

Advice for New Users

11 February 2012

First, Avoid the Too Quick Key

All repeater receivers in the NH6XO system operate with Continuous Tone-Coded Squelch System (CTCSS) access control enabled at all times. When the receivers detect an RF signal above the signal threshold or squelch level that also has the proper sub-audible CTCSS tone, the signal is repeated throughout the system. To be specific, the NH6XO system uses “AND” squelch on all inputs.

Use of CTCSS squelch means there is a slight, but noticeable, delay before the user’s transmitted audio is enabled through the repeater and onto the rest of the system. Therefore, if you speak as you key up, the first syllable of your transmission will be cut off. *So, relax a little and speak just a moment after you key up. This applies to every transmission you make.* This can be a big adjustment for folks who are only familiar with repeaters that use Carrier Squelch, such as a well-known local “watering hole.”

Wikipedia notes that use of CTCSS is “akin to the use of a lock on a door.” However, we’ve provided you with keys to all of the repeaters, as all of the tones used are listed on the system map. One of the local gurus, when giving a talk on repeaters at a club meeting, opined that use of CTCSS for access control implies the repeater is closed – that is wrong. We are an OPEN system and use CTCSS to prevent the system from keying up on random or spurious signals. Most of our sites are located in dense radio frequency environments that are hostile to receivers.

Understand the Benefits of Using CTCSS On Your Receiver

On most modern portable and mobile radios used by amateur radio operators, you can also use the tone squelch or CTCSS controlled squelch to prevent random and spurious signals from breaking squelch. When programming NH6XO repeater system channels into your radio, select the tone squelch setting that uses CTCSS on both transmit and receive. All of the NH6XO repeaters transmit the same tone as is required to “open up” the repeater receiver squelch.

An additional benefit to using the proper tone squelch on your receiver is that it will block digital transmissions from the repeater. At this time we only have one dual-mode analog/P25 repeater in operation at Round Top, but more are planned. P25 digital mode transmissions sound like noise but they do not have the transmit CTCSS tone enabled. This means with the proper setting on your analog radio you won’t be annoyed by the P25 digital noise. If your radio (with the tone squelch set correctly) indicates that the channel is in use (signal strength meter or channel busy light) and it doesn’t open the squelch that means it is hearing the repeater operating in the P25 mode. Please do not attempt to use the repeater when the

channel is busy as you will cause interference to the folks using the P25 digital mode. The P25 users can usually hear both analog and P25 on the same memory channel, so stand by or wait for an opportunity to break in. The Project 25 conventional operation [NAC = BAD in hex] is described elsewhere on the website. All are welcome to use the P25 mode operation.

Get Over “Over”

Please speak to one another on the NH6XO repeaters as if you were talking at the dinner table with your mother. However, if your mom is the net control for a Lower Sideband net on one of the amateur radio bands below 10 MHz, it might be better to imagine someone else with whom you engage in casual and jargon-free conversation.

While there may be the occasional rare need to end a transmission with an “Over,” it is just not needed to end every transmission. Constant use of “Over” is just as silly as identifying your station using phonetics while operating full quieting into an FM repeater. It just doesn’t make any sense. The point is illustrated in the “Family Guy” bit available in the link below and, if we could, we’d yank as hard as Brian:

<http://www.youtube.com/watch?v=KJcUm21BsI>



You should be suspect of the gurus that promote the use of jargon and “special” techniques. Doing so just places you one step closer to being a “10-4” good buddy.

There's No Such Thing as a "Negative Contact" on the XO Repeaters

If you don't get a response after calling for a friend on the repeater, it is not a bad idea to let those listening (or lurking) know whether you are hanging around or not. So it is courteous and useful to say "Nothing heard from KH6MP, this is NH6XO listening," with "mobile" or "clear" substituting for "listening," as appropriate. However, please do not use the phrase "negative contact" as we find that to be one of the most offensive bits of jargon in use locally. Negative contacts refer to power connections not radio communications.

Courtesy tones, courteous users, curious users

As mentioned elsewhere on this site each repeater in the system has a site-unique courtesy tone. We can always tell where the user is by listening to the courtesy tone generated when that user unkeys. We've been asked to add a table of sound files to the website to help identify each site but are just too busy to address that (Bart says we're just lazy). If you use the system often enough, you'll be able to figure them out.

