CERT Communications

FRS/GMRS Hybrid

Ham Handheld

Ham Mobile

Business Radio

A Collection of Cheat Sheets

Equipment
Protocol
Programming
Frequencies
Forms
Q-Codes

Communication for an extended period after a disaster will be crucial. The following are very affordable options for entry into the world of amateur radio (all prices are based on an Amazon.com search from March, 2019).

Basic Radio: Baofeng UV-5R ($25-$30) or BF-F8HP ($60-$70)

Either the UV-5R (5-watt) or BF-F8HP(8-watt) will provide communication in a time of emergency. While not as feature-packed as some more expensive options, these will be more than adequate to keep you in contact. Included when you purchase the radio are an antenna, battery, 120-volt charger, and instruction manual.

Antenna: Generic ($20)

The most important accessory to improve the quality of your radio is a good antenna. The stock antenna is fully capable, but a longer whip-style antenna will greatly enhance your communication ability. You will need to make sure your antenna and radio have compatible connectors (Baofeng uses SMA female connectors for the antenna). A magnetic-base car-mount antenna ($25) is also a good idea if you will be using your radio while mobile.

Extra Battery: Baofeng 7.4V ($20)

A second battery is the second most important accessory. Although you will get long-run times from the stock battery, extensive use, long deployments, or inability to recharge will affect your ability to remain in communication. Most manufacturers offer a battery with a larger capacity than the battery that comes with the radio.

Speaker-Mic: Generic ($15-$25)

A speaker-mic will allow you to keep your radio in its holster and still be able to transmit and receive by locating the speaker-mic closer to your head. This is extremely helpful in environments with lots of ambient noise. One major benefit is not having to handle your radio and risk accidentally changing a setting and losing communication.

Programming Cable: Baofeng specific ($25)

ICC will program your Baofeng radio to our standard memory settings at no cost, but if you wish to do your own programming, we recommend the CHIRP software. Programming via the keypad can be long and tedious.

Car Charging Cable: Generic ($15-$20)

This will allow you to charge your radio from any 12-volt, vehicle outlet, and it is helpful on long deployments or during extended power outages.

For Comparison

The popular basic Yaesu FT-60 is about $170 (radio only) and an additional $125+ for the listed accessories.

Useful Issaquah CERT Comms Information

Website: www.issaquahcitizencorps.com **or** www.issaquahcert.org

Go to the Radio & Communications page for content on emergency communication operations in Issaquah

- How to obtain your ham radio license
- How to use your radio to get on the air once you have your license
- Emergency contacts – AM radio, telephone, FRS and ham radio emergency frequencies
- Current training and event briefs
- How to program your ham radio using several of the common brands of radios used by CERTs and the Issaquah Communication Services Team (ICST)
- Various ham nets in the surrounding area for practice and learning opportunities
- Additional resources including the Issaquah Amateur Radio Club (IARC – www.w7bi.com)

Typical Annual Events (check website for details)

- Semi-annual training for new radio owners coordinated with the CERT and ham license training
- 5th Saturday Drills – Joint efforts with ICST in months with a 5th Saturday
- Rapid Impact Survey exercise – usually one of the 5th Saturday drills with ICST
- Field Day – ARRL world-wide events sponsored by ICST and/or IARC
- ICC Net – Weekly communications drill to test equipment and ability to communicate
- Flood Flyer exercise – annual event to distribute flood information to residents

Comparison of handheld radios used by Issaquah CERTs and ICST

Baofeng	Yaesu	ICOM, Kenwood
Pros and Cons:	**Pros and Cons:**	**Pros and Cons:**
Low entry cost - $25 (UV-5R) to $70 (BF-8HP) for basic capabilities - Allows user to become familiar with ham radio with low front-end cost - Somewhat difficult manual programming - Easily programmed with CHIRP (free software) - Good consistency in use and programming among different models	*Moderate* entry cost - $170 for popular FT-60R model for basic capabilities - Durable and dependable radio for rugged use (you get what you pay for) - Easy and intuitive manual programming - Difficult programming with CHIRP (free software) - Good consistency in use and programming among different models	*High* entry cost - $350 or more - Advanced capabilities (digital, APRS, GPS, dual monitoring, etc.) – takes time to master complexity - Easy and intuitive manual programming - Easily programmed with CHIRP (free software) - Poor consistency in use and programming among different models for ICOM
Some recommendations		
Speaker-mic – BTECH QHM-22, ~$30		
Whip antenna – Diamond SRJ77CA (SMA female) ~$35	Whip antenna – Diamond SRH77CA (SMA male) ~$35	

Welcome to the Issaquah Amateur Radio Club

Encouraging all aspects of Amateur Radio operation, including public service and radio experimentation.

Website: www.W7BI.com

- Find the latest meeting information and next month's program
- Browse recent issues of our informative monthly "Squak Box" newsletter
- Read what's happening of our email reflector at groups.google.com/group/Issaquah-arc
- Members, guests, and anyone interested is invited to join our email group
- Get the latest contact information and officers' list
- Got a HAM question? Send radio questions to elmer@w7bi.com
- Send club questions to infor@w7bi.com
- Have questions but no access to email? Call to Rod WE7X at 425-392-8497

Meetings

We meet on the first Wednesday of every month. We usually have a casual dinner nearby around 6pm, posted at www.w7bi.com. Doors open by 6:45 pm, the meeting starts promptly at 7:00pm, and the program runs from 8 to 9pm, often followed by informal discussion.
Meeting location: Issaquah Valley Senior Center, 75 NE Creek Way, Issaquah, WA 98029

Membership

Membership is open to anyone regardless of age, sex, race, national origin, religion or amateur radio license status. Dues are $15 per year for a family membership, and free for those under age 19.

Typical Annual Events

- March – staff a club table at the Mike & Key Swap Meeting in Puyallup
- April – Spring amateur radio class, working with local ARRL training staff
- May – IARC sponsored ham license training
- June – operate club Field Day station, third weekend
- November – club auction
- November – Fall amateur radio class, working with local ARRL training staff
- December – IARC sponsored ham license training
- December – ice cream social

Repeaters

IARC does not support our own repeater. Web search for local RACES or ARES repeaters. For *emergency* repeater and simplex communication, check the Issaquah Citizen Corps website, http://ww1.issaquahcitizencorps.org/comm.html

Neighboring Clubs

- Maple Valley ARC, www.kc7key.org
- Radio Club of Redmond, www.n7ke.net
- Snoqualmie Valley Radio Club, www.snovarc.org

PROPER COMMUNICATING PROTOCOL AND "HAM ETIQUETTE"

PERIODIC IDENTIFICATION EVERY TEN MINUTES

You must <u>always</u> identify yourself at regulated periods while operating on ham frequencies by giving your call sign. This must be done every ten minutes and at the end a communication; and if a conversation last less than ten minutes, then just at the end of the communication. You must identify yourself even if you are conducting a test. Don't get nervous about this, just keep in mind when you need to do it and throw out your callsign every once in a while, at the end of a transmission. This will also serve to prompt your buddy to do the same. Always identify yourself: anything else is considered an illegal **unidentified transmission**. When chatting with a foreign station, you must identify yourself in English, no matter what language you are using with your foreign contact. CW can always be used, regardless of current operating frequency, to identify your station.

