



CHIRP Like A Bird

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My Layman's Guide to CHIRP

What is CHIRP? CHIRP is a free software used to program amateur radios. It is a must for people who don't want to struggle with trying to program a radio through the radio interface.

I equate this to people who try texting on a flip phone, it's not fun. In that way CHIRP is really a "smart phone" like interface between you and your radio. It allows a much easier way to program an entire listing of frequencies into channels on your radio all at once.

This guide will not go into any details of how to install or connect your particular radio to the software. There are just too many variations of operating systems and radios to spend time burrowing down that rabbit hole. The intent of this guide is to provide a high-level reference of how to use CHIRP in order to:

1. Read from your radio
2. Import CHIRP templates with stock frequencies (MURS, FRS, weather, etc.)

3. Program your radio with frequency information.

To download CHIRP go to the following address: <https://chirp.danplanet.com> and down-

frequencies listed.

Reading from your radio is accomplished by following these steps in the CHIRP software:

- Click on "Radio"
- Select "Download From Radio"
- After a short pause a "Radio" popup window will appear
- Make sure the "Vendor" and "Model" for your radio are in the boxes. If not select them from the pull-down menus.
- Select the "port" and choose one of the COM ports listed. Don't worry if it doesn't work the first time, simply follow this outline again until you discover the COM port for the radio

- When the proper COM port is selected you will see the "Cloning" popup window and the cloning progress bar moving across the screen

When finished you will see a tab in the CHIRP software (as shown in the image) that shows all the currently programmed frequencies in the radio. You can save this file to your computer, so you can load this back into your radio later if desired.

I would suggest also using this same tab to add, copy, cut-and-paste, import frequencies into your radio, because the tem-

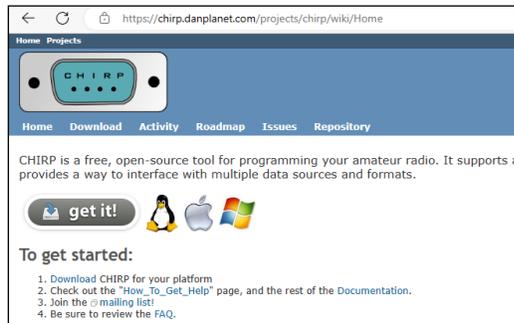


image 1

load and install the appropriate version for your operating system.

Once installed you will see an

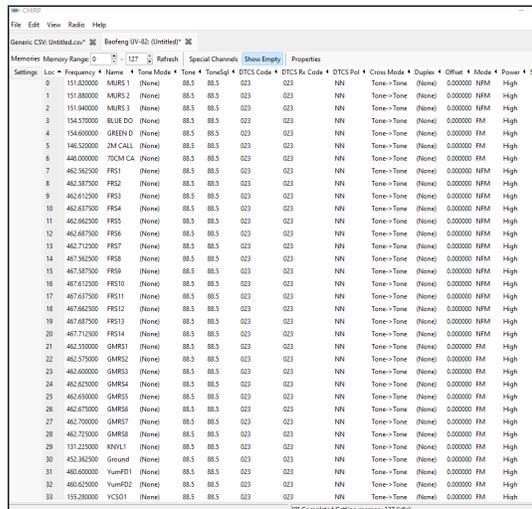


image 2

interface similar to the one here, but unlike this image you will not have any channels/

My Layman's Guide to CHIRP (continued)

Importing CHIRP templates is a worthwhile exercise because these templates contain some popular frequencies you may want to load into your radio.

CHIRP has a decent selection of common frequencies included and these will save time and eliminate the need to scour the internet for them. You can see in image 3 that under the "Radio" menu there are stock configs that you can pull into CHIRP and work with.

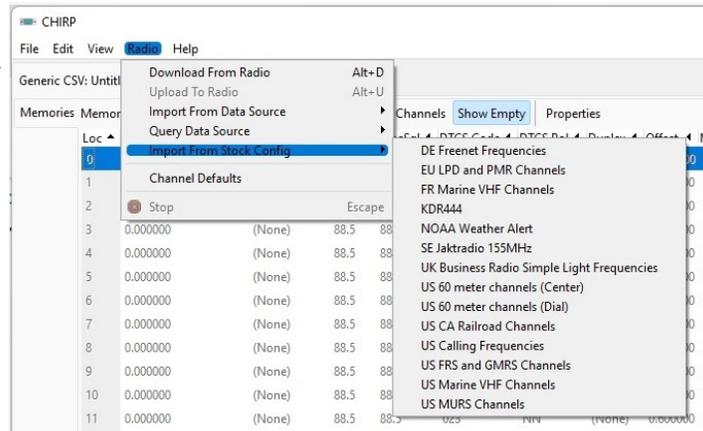


image 3

weather frequencies to locations that won't interfere with our currently

to channels 34-43 as shown in image 5. You can do this by clicking the "Adjust New Locations" buttons at the bottom of the "Import From File" popup window. Clicking on these you can see how it changes the numbers in the "To" column as shown in image 5. The buttons are intuitive, clicking the "+10" button will shift the numbers in the "To" column by 10 positions and by clicking the "+1" button it will shift all the frequencies by 1 position. In image 5 you can see the result of pressing the "+10" button three times and the "+1" button three times which moved the entire channel block to begin at channel 34 and go through to channel 43.

