater connected through EchoLink.

Some repeater owners are wary of remote bases operating on their repeater frequencies because an improperly constructed system can lock up and jam the repeater. Especially if the remote is unattended.



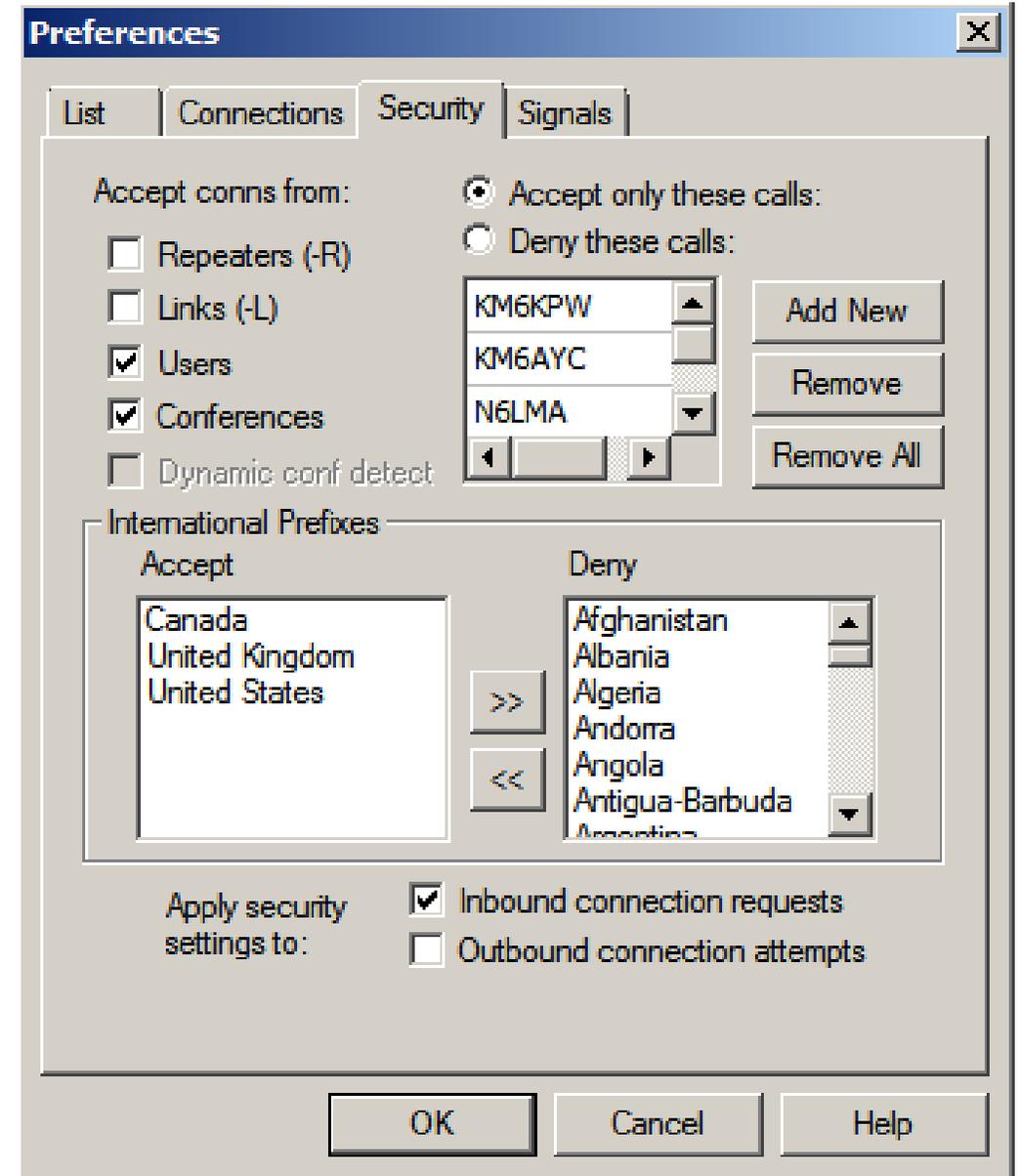
The screenshot shows a Windows-style dialog box titled "System Setup". It has a tabbed interface with tabs for "My Station", "Servers", "Proxy", "Timing", "Audio", and "Performance". The "My Station" tab is selected. Under the "Mode" section, there are two radio buttons: "Single-User" (unselected) and "Sysop" (selected). Below this, there are several input fields: "Callsign:" with the text "KM6KPW-F" and a "Change Callsign" button; "Password:" with a masked field and a "Store password locally" checkbox checked; "Name:" with the text "KM6KPW"; "Location:" with the text "Riverside, Ca"; and "Email Addr:" with the text "km6kpw@scmet.com". At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