FREQUENCY RIGHTS

There are some bands in which amateurs must share frequencies with other radio services. The FCC divides **shared band** users into **primary users** and **secondary users**. Primary users have priority of use over secondary users, so secondary users can only use those frequencies when not in use by the primary users. For example, packet networking can only take place secondarily on the 219-220 MHz band - marine users have the primary right-of-way.

With non-shared band frequencies, it's a game of "every man for himself" - regardless of license class or power output. Nobody really has rights over others when it comes these frequencies, *unless you were there first*. So, when trying to find a frequency to transmit on and you come across one that is already occupied, find another one - unless you think they won't mind you joining in on their conversation. If not, you will find out fast enough. Also, take a moment to listen in on a frequency just to make sure it is clear before using to ensure that you are not interrupting.

The only exception to the rule is **emergency traffic**. You can break in on an occupied frequency if you have a bonafide emergency. By that same token, if someone breaks in on your conversation with an emergency, they have the "right-of-way".   In fact, as a responsible ham, you should do everything you can to help the person out.

CQ CALLING

Amateur radio allows a ham to speak directly with another ham (remember: no broadcasting). But what can you do if you are monitoring a frequency and want to know if somebody is out there listening? You can use a "**CQ**" call, which will allow you to ask if anybody is monitoring the frequency that would like to talk. "CQ" means "calling any station".

Procedure:

VOICE MODE: To call, say "CQ" three times, then "this is <u>YOUR CALLSIGN</u>". When answering, say calling station's name, then "this is", then your callsign.

ANSWERING IN CW: Send the other station's call sign twice, followed by "DE" (meaning "this is"), followed by your callsign twice.

CALLING IN RTTY: Send the letters "CQ" three to six times, followed by "DE", followed by your callsign sent three times.

On a local repeater, it's safe to say your callsign, followed by "monitoring". That will tell other hams that you are out there and willing to talk.

JOINING IN ON A CONVERSATION

You may be monitoring a frequency and happen upon an interesting conversation between a couple of chums. If you want to get in on the conversation, it's kosher to simply say your callsign to let them know that you are there and would like to join in.   It makes for a great party line.

THIRD PARTY COMMUNICATIONS

Third party messages (messages sent between two hams for someone else) over the ham radio bands are allowed - but the control operator must be present at all times to monitor the call. If it is an international call, then it can only be with a country in which we have a third-party agreement with. Third party communications also allow you to utilize a repeater's autopatch and speak with an unlicensed person - that person essentially becomes a third-party user.

INTERNATIONAL COMMUNICATIONS

It's OK to speak with people in any country that you can make contact with, as long as the governments of both countries approve of amateur communications with each other. If it is a third-party communication, make sure that there are no restrictions for third-party communications with that country, and there are a few. Amateur operators in the U.S. are required to sign off (end communications) by stating both your callsign and the station's that you are in contact with.

REMEMBER: NO BUSINESS COMMUNICATIONS

When should you expect to get compensated for working the ham bands? Hardly ever, with a few exceptions. You can put your radio equipment up for sale as long as you are not making a living at it. Some clubs can pay employees as part of their job duties - but there are very stringent requirements. Teachers can expect their normal pay if they are licensed and want to teach their class about ham radio and transmit for illustration.

REPEATER USE

When using a repeater, try not to use "ham jive" so that listeners can understand what is being said. Repeater communications should be kept to a minimum in case someone needs to use it for an emergency; always use simplex mode if you can. It is good practice to allow a pause after ending your transmission in case someone needs to break in.

Repeaters can't be used by just anybody unless they are deemed "**open**" by the sponsoring club. **Closed** repeaters are open for use to club members only. If you find it necessary to use a

closed repeater, most of the time it just requires club membership with a $5-10 membership fee.

"CB TALK"

CB jargon is often used on the ham bands. When monitoring, you are likely to hear people say "over" when ending a transmission or "10-4" to acknowledge reception of a transmission, or "roger that", "what's your handle", etc. This is fine to do, even though you'll find that it may agitate some die-hard hams. Let's face it, they worked hard to get licensed, while anybody can pick up a CB mike and yak into it. You can expect some degree of separation.

PREVENT UNAUTHORIZED ACCESS

Being a ham carries certain inherent responsibilities, such as making sure that no one has access to your station while you're not around. Handhelds are pretty easy to keep an eye on - you can lock them away, or at the very least disconnect the antenna and carry it with you if you are going to leave your HT behind. With base units, you can install a key-operated switch in the main power line - this simply prevents your station from being powered up when the switch is locked in the "OFF" position. With mobile units, you can disconnect the mike and lock it up or carry it with you.

AMATEUR RADIO RECORD-KEEPING

Record-keeping - the cruelest words known to man. At one time the FCC required amateur radio operators to maintain a logbook which was supposed to be updated with a record of each transmission that you placed. That's not so anymore, but some people will recommend that you do. Use your best judgement.

HIGHLY RECOMMENDED: JOIN YOUR LOCAL HAM CLUB

One thing that you should do for sure after getting your license: join your local ham club(s). Most only require a small membership fee in the range of $5-20 annually. It is a great way to get acquainted with local hams and find out what is going on in your pocket of the ham world. You'll be able to find out where and when the upcoming exams, when contests will be taking place, and what the technical status of your local ham network is. Most importantly, it is the local ham club that makes ham functions possible on a local level, and also, they are usually the ones paying for the towers, repeaters and other equipment that you probably use to transmit on. So, any fees or dues that you pay go to a great and worthy cause that all users benefit from.

ADDITIONAL INFORMATION

- Whenever another ham is using your radio, you should be right there with the equipment (at the **control point**). There's no problem with you using another hams station to transmit on or vice-versa, but remember that both the owner and the visiting operator are responsible for proper operation of the station.
- Use VHF and UHF communications when available over short distances to keep from interfering in the HF bands.

- Ham radio transmissions are not permitted on commercial aircraft due to the potential for interference with instrumentation and aircraft communications equipment.
- Remember the "low power" rule discussed in the interference section? You can use the **RST** (**Readability, Strength, Tone**) signal reporting system to communicate the quality of a signal. Readability and signal strength are usually reported during voice transmissions. When someone tells you that your signal is "5 x 9", then you are coming in exceptionally clear.   Visit KB2BK's RST signal reporting page for more information.
- Any licensed ham can operate an amateur space station. Amateur space stations are amateur stations located at least 50 kilometers above the earth's surface. NASA has the authority to give approval for communication with earth-bound hams and astronauts on a shuttle.
- In closing, I recommend that all incoming amateurs take a close look at **Part 97 of Title 47** to fully understand what government rules apply to ham radio operations, and to understand the rights that you have acquired as a licensed operator.

