# K-Link Repeater Use Policy and Guidelines

Latest Update:  May 15, 2017

**ATTENTION ALL K-LINK REPEATER USERS:**

The repeaters that comprise the K-Link repeater network are privately owned by individuals and/or clubs. We have spent many hundreds of man hours building and maintaining this system at a high level of quality. As a user of the system, **you are a guest**. Please act accordingly! Your use of the system affirms that you agree to abide by the guidelines and policies set forth in this document, which may change from time to time. If you fail to respect the network, users, or the use policy you may be asked to vacate the system.

**RECURRING ISSUES THAT FREQUENTLY NEED ADDRESSED:**

**Repeater Courtesy Tones**

Courtesy tones serve two important purposes:

1) They allow stations with emergency or urgent traffic to break into a conversation
2) They indicate when the local time-out timer resets.

There has been an increase in occurrences of regular repeater users "tailgating", or not allowing enough space between transmissions during a conversation. It's not always necessary to let the repeater transmitter drop, but you should let the courtesy tone sound before transmitting.  A good rule of thumb is to key up for one second before speaking, and pause two seconds between transmissions. If the repeater(s) time-out, they will require at least ten seconds of NO activity to re-activate. Some repeaters may not have a courtesy tone. In this case, please allow about two seconds after the previous user before you transmit.

**WiRES (Yaesu) linking feature**

Many modern Yaesu mobiles and HT's have a WiRES linking feature (WiRES-II) that serves no purpose other than being accidentally enabled and making your transmission unreadable. If another station informs you that your transmission is covered by a tone (touch tone), and you are using a Yaesu radio, then you probably need to check to see if WiRES is accidently enabled. In WiRES-II mode, nobody will hear the first few seconds of your transmissions because the WIRES function is muting your mic audio. Information on how to permanently disable WIRES-II can be found at http://ks0lnk.net/YaesuWIRES.pdf (Note:  This should not be confused with WIRES-X which is a new digital link system Yaesu introduced in 2016)

**Please remember that this is a large link system with hundreds of users.  Be courteous.**

(Continued)

**Transmitter Deviation, Mic Gain, and Audio Quality**

All K-Link repeaters are Wideband (25 kHz channel spacing for 70cm, 15 kHz spacing for 2 meters). Ideally, every user's **maximum** transmit deviation should be set to NO MORE THAN +- 4.2 kHz voice and .600 kHz PL tone deviation, with an **average** voice deviation approximately +- 2.5 kHz. We have a service monitor available and will check your gear upon request.

People using ALL MODE radios should be aware that MIC GAIN of more than 40 or 50% (or anything higher than a 5 on an ICOM 706) will most likely make you distorted, overdriven, and unpleasant to listen to (best case) or completely unreadable (worst case). If somebody says you are coming across really loud, with a lot of background rumble, or breaking up consonant sounds, please turn your MIC GAIN down by at least 25% and ask them if that sounds better. All mode radios should have any mic processing turned **off** for FM.

Sometimes bad audio can be the result of talking too close to the mic, or directly into the mic element. It's generally better to hold the mic at an angle to your mouth so that you are speaking across the front of the mic and not directly into it. This can eliminate breath sounds and overly loud audio. It's a good idea to use your computer or smart phone to listen to the internet streaming audio feed and compare your own audio quality against other users. Louder is usually not better. Clarity is always better. See the bottom of this page to help adjust your audio.

There is also a problem with some imported Chinese radios such as the TYT and Baofeng (especially early versions) which do not high-pass filter the mic audio at the modulator, causing pollution of the sub-audible tone (PL) band with low frequency voice components. This means that if you speak loudly (or you have a deep voice) into these radios, your voice peaks will cause the repeater's PL decoder to drop out and your transmission will be broken up. This is not the fault of the repeater, but rather the fact that these radios are not designed to adequate standards. You get what you pay for. As a point of reference, the Wouxun, Anytone, and most "legitimate" brands (such as Yaesu/Kenwood/Motorola, etc.) radios DO properly high-pass filter the mic audio and do not exhibit these problems.