# Securing your Location

Under Preferences, click on the Security tab

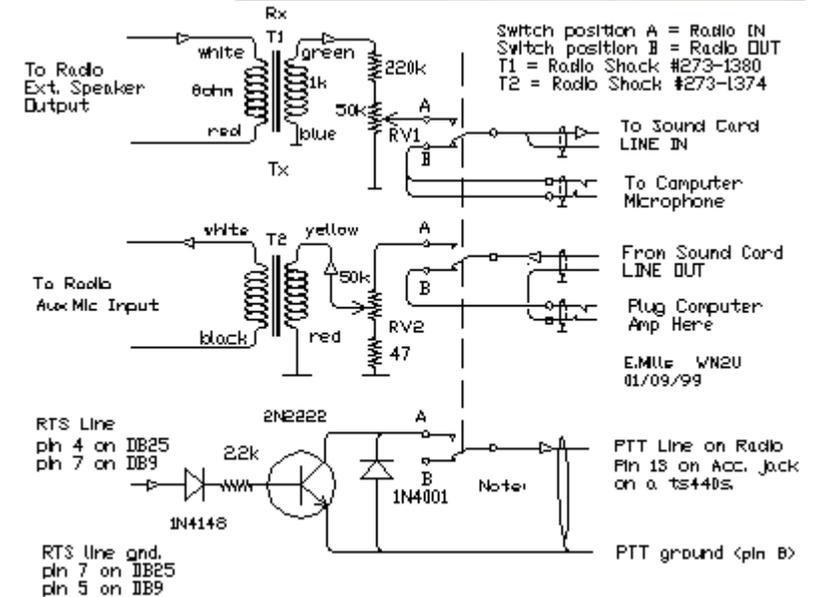
You can allow specific callsigns to connect or open yourself up to the world if you want