Reference: http://www.qsl.net/ng3p/haminfo/ham-tutor/protocol.htm

Simplex (Direct Radio to Radio) Manual Programming

What You Will Need to Program your Radio:
- **Receive/Transmit Frequency**: ex. 144.520
- Select **Memory Channel** to store the new Frequency

Legend:
🟧 🟦 ⬛ Click corresponding button
🟥 Type-in selection using number keys
🟪 Select using Up and Down Arrows

1. Set your display to "Frequency Mode" from "Channel Mode". (No channel listed to the right of the display)

   [VFO/MR]

2. Set your display to "A". The triangle to the left of the frequencies will be on the top line and pointing up.

   [A/B]

3. Type in your Receive/Transmit Frequency

   [Receive Frequency]

4. Set Offset/Frequency Direction to "OFF"

   [MENU] ➡ [25] ➡ [MENU] ➡ [OFF] ➡ [MENU] ➡ [EXIT]

5. Delete data from existing programmed channel. (Programmed channels have a "CH" before the channel. Ex. CH-003)

   [MENU] ➡ [28] ➡ [MENU] ➡ [Memory Channel] ➡ [MENU] ➡ [EXIT]

6. Assign Receive Frequency to Memory Channel [Receiving Memory]

   [MENU] ➡ [27] ➡ [MENU] ➡ [Memory Channel] ➡ [MENU] ➡ [EXIT]

7. Assign Transmit Frequency to Memory Channel [Transmitting Memory]

   [MENU] ➡ [27] ➡ [MENU] ➡ [Memory Channel] ➡ [MENU] ➡ [EXIT]

Duplex (Using a Repeater) Manual Programming Guide

What You Will Need to Program your Radio:

- **Receive Frequency**: ex. 146.720 or 449.375
- **Transmit PL Tone**: ex. 100.0 Hz or 88.5 Hz
- **Offset Direction**: Off, + or − (See Step 6)
- **Offset Value**: 600 kHz or 5 MHz (See Step 7)
- Select **Memory Channel** to store the new Frequency

Legend:

🟧 🟦 ⬛ Click corresponding button

🟥 Type-in selection using number keys

🟪 Select using Up and Down Arrows

1. Set your display to "Frequency Mode" from "Channel Mode". (No channel listed to the right of the display)

   `VFO/MR`

2. Set your display to "A". The triangle to the left of the frequencies will be on the top line and pointing up.

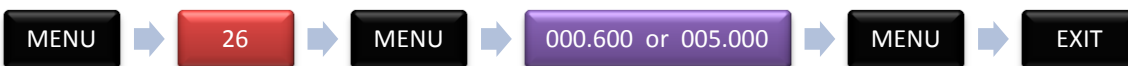   `A/B`

3. Type in your Receive Frequency

   `Receive Frequency`

4. Set Transmit CTCSS Tone [PL Tone assigned to the desired repeater]

   `MENU` ➡ `13` ➡ `MENU` ➡ `Tone Frequency` ➡ `MENU` ➡ `EXIT`

5. Set Offset Frequency Direction [2 Meter: Minus < 147.0 > Plus], [70cm: Plus < 445.0 > Minus]

   `MENU` ➡ `25` ➡ `MENU` ➡ `+ or -` ➡ `MENU` ➡ `EXIT`

6. Set Offset Frequency Value (Standard Offset 2M [144-148 MHz] = 600 kHz and 70cm [420-450 MHz] = 5 MHz)

   `MENU` ➡ `26` ➡ `MENU` ➡ `000.600 or 005.000` ➡ `MENU` ➡ `EXIT`

7. Delete data from existing programmed channel. (Programmed channels have a "CH" before the channel. Ex. CH-003)

   `MENU` ➡ `28` ➡ `MENU` ➡ `Memory Channel` ➡ `MENU` ➡ `EXIT`

8. Assign Receive Frequency to Memory Channel [Receiving Memory]

   `MENU` ➡ `27` ➡ `MENU` ➡ `Memory Channel` ➡ `MENU` ➡ `EXIT`

9. Assign Transmit Frequency to Memory Channel [Transmitting Memory]

   `*` ➡ `MENU` ➡ `27` ➡ `MENU` ➡ `Memory Channel` ➡ `MENU` ➡ `EXIT` ➡ `*`

www.**iwillprepare**.com
Emergency Preparedness

CHIRP Software Programming Guide

1. Go to http://chirp.danplanet.com and download the latest version of the software. (if using BF-F8HP, use the daily build version under downloads)
2. With your radio turned off, connect your radio to your computer using the Baofeng UV-5R Programming cable.
3. Start CHIRP.
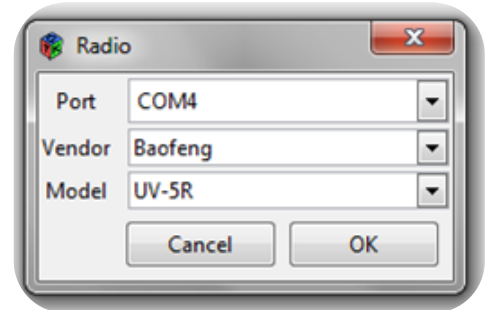4. Turn on your radio and wait for radio activity to stop (if any) this may take several seconds.

5. Return to CHIRP and click the Radio menu and choose Download From Radio
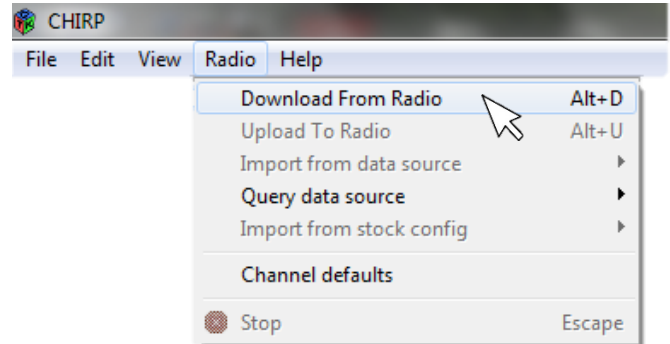
6. When the Radio Box opens Select the COM port your radio is connected to; Select "Baofeng" as the Vendor and "UV-5R" (or BF-F8HP) as the Model. Click "OK"

7. The Download "Cloning" process will now begin. Wait for it to complete.
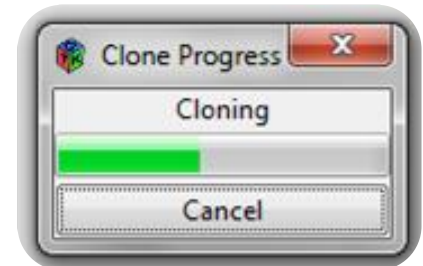
8. Once you have the radio contents displayed in the memory editor, Save a copy of the raw radio download before you make any changes. This way you can always have the backup file to work from if needed. I save my file as "Baofeng_UV-5R_Original.img"
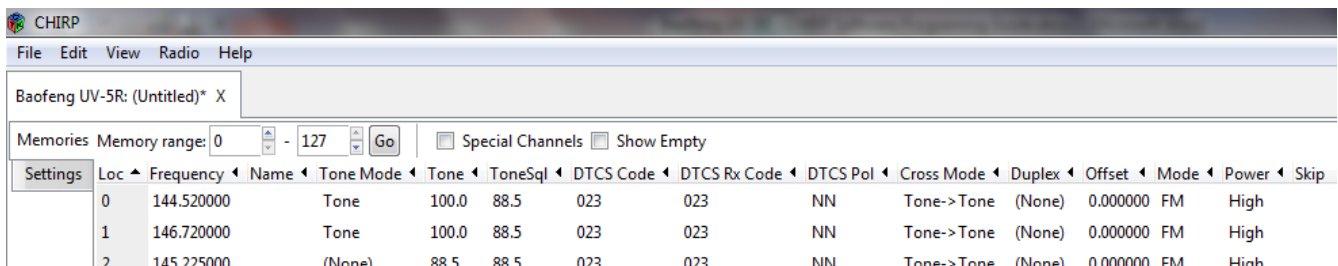
9. Now go to file menu and click on "Save As" save the radio image as "Baofeng_UV-5R_New.img" or name of your choosing. You can proceed to make your changes to this file. This may include manual edits or importing memories from other sources.