Even though the NH6XO repeaters continue transmitting for a short time after the courtesy tone completes, it is OK to begin your key up once the courtesy tone has ended. However, keying up before or during the courtesy tone will eventually cause the time-out timer to act. The courteous user will let the repeater "drop" occasionally so that other users can join in or "break" the conversation. The proper way to join in on a break is to give your call sign. Please avoid the use of the phrase "break," as in some localities (elsewhere, not here), it means you have emergency traffic.

For those curious about that "short time" of transmission after the courtesy tone completes, be advised that all of the repeaters we use are made by Motorola and all have "reverse burst" enabled. The reverse burst feature is used by Motorola subscriber equipment. Motorola mobiles and portables use the reverse burst to turn off the CTCSS tone encoder before the subscriber equipment receiver unsquelches, thereby eliminating the noise burst normally heard when someone unkeys.

You Owe Dues

There are no dues for users of the NH6XO system. However, please pay attention. When Mitch (KH6MP) makes a suggestion to switch sites or if Bob (NH6XO) grumbles about your scratchy signal, please listen. We're honestly trying to help. If you don't understand, please ask for an explanation. We'll work with you if you'll work with us. We care and hope that you do. That is the best reward you can provide.

Phast Phonetic Phailure

As stated elsewhere on the website using “standard phonetics” on an FM repeater to replace the letters and numbers of your call sign is unnecessary. And I’ve heard someone make this situation a little worse by mumbling through the phonetic version of their call sign as fast as possible. Folks, just say the letters and number(s) of your call sign with clarity and precision. Use an even tempo and enunciate clearly. Say it like you’re proud of it.

A Signal to be Proud Of

Speaking of pride, we have an old friend and mentor who is upset with us for requiring what he calls “commercial” performance from our users. That is far from the case. We EXPECT amateur radio operators to have pride in their signals and have skills in using their equipment and our system that FAR SURPASS those of uncaring commercial users. It will take a little practice, but you should get to know when you are reaching the edge of the system’s useful range. And learn what site to use for the best results. You should give a damn. We do.

Use of the NH6XO Repeaters

The NH6XO Repeaters are OPEN for All (Who Follow the Rules) to Use

1. “Full Quieting” Operation Only

The NH6XO UHF repeaters are linked. The system is always connected and always on. So when you put a less than optimal signal into one repeater that crummy signal is rebroadcast over multiple sites that cover most of the state. FM receivers operate best when they receive an incoming signal that has sufficient strength to saturate the receiver limiter (“hard limiting”) and eliminate the amplitude variations associated with static and noise. Therefore, it is the responsibility of the repeater user at all times to make sure you are “hitting” the repeater with a strong enough signal to avoid dropping out of hard limiting. If your signal fades into static or has that “frying sound” in the background, it isn’t good enough. What may be acceptable on other repeaters is not good enough on a linked system. So, if you are mobile, consider using high power or a better antenna. If you are on an portable (HT, whatever) you must use high power at all times to ensure 100% full quieting as you move the radio and tilt the antenna.

2. Be Willing to Work With Us

Be prepared to get scolded if the system operators hear you with a less than optimal signal. Please take this as a sign that we care and that we want to help you get the best use of the system. If your signal is too weak or you have crummy, or too soft, or too loud audio, we will let you know. Allow us to work with you to help you. We are willing to lend our help and knowledge if you are willing to ask. The NH6XO repeaters are for use by normal folk and we don’t expect every user to get it right the first time.

By the way, there are exceptions to every rule. You may hear us give a pass to several folks who have less than stellar signals. Well, it could be that they are our friends, and that is usually part of the story. However, the usual suspects are folks that were there a long time ago (back when I was an uninitiated idiot) and helped guide me to the right path. They might have helped with an antenna install, got me involved in a late night cosmonaut chase, or are just someone who has given tirelessly to the local amateur community. Or the NH6XO repeater might just be the only one that reaches all the way to their house. It is a favor that we are happy to bestow.

3. Ask For Permission

If your group wants to use the NH6XO repeater system for a regularly scheduled net, or in support of a specific event, or to try out some new-fangled digital communications trick, please ask. Don’t assume that “open” means free or available for anything you’d like to do. We support a lot of activities by others – but none of them are our *raison d’être*. And it is always nice to get a thank you – especially if it is in writing on your group’s official letterhead.

4. Know That You Don't Have To Be Someone Special

You don't have to be part of a special group to use the NH6XO repeater. And you don't have to know any of the gang here at the NH6XO repeater group to use the repeaters. And if you know us, you don't even have to like us to use the machines. And we don't necessarily have to know or like you to let you have the "quiet enjoyment" of the system (or should that be full quieting enjoyment?). So feel free to play through, just don't tie up the resource. You know that if you get abusive, we will be sure to let you know.