Individual countries can be selected to allow or deny connections



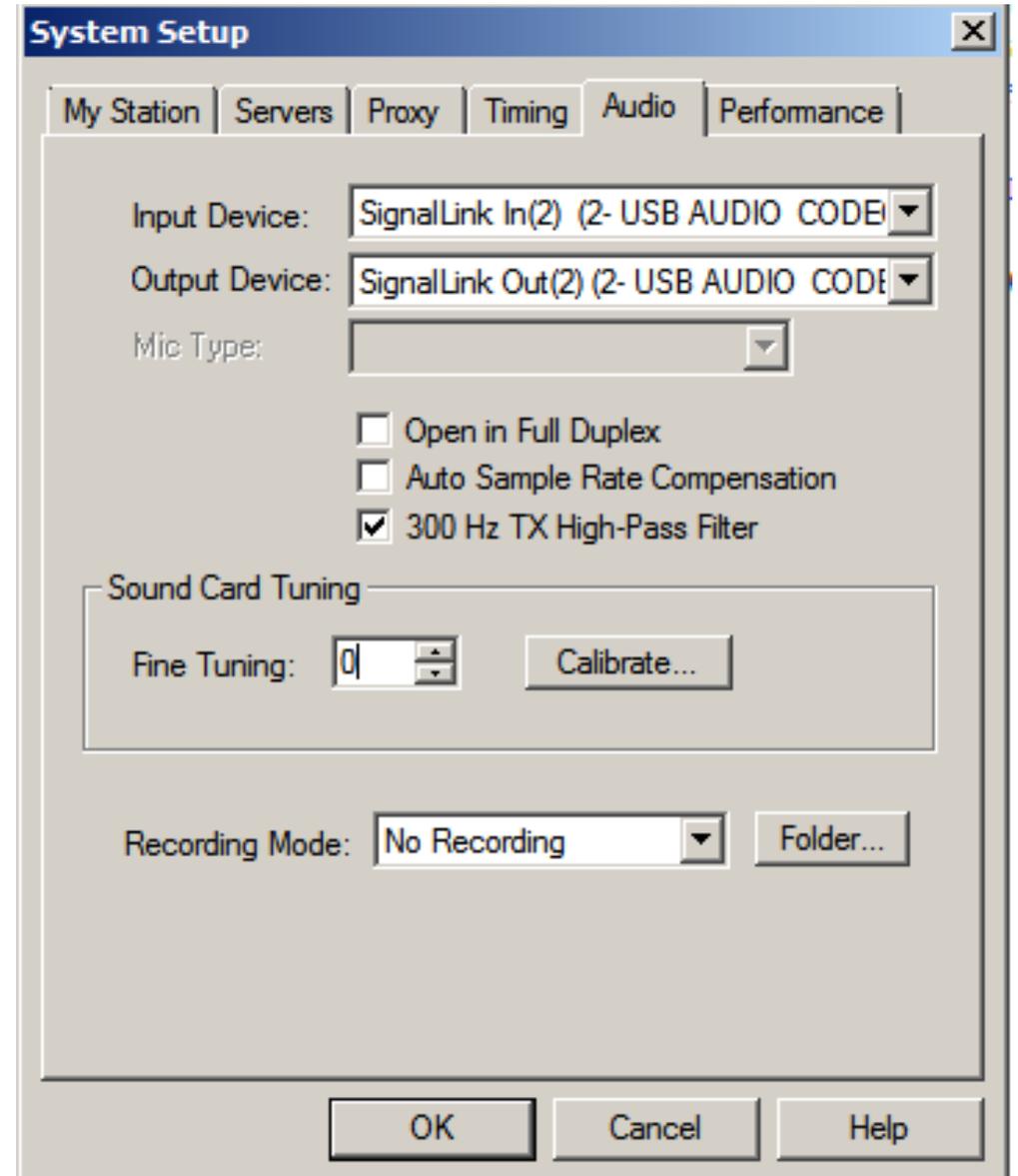
# Requirements for a Sysop installation

- You still need a computer
- You still need to have EchoLink installed
- You still need Internet access
- A sound interface to connect your computer to your radio:
  - Commonly called a “audio interface”
  - Radio with built in USB audio port
  - Signalink USB
  - Sound card and an isolation circuit
- An FM transceiver that is compatible with your audio interface:
  - Signalink USB is VERY versatile and can be configured for most solid state radios.
  - Signalink USB handles audio input and output as well as keying up the transmitter.



# Mind your Audio devices

In Sysop mode you will need to change your audio connections. These will need to reflect the audio interface hardware you will be using.



# Wrap up and last thoughts

- EchoLink is primarily used for FM transmissions that require VERY little operator involvement.
  - The receiver audio must mute before the remote operator can exercise Push-to-Talk.
- Communicating to repeaters and Nets that are out of range can be very rewarding!
- Sysop Mode will require some tinkering to setup correctly.
  - Once you are working correctly, expect conditions to change requiring more tinkering
  - Read the install guide that comes with your audio interface or radio for EchoLink. It may just bring the pieces together for you!
- Thank you to David K9LMR for the fact check.
- Any Questions?



Alan Serl / KM6KPW