10. Once you have made all the edits you need to make (See Chirp Field Editor Decoder Ring below for help understanding what each field is used for) and have saved the file, you can upload your image back to the radio. With your file or "image" open, go 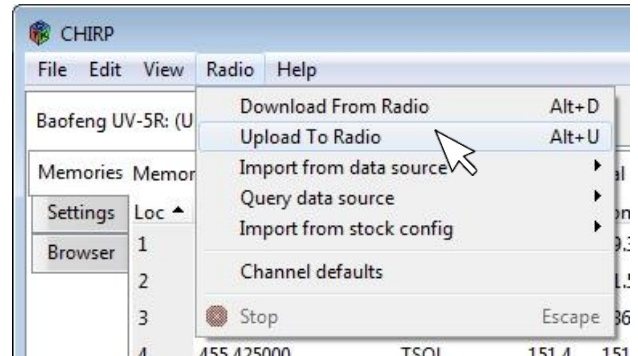to the Radio menu and choose Upload To Radio. The Vendor and Model are already known, so all you need to do is choose a COM Port.

Importing Frequencies From Other Files

You can only upload a file to your radio that you originally downloaded from your radio. A file from someone else's radio (any type) may not be uploaded to yours however, you can import their frequencies into your radio image and then upload it to your radio. To do this:

1. Open your radio image.
2. Go to File, Import and browse for and select the file on your PC.
3. When the "Import from File" box opens, you can uncheck frequencies you want to exclude and alter the Channel Number and Names of the frequencies before you import them. ("To" Channels in Orange show you already have a frequency programmed to that location so you can either change the "To" location or replace them with the new import.
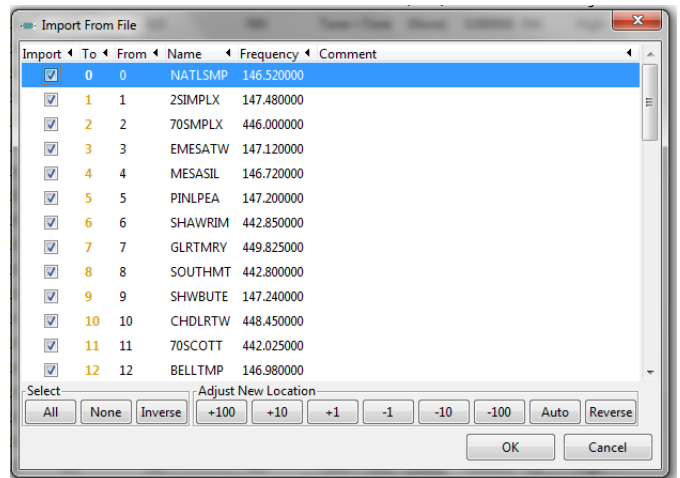
Exporting To A Generic File

If you wish to save memories from an existing radio out to a generic file that can be imported into other radios or edited by hand, do the following:.

1. Open your radio image.
2. Go to File and click Export and select .CSV or .chirp file of your radio's contents
3. Choose some or all of the memories to export

Changing Settings

Chirp allows you to adjust various radio settings within Chirp itself.

1. Open your radio image.
2. Click on the Settings Tab
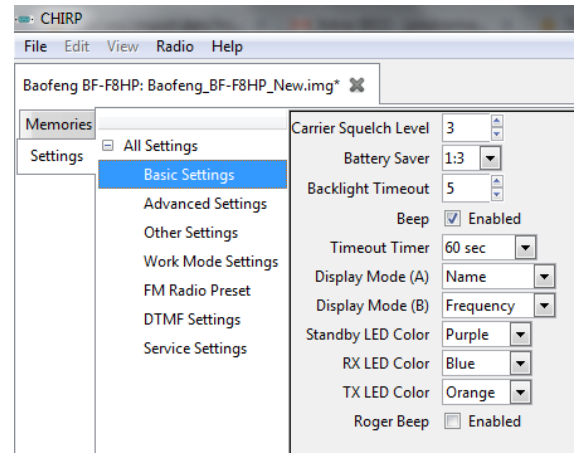
www.iwillprepare.com
Emergency Preparedness
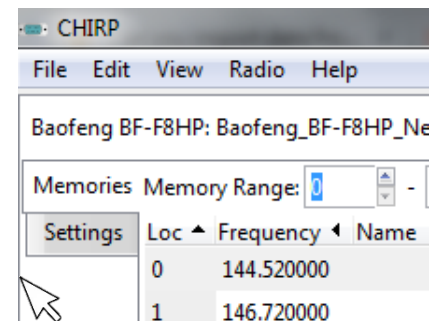
Basic Settings (Some Favorites)

1. Beep: Enabled or Disabled?
2. Timeout Timer: [60-120 Seconds]
3. Display Mode (A): Name [Channel name you defined]
4. Display Mode (B): Frequency [Gives you flexibility to see both Channel Name and Frequency]
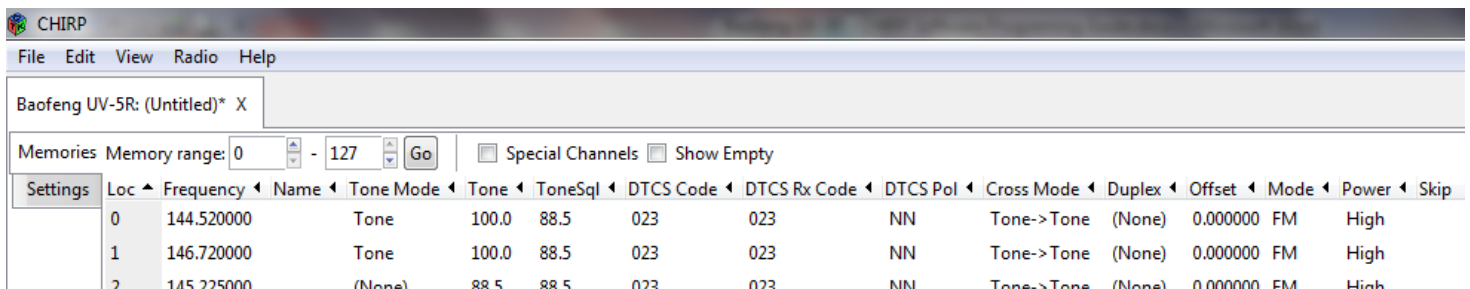5. Roger Beep: Disabled