In this example we will pull in the "NOAA Weather Alert" frequencies. These are a set of frequencies used throughout the country to provide weather information on a 24/7 basis regardless of your location. After selecting "NOAA Weather Alert" frequencies you will see the "Import From File" popup window (image 4). This popup has a lot of functions, but the focus will be on getting these frequencies into the channel locations on the radio where we want them.

programmed channels. In keeping with our example of already having channels

button three times which moved the entire channel block to begin at channel 34 and go through to channel 43.

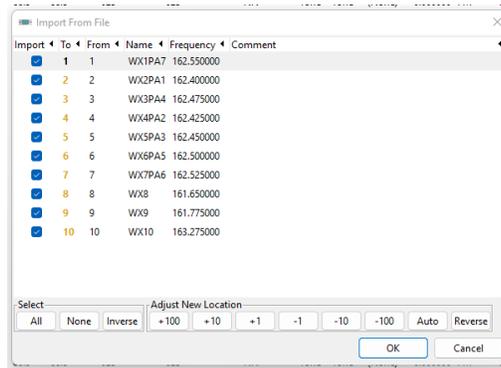


image 4

Flashing to the radio this is where all the fruits of your labors will finally be realized. Up to this point, if you have followed the guide, you have read in your current radios configuration and you have imported the weather alert stations and are now ready to upload this new configuration into your radio.

From this screen you can choose to select which frequencies you want to import. Additionally you can decide where to locate these new channels. This process is VERY important, because if you simply go with the defaults you will overwrite the channels/frequencies shown in the "To" column where these new frequencies will be placed. In image 4 it shows they will be in channel locations 1-10, but if you already have frequencies in your radio lets say in channels 1-33 then you will overwrite these with the new frequencies. Using the options in this "Import From File" popup window we can move these

1-33 programed in our radio we will move these weather alert frequencies

This is even easier than reading from your radio, because now CHIRP already has the proper COM port selected as part of the reading in process. Before we write everything to your radio I want to briefly describe some of the other options or abilities to make changes that you might want to know about.

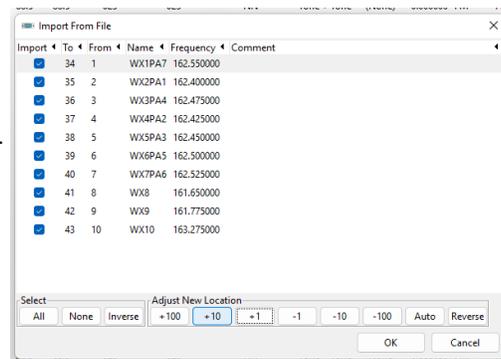


image 5

CHIRP has imported your radios settings as part of the reading in process of your configuration that was done at the beginning of this guide.

If you look at image two, one the left side of the screen you will see a tab that says "Settings". If you click on this tab you will see a bunch of settings for your radio. Most of

My Layman’s Guide to CHIRP (continued)

which I have no idea what they do. For the purpose of this guide I only wanted to communicate that these settings options exist and that you really may want to learn all the cool things you can change in CHIRP and then upload to your radio. Here is a screen shot of the various options available depending on the options available for your radio.

Beyond making changes to specific global settings for your radio, you can also settings changes on a per channel basis. For an idea of some of the per channel settings that can be made are transmission power settings, ability to skip channels as part of using the radio in scanner mode, duplex settings, offset settings, tone modes, etc.. Just be aware that you can change any setting you want by using the CHIRP software. If you want to find how to change particular settings, do a quick internet search and you’ll be able to find out the steps required.

To upload all of this to your radio, simply click on “Radio” then “Upload To Radio” in a few moments you will see the prompt for COM, Radio, and Model, everything should be fine, so just click “Ok” and the upload process will begin loading everything into the radio. Once finished, enjoy your new settings!

UV-82 Frequency and Channel Mode Switching—One quick hint for someone new to the Baofeng UV-82 radios.

The

most useful feature that I use is the ability to switch between “frequency”

button, turn on the radio “ON” by rotating the power/volume knob. This will toggle the radio between “frequency” and “channel” modes and the voice will prompt will announce which mode the UV-82 radio is in.