Unfortunately, most people will not offer an opinion on your audio or signal quality unless you ask them. If you're trying a new radio or setup, please ask somebody you trust for an opinion about your audio and signal, and if it needs adjustment be sure to get help and fix the problem. You can also monitor your own signal to judge your audio quality by using the Broadcastify feeds which are delayed long enough to avoid having feedback. If you are louder than the average person, then speak across the mic sideways or turn your mic gain down.

**K-LINK TIPS AND TRICKS**

1. On our 440 repeaters, you can monitor the repeater traffic without hearing the ID's by using your Tone Squelch (CTCSS / PL) decode feature on your radios. This will enable you to hear only voice traffic. You may still hear any top-of-the-hour messages that play over the entire system.

2. On most of our 2 meter repeaters, you can use the Tone Squelch feature on your radios to eliminate the squelch crash on your radios. We utilize reverse-burst to quietly mute your receivers. (NOTE: Osborne 147.375 does not encode a PL tone, and Riley 146.685 does not have reverse-burst capability but does encode 162.2.

# K-Link Repeater Use Policy

**MAKING CALLS, CONVERSATIONS, and PROPER IDENTIFICATION**

1. To initiate a contact you may indicate that you are on frequency. For example: "This is NØABC monitoring" or "NØABC is listening", although this is becoming somewhat less successful with listener fatigue on a large system. You can also try "This is NØABC, is anybody available to chat?" *Please only announce that you are "monitoring" once in a ten minute period.* This causes less listener fatigue for people that monitor throughout the day. Remember that many people may be listening but unable to join a conversation at that time.

2. Identify legally. You must identify at the termination of your conversation and once every ten minutes during your conversation. This also includes "kerchunking" (briefly keying your mic).

3. When identifying your station, it is not necessary to give any other person's call sign except for your own. It is also unnecessary to append your call sign with "For ID", "For Identification Purposes" or "For license preservation purposes". There is no other reason to ID other than identifying, so why say it? Be brief and concise. It's not necessary to ID at the end of every exchange, just once every 10 minutes and at the end of your conversation.

4. Tactical call signs are encouraged when needed during special events, as long as a legal amateur ID is given as required.

5. When calling another station, it is conventional to state the station to be called first, then your call, e.g., "WBØXYZ, this is NØABC calling." If you don't get an answer, please wait at least 30 seconds between calling attempts. Avoid calling obsessively every 10 seconds. If they haven't answered your second call, try several minutes later.

6. Wait for the courtesy tone after each transmission. If the repeater you are on does not have a courtesy tone, allow for a two second break between exchanges. This allows someone with emergency or urgent traffic a chance to break in.

7. When you wish to join an ongoing conversation, wait for a pause between exchanges and then give your call sign. Then wait for one of the other stations to acknowledge you. It's not polite to break into a conversation for something unrelated to the ongoing discussion. If you wish to contact somebody that is in conversation please wait until their current conversation is completed. Remember to key up for one second before you speak.

8. Keep your transmissions short and thoughtful, especially during busy times when more operators may need to use the repeater.

9. If your conversation is going to be long and the other station is within direct contact range, consider going to a simplex frequency. It is more like a "private" conversation than what the repeater provides. This also permits other stations that require the repeater to make a contact. Remember, our area has several local non-linked repeaters. If the link is active and you need to contact someone, or you expect someone to contact you, try the non-linked repeater. With the newer radios having scan or dual-receiver capabilities it is easy to monitor several frequencies simultaneously. Choosing a simplex frequency among friends has gained some popularity. This practice frees-up the linked repeaters as well as making your conversation a bit more private. If, after your initial contact, you discover that you and the other station are within range of a non-linked repeater (or simplex) please move your conversation to that frequency.

**GENERAL USAGE GUIDELINES**

1. Monitor the repeater system to become familiar with any peculiarities in its operation.

2. If possible, don't subject your contact (and other people listening) to a noisy transmission if you can clear it up with a little more power or switching to a closer repeater. Some communications are marginal only because one operator likes to use the absolute minimum power, or insists on using a repeater farther away than the nearest one. Our repeaters are path balanced. If you hear white noise on the repeater output, you should be running high power if possible, and/or switch to the nearest linked repeater.

3. Avoid breaking into a conversation to call another person unless it is urgent. If you must do this, be polite and brief so the original conversation can resume.