Other Settings

1. Power On Message: Set to your Name and/or Callsign

Chirp Field Editor Decoder Ring

1. **Loc:** Channel Number
2. **Frequency:** Listening Frequency for Duplex, Listening and Transmitting Frequency for Simplex.
3. **Name:** Alpha-numeric name to help you remember this frequency.
4. **Tone Mode:** A drop down list (None, Tone, TSQL, DTCS and Cross) that drives the data needed for 5-10 below. Two selections are used most of the time. "None" is used for Simplex frequencies that do not need a PL Tone. For Duplex/Repeater use, select "Tone".
5. **Tone:** PL Tone or CTCSS is a sub-audible tone that opens the repeater for listening. Select the correct tone for this frequency using the dropdown list.
6-10. **ToneSql, DTCS Code, DTCS Rx Code, DTCS Pol, Cross Mode:** We selected "Tone" or "None" under "Tone Mode" so these features are not used. Use default.
11. **Duplex:** This is your offset direction. The choices are None, Positive or Negative. Simplex channels will use off. For Duplex frequencies the accepted national band plan recommends for 2 Meter: Minus < 147.0 > Plus and for 70cm: Plus < 445.0 > Minus. Chirp will automatically set this for you but you can override it for not standard frequencies.
12. **Offset:** Offset is the separation between the input and output frequencies of a repeater. When using Simplex, the Offset will be 0. Following the accepted national band plan, the standard offset for 2M [144-148 MHz] = 600 kHz and 70cm [420-450 MHz] = 5 MHz). Chirp will automatically set this for you, which you can override if a frequency is set to a non-standard offset.
13. **Mode:** FM or NFM (Narrow FM). [Default is FM]
14. **Power:** High, Medium or Low transmit power. [Default is High]
15. **Skip:** Used to indicate which channels to Scan or skip while scanning. [Default is Blank]

Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex	Offset	Mode	Power	Skip
0	144.520000		Tone	100.0	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	
1	146.720000		Tone	100.0	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	
2	145.225000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	

Yaesu FT-60R – Manual Programming

1. Install and open CHIRP on your computer. Download from
   http://chirp.danplanet.com/projects/chirp/wiki/Download
2. Obtain a programming cable for your Yaesu FT-60R. I found mine at Amazon.com from Valley
   Enterprises (valley-ent.com) for about $25.
3. Plug the USB end of the cable into your computer.
4. Turn the radio off and plug the other end into the microphone input plug (MIC/SP). Drivers
   should be automatically installed. If not, check the programming cable vendor's website.
5. While pressing the MONI button (just below the PTT button), turn the radio on. Turn the dial
   (upper right knob) until you find CLONE (also F8).
6. Press F/W, screen will go off, then back on with CLONE still showing. Now, the radio is set up.
7. Open CHIRP (if it is not already open). On the menu bar, select Radio, then, Download From
   Radio. A window will appear where you select the port (COMx), the Radio type (e.g., Yaesu),
   then the radio Model (e.g., FT-60). If unsure about which COM channel, check the Device
   Manager and Ports (COM & LPT). The Valley Enterprises cable shows USB Serial Port (COMx)
8. Click OK, then quickly go to the radio and press PTT until - - TX - - comes up on the radio (I had
   to hold it a couple of seconds). The TX stands for transfer and you can see the progress on
   both CHIRP and the radio. When complete, CHIRP will show the programmed channels and
   the radio will show CLONE.
9. At this point, you can right click on any of the channels, select Edit from the dropdown menu
   bar and enter the programming information. When finished, click OK and CHIRP will show the
   information you just entered. If you made an error, right click, select Edit, make the
   correction and click OK. Enter as many channels as you need.
10. As an option, if you don't want any of the channels listed and want to program a whole new
    set of channels from a .csv file, you can select File from CHIRP's menu bar. On the dropdown
    menu, select Import. On the window that appears, select the .csv file that you want to import
    to CHIRP and click OK. This will enter the file information into CHIRP.
11. Once the information in CHIRP is what you want, go back to the radio.
12. Press the MONI button and the radio screen will change to - - RX - -, which stands for receive.
13. Go back to CHIRP and select Upload To Radio. A window will appear with the same
    information you saw in step 7. Click OK and CHIRP will transmit the information to the radio.
    You can watch the progress on both CHIRP and the radio as in step 8.
14. Once CHIRP has completed the transfer, you are finished and the radio has been
    programmed.
15. Turn the radio off, remove the programming cable from the radio, and turn the radio back on.
    Press the V/M button to take you to memory, and step through the memory channels to make
    certain you have the correct information.

For CHIRP programming, use YouTube videos – there are many good ones out there.

ICOM®

U.S.A. Amateur Radio UHF/VHF Band Plan

1240 band

1240 46 52 58 60 70 76 82 88 94 95 97 1300 MHz

1296.1 SSB
1294.5 FM

900 band

902 904 906 907 910 916 918 919 922 928 MHz

902.1 SSB

420 - 430 MHz - Not available along Canadian corridor

440 band

420 426 432 432.125 433 435 438 442 445 447 450 MHz

432.1 SSB
446 FM

222 band

222 222.34 223 223.38 224 225 MHz

222.1 SSB
223.5 FM

2 meters

144 .1 .3 .5 .6 .9 145.1 .2 .5 .8 146 .4 .6 .61 147 .39 .42 .6 148 MHz

144.2 SSB
146.52 FM

DX Window
50.110

NO FM
NO FM
CW/SSB

Radio Control
.8

Satellite Only

Radio Control (Old)

6 meters

50 51 51.1 52.05 53 54 MHz

50.125 SSB
52.525 FM

National Calling Frequency

Legend

- Amateur TV Fast Scan
- Satellite
- CW & Weak Signal (No FM)
- Digital
- FM Simplex
- SSB
- FM Repeater