If you want to specifically talk to us, just call or break in. But don't assume that we are going to be your new best friend. If you want us to help with your new antenna install, maybe we'll participate depending on the availability of your beer and our time. But, really, we're busy enough trying to be responsible to the families and friends we already have, so forgive us if we don't invite you over to our place right away or ever.

5. New Hams Should Feel Welcome

No kidding, feel free to use the machines. If it seems that we think that Everything You Know Is Wrong, it is not without reason. We're appalled at what happens on some of the local nets, especially with respect to teaching how to give and understand signal quality reports. For crying out loud, why can't the net operators recognize a noisy, or too soft, or too loud signal and have the courtesy and courage to let the user know? Use common sense, work to better your signal, relax, ask questions.

6. Have A Sense of Humor And Keep It Conversational

If you've read this far and aren't worrying about your meds (or ours), please congratulate yourself. Many folks take the amateur radio hobby way too seriously. If you're new to this ham radio adventure, take a look at "KH2D's Five Cents Worth," online at <http://kh2d.net/opinions/>. I don't agree with Jim's every idea, but you should read and understand his comments on sarcasm and why ham radio is brain dead. By the way, we got scolded for the short form rules originally posted on the NH6XO web site. Those original rules were the infamous CQ cry from W2OY: "No lids, no kids, no space cadets, no phonetic fanatics." We never met Mike, but hear that he was actually a pretty good guy and an asset to his local amateur community.

As far as the phonetic fanatics and lovers of ham jargon, please give it a rest on the NH6XO repeaters (see "Standard Phonetics" below). Once you've achieved that full quieting input, your time on the repeater should be like talking face to face. You don't have to ID on every over (this isn't HF sideband). An affirmative response is "Yes" or "Roger," but never "QSL." Folks have names, not "personals" or "handles." Inevitably some slang leaks through, but avoid using slang if you can. Personally we're working on avoiding "destinated." The official language of the NH6XO system is English, as spoken locally, with liberal doses of pidgin and, if you're good enough at it, Hawaiian. If something over the air is funny, feel free to laugh on air; please save the "HI HI" for CW. And we're not saying that you should never use phonetics on FM; just don't assume that phonetics beats having a full quieting signal. Use what phonetics you want,

just don't get too cute. FWIW, Jim will always be "Jolly King George" to us. And that's just fine.

7. Celebrate Independence

The NH6XO repeaters are an independent group. As Groucho Marx is supposed to have said "I would not join any club that would have someone like me for a member."

8. Question Authority, But Remember That The "Modified Golden Rule" Applies

You can reach NH6XO at mobile 808-349-6342. Feel free to ask questions. Call if you want to complain (did you turn off the Caller ID?). Also, we're often monitoring the repeaters so just call. During the day we monitor from the office and can only be available when we're not otherwise employed. Often we may ask you to call us later. We've only had to ask one amateur to stay off of the system and that is one person too many. Call us and let's work it out. Let's work together for the good of amateur radio.

Regards, Bob NH6XO

P.S. The "Modified Golden Rule" is "them that has the gold rules." You figure it out.

P.P.S. "Standard Phonetics" and Yes, You Have A Power Problem

The nonsense on certain local nets of requiring the use of "standard phonetics" is just too much. Expecting that the use of standard phonetics and jargon (Whiskey time, NVIS, etc.) will help you better serve during times of emergency or crisis is just wrong. If you want to help in an emergency, first solve your power problem. If you only have low power capability (e.g. an HT) or if you're going to rely on a handful of batteries, then you have a power problem. Don't plan to help by putting a battery-saving low power, barely readable, signal into the repeater. At that point you are wasting a precious resource in an emergency. "Emergency Communication Fundamentals – Lessons Learned" by KH7O at

<http://www.hawaiirepeaters.net/emergency/emergencyfund.html>

deserves your full attention. My advice is to buy a dependable but dumb (i.e. not-full-featured) mobile rig and set it up in a travelling kit to operate at low or medium power, around 10 watts. Properly cared for it should operate forever. Get a good antenna and some respectable feed line with professional-grade connectors. Outfit it with a kit of Power-Pole based power solutions (clip leads, cigarette-lighter plug, small portable power supply, etc.) and a set of head phones and you'll be set to be part of the solution.

Rev 1_3 2011 April 3 rjh