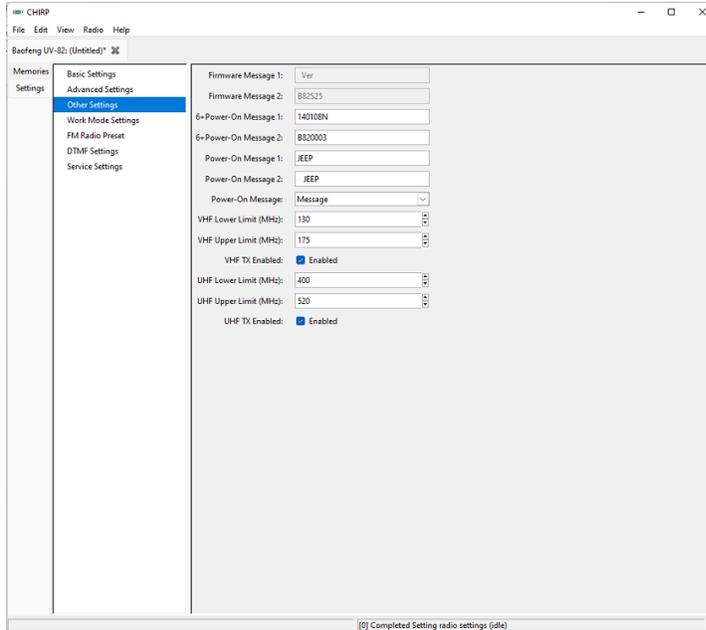


image 6

mode and “channel” mode. To switch between these two modes on the UP-

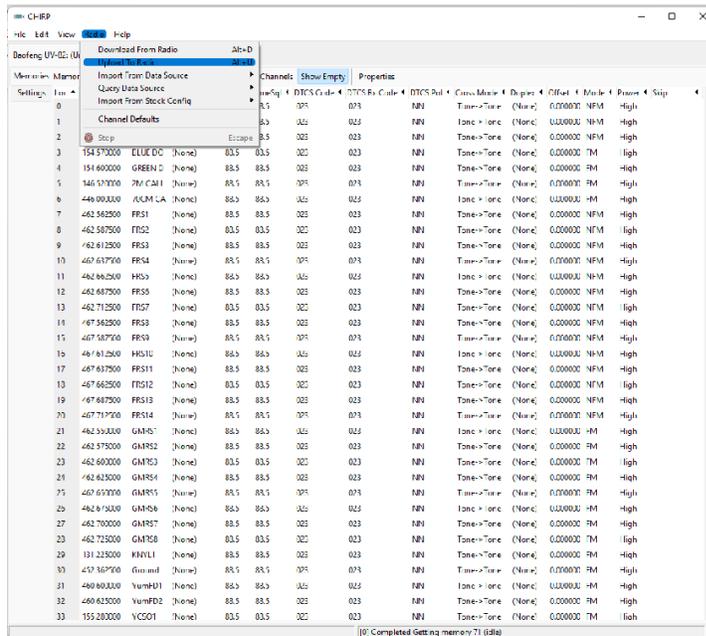


image 7

PER TX band. Start with the UV-82 radio off. Holding down the “MENU”

Update: CHIRP—next Software Release

CHIRP-next is the next generation version of CHIRP. As noted by the developers “This [version] has the latest and greatest set of features and fixes...” Differences in

CHIRP-next. The website mentions this about the revamped CHIRP software. “The CHIRP-next build includes a new GUI, effectively re-written from the ground up. Where possible (and desirable) we tried to keep the look and feel consistent. However, that was not possible in all cases, and in many cases, users will find the new GUI feels more native on their platform. Some little-used, confusing or redundant features have been omitted, and some are still yet to be developed. This page covers some of the high-level changes you can expect to see.”

This version of CHIRP (CHIRP-next) came out after the publishing of this layman’s CHIRP guide. The “feel” is the same but initially I noticed there are some notable menu differences that perform similar functions as the previous version of CHIRP. One such instance was in the original CHIRP-daily program you could “Import Stock Configurations” by going to the menu “Radio” and “Import From Stock Config” (an example of this is shown in image 3.