Issaquah CERT Ham Frequencies
RMOtis - KI7RMO

	Location	Name	Frequency	Duplex	Offset	Tone	rToneFreq	cToneFreq	DtcsCode	DtcsPolarity	Mode	TStep	Skip	Comment
Weather														
	0	WX1PA7	162.55		0		88.5	88.5	23	NN	FM	5	S	NOAA Weather Radio
Emergency														
	1	FIRERPT	444.525	+	5	Tone	103.5	88.5	23	NN	FM	5		N7KGJ - Fire Repeater, Western Wa Med Svc Team, Issaquah Squak Mtn
	2	CERTOP	445.975		0		88.5	88.5	23	NN	FM	5		Issaquah CERT Operations
	3	ICST1	146.56		0		88.5	88.5	23	NN	FM	5		ICST Coordination
	4	FZ1EOC	443.7	+	5	Tone	103.5	88.5	23	NN	FM	5		Fire Zone 1 - EOC Coordination
	5	KCARES	147.08	+	0.6	Tone	103.5	88.5	23	NN	FM	5		King County ARES
	6	ICSTRPT	443.45	+	5	Tone	71.9	88.5	23	NN	FM	5		ICST Repeater
	7	FIRECOU	444.525	+	5	Tone	127.3	88.5	23	NN	FM	5		N7ERP - Fire Repeater, Issaquah Cougar Mtn
	8	K7SNO	444.925	+	5	Tone	85.4	88.5	23	NN	FM	5		Snoqualmie Emergency Communications and Support Team
	9	70CALL	446		0		88.5	88.5	23	NN	FM	5		70 cm Calling Frequency
	10	2MCALL	146.52		0		88.5	88.5	23	NN	FM	5		2 m Calling Frequency
	11	KE7GFZ	441.825	+	5	Tone	103.5	88.5	23	NN	FM	5		SNOVARC - Snoqualmie Valley Amateur Radio Club
	12	W7EFR	442.725	+	5	Tone	123	88.5	23	NN	FM	5		Eastside Fire And Rescue Amateur Radio Club
	13	K7NWS	145.33	-	0.6	Tone	179.9	88.5	23	NN	FM	5		Boeing ARC - KBARA Linked
	14	CMPMRY	145.37	-	0.6	Tone	136.5	88.5	23	NN	FM	5		W7EMD - Camp Murray WA State EOC
	15	W7PSE	441.775	+	5	Tone	103.5	88.5	23	NN	FM	5		W7PSE - PSE ARES Repeater Rattlesnake Mtn
	16	MPLVAL	147.26	+	0.6	Tone	103.5	88.5	23	nn	FM	5		KF7NPL - Maple Valley Evergency Repeater
Repeaters Around Issaquah														
	21	WW7SEA	444.55	+	5	Tone	141.3	88.5	23	NN	FM	5		Columbia Tower Repeater - West Seattle Radio Club
	22	CAPHILL	442.875	+	5	Tone	141.3	88.5	23	NN	FM	5		AJ7JA - Capitol Hill Repeater - Seattle Int'l Japanese Amateur Radio Club
	23	QUANNE	444.7	+	5	Tone	103.5	88.5	23	NN	FM	5		WW7SEA - Queen Anne Repeater, Western Washington Seattle Repeater
	24	MIKEKEY	146.82	-	0.6	Tone	103.5	88.5	23	NN	FM	5		Mike & Key Repeater
	25	W7SRG	440.25	+	5	Tone	123	88.5	23	NN	FM	5		EFR Fire Corps Repeater
	26	LKWAS1	441.075	+	5	Tone	103.5	88.5	23	NN	FM	5		K7LWH - Lake Washington Radio Club Repeater 70cm, Rose Hill
	27	LKWAS2	145.49	-	0.6	Tone	103.5	88.5	24	NN	FM	5		K7LWH - Lake Washington Radio Club Repeater 2m, Rose Hill
	28	LINTWR	444.6	+	5	Tone	103.5	88.5	24	NN	FM	5		K7LWH - Lincoln Tower Bellevue
	29	HAYSTK	441.875	+	5	TSQL	103.5	103.5	23	NN	FM	5		Haystack - Everett
	30	MI70CM	440.15	+	5	Tone	103.5	103.5	23	NN	FM	5		W7MIR - Mercer Island 70cm repeater
	31	MI2M	147.16	+	0.6	Tone	146.2	103.5	23	NN	FM	5		W7MIR - Mercer Island 2m repeater
	32	K6RFK	147.34	+	0.6	Tone	100	88.5	23	NN	FM	5		K6RFK - Woodinville
	33	SVARDV	443.25	+	5	Tone	103.5	88.5	23	NN	FM	5		KE7GVZ - SnoVARC Duvall
	34	WW7PSR	146.96	-	0.6	Tone	103.5	88.5	23	NN	FM	5		WW7PSR - Puget Sound Repeater Group
FRS Frequencies (Monitor, but can't transmit)														
	41	FRS1	462.5625		0		88.5	88.5	23	NN	NFM	5	S	FRS channel - you can listen, but the radio will not transmit
	42	FRS2	462.5875		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	43	FRS3	462.6125		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	44	FRS4	462.6375		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	45	FRS5	462.6625		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	46	FRS6	462.6875		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	47	FRS7	462.7125		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	48	FRS8	467.5625		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	49	FRS9	467.5875		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	50	FRS10	467.6125		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	51	FRS11	467.6375		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
	52	FRS12	467.6625		0		88.5	88.5	23	NN	NFM	5	S	FRS channel

Location	Name	Frequency	Duplex	Offset	Tone	rToneFreq	cToneFreq	DtcsCode	DtcsPolarity	Mode	TStep	Skip	Comment
53	FRS13	467.6875		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
54	FRS14	467.7125		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
55	FRS15	462.55		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
56	FRS16	462.575		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
57	FRS17	462.6		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
58	FRS18	462.625		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
59	FRS19	462.65		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
60	FRS20	462.675		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
61	FRS21	462.7		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
62	FRS22	462.725		0		88.5	88.5	23	NN	NFM	5	S	FRS channel
Weather (more channels)													
71	WX2PA1	162.4		0		88.5	88.5	23	NN	FM	5	S	Additional weather channel
72	WX3PA4	162.475		0		88.5	88.5	23	NN	FM	5	S	Additional weather channel
73	WX4PA2	162.425		0		88.5	88.5	23	NN	FM	5	S	Additional weather channel
74	WX5PA3	162.45		0		88.5	88.5	23	NN	FM	5	S	Additional weather channel
75	WX6PA5	162.5		0		88.5	88.5	23	NN	FM	5	S	Additional weather channel
76	WX7PA6	162.525		0		88.5	88.5	23	NN	FM	5	S	Additional weather channel
77	WX8	161.65		0		88.5	88.5	23	NN	FM	5	S	Additional weather channel
78	WX9	161.775		0		88.5	88.5	23	NN	FM	5	S	Additional weather channel
79	WX10	163.275		0		88.5	88.5	23	NN	FM	5	S	Additional weather channel
Int'l Space Station													
81	ISS	145.8	-	1.31		88.5	88.5	23	NN	FM	5		International Space Station
ICST Frequencies													
101	ICST1	146.56		0	Tone	71.9	88.5	23	NN	FM	5		ICST Coordination w/Tone 71.9
102	ICST2	145.53		0	Tone	71.9	88.5	23	NN	FM	5		Tac - ICST Field Teams Working
103	ICST3	144.33		0	Tone	71.9	88.5	23	NN	FM	5		Tac - ICST / IPD
104	ICST4	147.56		0	Tone	71.9	88.5	23	NN	FM	5		Tac - ICST Field Teams Working
105	ICST5	445.925		0	Tone	71.9	88.5	23	NN	FM	5		Tac - CERT Teams ICST (CERT Ops)
106	ICST6	445.975		0	Tone	71.9	88.5	23	NN	FM	5		Tac - Alternate for IPD mobiles
107	ICST7	446.6		0	Tone	71.9	88.5	23	NN	FM	5		Tac - Alternate for CERT / ECST
108	ICST8	446.625		0	Tone	71.9	88.5	23	NN	FM	5		Back Channel: EOC to IPD to ProvPt
109	Guard	147.08	+	0.6	Tone	103.5	88.5	23	NN	FM	5		King County ARES Guard
110	L-1	434.5625		0	Tone	71.9	88.5	23	NN	FM	5		Aux Link (vehicle crossband)
111	L-2	440.025		0	Tone	71.9	88.5	23	NN	FM	5		Western WA crossband (as req'd)
112	FZ1EOC	443.7	+	5	Tone	103.5	88.5	23	NN	FM	5		Fire Zone 1 - EOC Coordination
113	FIRRPT	444.525	+	5	Tone	103.5	88.5	23	NN	FM	5		Fire Repeater - Western Wa Med Svc Team Issaquah Squak Mtn
114	ICSTRP	443.45	+	5	Tone	71.9	88.5	23	NN	FM	5		ICST Repeater - non-functional
115	ICSTDS	443.275		0		88.5	88.5	23	NN	FM	5		D-Star Repeater K7ISQ B - non-functional