4. Please be sure to respond to calls for assistance or just conversation if you are available. Our system is friendly. Let's keep it that way. Extend a welcome to those traveling through our great state.

5. Please refrain from using CB jargon, including 10-codes.

6. Please speak clearly using normal plain language at all times, in your normal tone of voice, just as if you were having a casual conversation in person or over the phone. It is especially important during Skywarn operations or other public service special events that plain English be used. Consider that public safety officials may be listening to gain information about the event and may not be familiar with Q-signals. Q-Signals are intended for CW and weak signal work, and take longer to say than the plain English version. Be sure to enunciate your words clearly. It's difficult to understand people that slur their speech.

7. If you find it necessary to make test transmissions to take power/SWR readings, or testing other aspects of your station, please use one of the simplex frequencies, not a repeater frequency. If you find it absolutely necessary to test your radio on the repeater's exact input frequency, please wait until there is NO activity and disable your CTCSS (PL) tone so that you are not impacting the entire repeater system. Be sure to keep test transmissions brief and properly identified.

8. MDC, ANI of any type, or "Roger Beeps" are prohibited. If you have any of these enabled, please disable these features at your first opportunity. These noises attract the attention of control operators very quickly, so avoid the embarrassment and shut them off.

9. Voice activated transmit (VOX) is prohibited while using our system.

10. If one of the repeater control operators notifies you that your audio is distorted, overdriven or exceeding the proper deviation, please correct the problem before using that radio further.

11. Avoid laying your microphone or handheld radio (powered on) in the seat or someplace that it may be accidentally keyed up. This could burn up your radio, and make K-Link unusable for others for the duration of such problems.

12. Be professional. Remember that there are many people listening to the repeater system at all times. Communicating in a professional manner speaks well for you and the amateur radio service you represent. Lead others by your example.

13. Avoid using the system while under the influence of alcohol or drugs.

14. The K-Link Repeater Network (and amateur radio in general) is not a personal radio service. If you are using amateur radio **primarily** for communicating with family members, you should be using FRS, GMRS or another suitable radio service. GMRS licenses are cheap and the service is intended exactly for this purpose.  Occasional and incidental communications between licensed family members is allowed but our system should never be used primarily or regularly for that purpose.

15. K-Link promotes **family oriented** repeaters and all users should be courteous at all times. Please follow good amateur practices and at all times follow current FCC Part 97 Rules & Regulations.

16. **Cross-band repeating to/from any of the K-Link repeaters is permitted only after obtaining permission.  Contact nv8q@ks0lnk.net**

17. All K-Link repeater use is monitored, streamed to the internet, recorded, and digitally archived.

**SEVERE WEATHER OPERATIONS**

The K-Link Network operates in three different modes depending on current conditions in the K-Link coverage area:

1. **Normal Operation** - When no severe weather is threatening the K-Link coverage area, normal operations are allowed.

2. **Alert Status** - When severe weather in the K-Link coverage area is ongoing, but no net control is present, we ask that people refrain from rag-chewing and long-winded transmissions. Please keep chit-chat to a minimum and be prepared to give way to storm spotter traffic.

3. **Active Net Control** - In this mode, the net controller is actively controlling all traffic. If any station must contact another, you must have the permission of the net controller. A K-Link net controller may capture the use of the network to coordinate activities whether it is weather-related or otherwise.

Officially trained storm spotters and storm chasers are welcome to use K-Link to relay severe weather reports via our net controller(s). Professional storm chasers and tour operators are prohibited from using K-Link for coordinating their operations.

**EMERGENCIES**

If you have an emergency or urgently need to use the repeater, and it is already in use, wait for a pause between exchanges and then use the words "BREAK BREAK" and identify yourself. The other stations should acknowledge and stand by for you to complete your emergency transmission. On the repeater, the word "BREAK" should NOT be used to just enter the conversation. In cases where a life-threatening emergency exists, use the distress signal "Mayday Mayday Mayday" (in a calm voice) and give your callsign and another station will hopefully acknowledge you. When conducting emergency communications always remember to speak plain English (no Q codes or jargon) clearly, in a normal tone of voice, using as much power as your equipment will allow.