Mike and Key --- Puget Sound AREA REPEATERS --- 2m and 70cm

Receive	Transmit	Tone	Shift	Callsign	Location
2 Meter			0.6		
145.150	144.550	114.8	-	W7JCR	Port Townsend [Jefferson Co. ARES/RACES]
145.170	144.570	118.8	-	NM7R	Ocean Park [BeachNet Repeater System]
145.190	144.590	127.3	-	N7GDE	Lyman Hill, Skagit Co. [RASC]
145.330	144.730	179.9	-	K7NWS	Tiger Mtn W [Boeing Employees ARS]
145.370	144.770	136.5	-	W7AAO	Grass Mtn. [Pierce Co. ARES/RACES]
145.390	144.790	118.8	-	W7EOC	Cosmopolis [BeachNet Repeater System]
145.430	144.830	179.9	-	KD7WDG	Silverdale [Kitsap Co. ACS]
145.470	144.870	100.0	-	K7CPR	Capitol Peak (Olympia) [Capitol Peak Rptr Assoc.]
145.490	144.890	103.5	-	K7LWH	Kirkland [Lake Washington Ham Club]
146.620	146.020	103.5	-	WW7RA	Gold Mountain, Kitsap Co. [WWRA]
146.660	146.060	103.5	-	NC7G	SeaTac [Highline Amateur Radio Club]
146.700	146.100	131.8	-	N7JN	Friday Harbor [San Juan County ARS]
146.720	146.120	103.5	-	N7SK	Shelton [Mason Co. ARC]
146.740	146.140	103.5	-	K7SKW	Bellingham [Mt. Baker ARC Rptr Group]
146.740	146.140	127.3	-	K7SKW	Lookout Mtn [Mt Baker ARC]
146.760	146.160	100.0	-	W7FEL	Striped Peak [Clallam Co. ARC]
146.760	146.160	103.5	-	WA7FW	Federal Way [Federal Way ARC]
146.820	146.220	103.5	-	K7LED	Tiger Mtn. East [Mike & Key ARC]
146.840	146.240	DSTAR	-	WA7FW	Federal Way [Federal Way ARC]
146.860	146.260	127.3	-	W7AVM	Coupeville [Island County ARC]
146.900	146.300	123.0	-	W7SRZ	Seattle [WW Medical Services Team]
146.920	146.320	123.0	-	WA7DEM	Granite Falls [Snohomish Co. ACS/ARES]
146.960	146.360	103.5	-	WW7PSR	Seattle [Puget Sound Repeater Group]
147.000	146.400	103.5	-	W7DX	Seattle [Western Washington DX Club]
147.040	147.640	103.5	+	WA7FW	Federal Way [Federal Way ARC]
147.060	147.660	110.9	+	WA7UHD	Baw Faw Peak [Chehalis Valley ARC]
147.080	147.680	103.5	+	W7WWI	Cougar Mtn [Sea-Tac Repeater Association]
147.180	147.780	103.5	+	WA7LAW	Everett [Snohomish County Hams Club]
147.200	147.800	131.8	+	K7MMI	Lyman Hill [Puget Sound Mobile Relay Group]
147.240	147.840	123.0	+	K7SYE	Auburn [Auburn Valley Rptr Group]
147.260	147.860	103.5	+	KF7NPL	Maple Valley [Maple Valley Emerg Rptr Assoc]
147.260	147.860	114.8	+	W7DG	Longview [Lower Columbia ARA]
147.280	147.880	103.5	+	W7DK	Tacoma [Radio Club of Tacoma]
147.300	147.900	88.5	+	WB7DOB	Enumclaw
147.320	147.920	103.5	+	K7CST	Kent [Comm. Support Team for Puget Sound Fire]
147.340	147.940	100.0	+	K6RFK	Woodinville
147.360	147.960	127.3	+	W7PIG	Camano Island [Stanwood-Camano ARC]

Mike and Key --- Puget Sound AREA REPEATERS --- 2m and 70cm

Receive	Transmit	Tone	Shift	Callsign	Location
440 Band			**5.0**		
440.625	445.625	103.5	+	W7DK	Tacoma [Radio Club of Tacoma]
441.050	446.050	103.5	+	W7PIG	Camano Island [Stanwood-Camano ARC]
441.400	446.400	103.5	+	NT7H	Crawford Mountain [Olympia ARS]
441.550	446.550	103.5	+	W7WWI	Cougar Mtn [Sea-Tac Repeater Association]
441.725	446.725	103.5	+	W7PSE	Mt. Erie [PSEARG]
441.800	446.800	141.3	+	W7AW	West Seattle [West Seattle ARC]
442.000	447.000	141.3	+	WA7DEM	Lake Forest Park [Snohomish Co. ACS/ARES]
442.025	447.025	110.9	+	W7WWI	Tiger Mtn E [Sea-Tac Repeater Association]
442.250	447.250	156.7	+	NC7Q	Lookout Mtn
442.400	447.400	107.2	+	W7MBY	Lyman Hill [5 County Emergency Comm Group]
442.650	447.650	103.5	+	WW7RA	Gold Mtn., Kitsap Co. [WW Rptr Assoc.]
442.825	447.825	103.5	+	W7AUX	Shoreline [Shoreline ACS]
442.950	447.950	103.5	+	WA7FW	Federal Way [Federal Way ARC]
443.100	448.100	103.5	+	WA7ST	SeaTac [STAR EmComm Group]
443.250	448.250	103.5	+	KE7GFZ	Duvall [Snoqualmie Valley ARC]
443.325	448.325	103.5	+	N6OBY	Tiger Mtn East
443.350	448.350	103.5	+	K7CST	Kent
443.450	448.450	110.9	+	K7KFM	Chehalis
443.500	448.500	103.5	+	W7VMI	Vashon Island [Vashon-Maury Island RC]
443.550	448.550	103.5	+	W7SRZ	Seattle [WW Medical Services Team]
443.600	448.600	103.5	+	K7FDF	Renton [Renton Emergency Comm. Service]
443.750	448.750	103.5	+	K7SKW	Lookout Mtn [Mt Baker ARC]
443.825	448.825	88.5	+	N7WGR	Port Townsend
443.925	448.925	100.0	+	W7FLY	Everett [BEARONS]
444.050	449.050	103.5	+	K7SKW	Mt Constitution [Mt Baker ARC Rptr Group]
444.200	449.200	118.8	+	W7EOC	Ocean Shores [BeachNet Repeater System]
444.350	449.350	100.0	+	K7OET	Cultus Mountain, Skagit County
444.375	449.375	88.5	+	AJ7JA	Seattle [Seattle Int'l. Japanese ARC]
444.550	449.550	141.3	+	WW7SEA	Columbia Center, Seattle
444.575	449.575	103.5	+	WA7LAW	Everett [Snohomish County Hams Club]
444.900	449.900	131.8	+	K6MBY	Sequim
444.950	449.950	118.8	+	W7EOC	Capitol Peak [BeachNet Repeater System]

A D-Star repeater list can be found at http://hamshare.com/.

Before you make your first repeater contact, you should learn some repeater operating techniques.
It's worth a few minutes to listen and familiarize yourself with the procedures used by other hams in your area,
Accepted procedures can vary slightly from repeater to repeater.

Note: The use of a repeater is a privilege extended by the owner, not a requirement.
There are specific FCC rules and regulations with regard to the usage of repeaters,
   and of all ham radio conversations carried on the airwaves.
Violation of these regulations can be severe when abused, and will be strictly enforced by the FCC
   with the support of all Ham Radio Clubs in the Puget Sound Region.

K7LED is the call sign of the Mike and Key Amateur Radio Club
This site was created by Jed Clawson - W7JED.
For more information or comments, corrections, or additions to this site,
Please email us at: info@mikeandkey.org or
Jim Etzwiler - KD7BAT.   Last updated 03/30/2017.

ARRL — *the national association for Amateur Radio*™

RADIOGRAM

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE

TO

PHONE NUMBER

E-MAIL

THIS RADIO MESSAGE WAS RECEIVED AT

AMATEUR STATION _____ PHONE_____

NAME _____E-MAIL_____

STREET _____

CITY, STATE, ZIP_____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

_____ _____ _____ _____ _____

	FROM	DATE	TIME		TO	DATE	TIME
REC'D				**SENT**			

This message was handled at no charge by a licensed Amateur Radio operator, whose address is shown in the box at right above. No compensation can be accepted by a "ham" operator. A return message may be filed with the "ham" delivering this message to you. Further information on Amateur Radio may be obtained from ARRL Headquarters, 225 Main Street, Newington, CT 06111 or **www.arrl.org**.

The ARRL is the national association for Amateur Radio and the publisher of *QST* magazine. One of its functions is promotion of public service communication among Amateur Radio operators. To that end, the ARRL has organized the National Traffic System for daily nationwide message handling.

1320 2/11

RADIO LOG

| PERSON LOGGING (CALLSIGN): | | | PAGE: |
| OF: |

DATE/TIME ON/OFF	FREQUENCY	CONTACT (CALLSIGN)	RESPONSE/ACTION

Amateur Radio Q Codes

Code	Question	Answer or Statement
QRA	What is the name (or call sign) of your station?	The name (or call sign) of my station is ...
QRG	Will you tell me my exact frequency (or that of ...)?	Your exact frequency (or that of ...) is ... kHz (or MHz).
QRH	Does my frequency vary?	Your frequency varies.
QRI	How is the tone of my transmission?	The tone of your transmission is (1. Good; 2. Variable; 3. Bad)
QRJ	How many voice contacts do you want to make?	I want to make ... voice contacts.
QRK	What is the readability of my signals (or those of ...)?	The readability of your signals (or those of ...) is ... (1 to 5).
QRL	Are you busy?	I am busy. (or I am busy with ...) Please do not interfere.
QRM	Do you have interference?	I have interference.
QRN	Are you troubled by static?	I am troubled by static.
QRO	Shall I increase power?	Increase power.
QRP	Shall I decrease power?	Decrease power.
QRQ	Shall I send faster?	Send faster (... wpm)
QRS	Shall I send more slowly?	Send more slowly (... wpm)
QRT	Shall I stop sending?	Stop sending.
QRU	Have you anything for me?	I have nothing for you.
QRV	Are you ready?	I am ready.
QRW	Shall I inform ... that you are calling him on ... kHz (or MHz)?	Please inform ... that I am calling him on ... kHz (or MHz).
QRX	When will you call me again?	I will call you again at ... (hours) on ... kHz (or MHz)
QRZ	Who is calling me?	You are being called by ... on ... kHz (or MHz)
QSA	What is the strength of my signals (or those of ...)?	The strength of your signals (or those of ...) is ... (1 to 5).
QSB	Are my signals fading?	Your signals are fading.
QSD	Is my keying defective?	Your keying is defective.
QSG	Shall I send ... telegrams (messages) at a time?	Send ... telegrams (messages) at a time.
QSK	Can you hear me between your signals?	I can hear you between my signals.
QSL	Can you acknowledge receipt?	I am acknowledging receipt.
QSM	Shall I repeat the last telegram (message)	Repeat the last telegram (message) which

Amateur Radio Q Codes

	which I sent you, or some previous telegram (message)?	you sent me (or telegram(s) (message(s)) numbers(s) ...).
QSN	Did you hear me (or ... (call sign)) on .. kHz (or MHz)?	I did hear you (or ... (call sign)) on ... kHz (or MHz).
QSO	Can you communicate with ... direct or by relay?	I can communicate with ... direct (or by relay through ...).
QSP	Will you relay a message to ...?	I will relay a message to ... .
QSR	Do you want me to repeat my call?	Please repeat your call; I did not hear you.
QSS	What working frequency will you use?	I will use the working frequency ... kHz (or MHz).
QST	-	Here is a broadcast message to all amateurs.
QSU	Shall I send or reply on this frequency (or on ... kHz (or MHz))?	Send or reply on this frequency (or on ... kHz (or MHz)).
QSW	Will you send on this frequency (or on ... kHz (or MHz))?	I am going to send on this frequency (or on ... kHz (or MHz)).
QSX	Will you listen to ... (call sign(s) on ... kHz (or MHz))?	I am listening to ... (call sign(s) on ... kHz (or MHz))
QSY	Shall I change to transmission on another frequency?	Change to transmission on another frequency (or on ... kHz (or MHz)).
QSZ	Shall I send each word or group more than once?	Send each word or group twice (or ... times).
QTA	Shall I cancel telegram (message) No. ... as if it had not been sent?	Cancel telegram (message) No. ... as if it had not been sent.
QTC	How many telegrams (messages) have you to send?	I have ... telegrams (messages) for you (or for ...).
QTH	What is your position in latitude and longitude (or according to any other indication)?	My position is ... latitude...longitude
QTR	What is the correct time?	The correct time is ... hours
QTU	At what times are you operating?	I am operating from ... to ... hours.
QTX	Will you keep your station open for further communication with me until further notice (or until ... hours)?	I will keep my station open for further communication with you until further notice (or until ... hours).
QUA	Have you news of ... (call sign)?	Here is news of ... (call sign).
QUC	What is the number (or other indication) of the last message you received from me (or from ... (call sign))?	The number (or other indication) of the last message I received from you (or from ... (call sign)) is ...
QUD	Have you received the urgency signal sent by ... (call sign of mobile station)?	I have received the urgency signal sent by ... (call sign of mobile station) at ... hours.

QUE	Can you speak in ... (language), - with interpreter if necessary; if so, on what frequencies?	I can speak in ... (language) on ... kHz (or MHz).
QUF	Have you received the distress signal sent by ... (call sign of mobile station)?	I have received the distress signal sent by ... (call sign of mobile station) at ... hours.