In CHIRP-next that functionality is under “Open” then “Open Stock Config” this is shown in image 9 below. I am not going to re-write this Newslet-

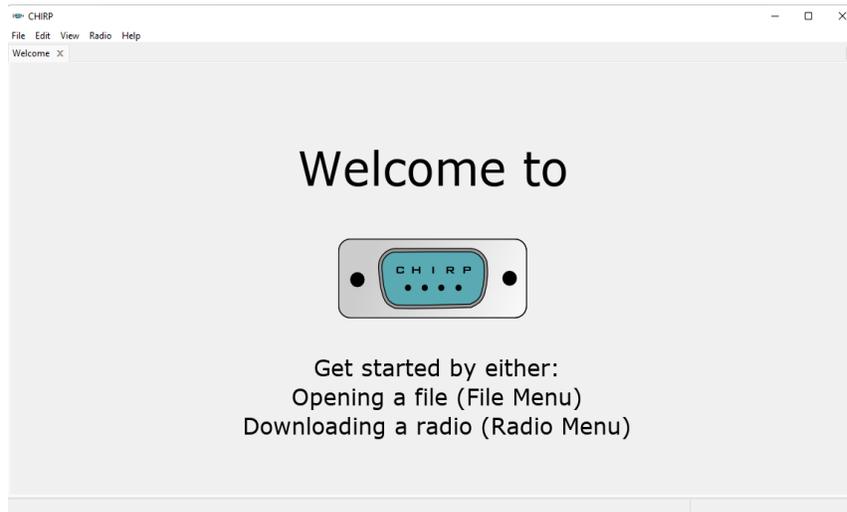


image 8

ter to show you all the functionality of the topics discussed and how they might have subtle differences under the CHIRP-next version.

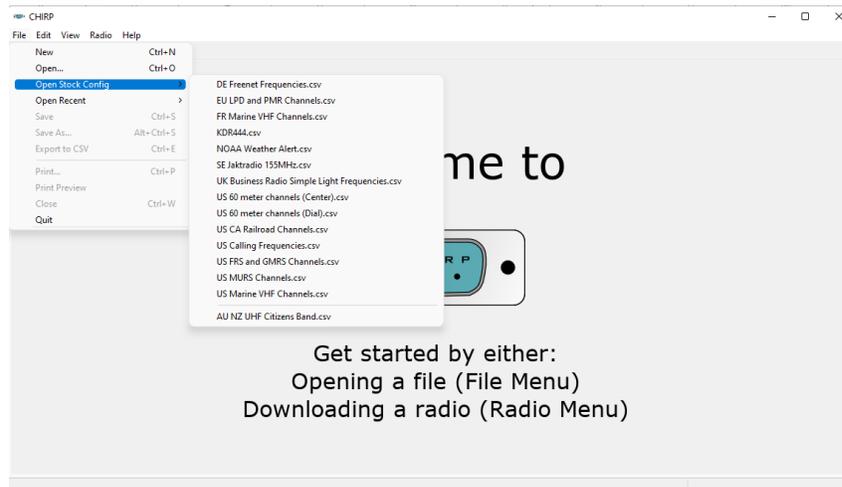


image 9

The original CHIRP program is still available for download and is currently called CHIRP-daily. This is the version this layman’s guide was written for, but over time I’m sure it will be phased out for this new generation of CHIRP (CHIRP-next).

Update: License Free Frequencies

For someone who enjoys dinking around with radios, then I highly recommend getting a Baofeng radio. They are inexpensive and have all the power a functionality an enthusiast whether licensed or not would want. Just because you don't have a license, doesn't mean you shouldn't by a TX and RX capable radio. Even without a license you can use the Baofengs as a scanner to listen to your favorite local or NOAA weather frequencies and repeaters. You can also use your radio to communicate on a multitude of license-free frequencies. We will discuss the popular ones the Baofeng UV82 can TX/RX here.

MURS—For me personally I find the MURS frequencies the most desirable frequencies for my use. These frequencies are license free and you can use this with your friends whether or not they have a license. MURS is part of the PRS (Personal Radio Service) bands. The MURS band consists of 5 frequencies, two of which are denoted as the “color dot” frequencies, named as “blue dot” and “green dot”.

NOTE: There may be other channel specifics not mentioned here, like peak envelope power, effective radiated power, calling/safety/emergency/travel channels

The MURS frequencies are as follows:

Ch 1	151.8200Mhz (NFM)
Ch 2	151.8800Mhz (NFM)
Ch 3	151.9400Mhz (NFM)
Blue Dot	154.5700Mhz (FM)
Green Dot	154.6000Mhz (FM)

The MURS are in the VHF frequency band and this is particularly useful for rural and outdoor settings because they are a lower frequency than some other license-free frequencies. These lower frequencies have a tendency to “bend” around hills and penetrate

through trees and foliage. The higher UHF license-free frequencies (operating at the same power) would fall off or be absorbed. The other nice aspect of MURS frequencies is that they are generally less crowded. The consumer radios you buy at the big box stores are going to be the UHF frequency FRS and GMRS channels which are going to be the vast majority of the people out there. This is another reason to own a Baofeng radio, they are likely cheaper than the blister pack big box store FRS and GMRS radios yet you can TX and RX on not only MURS frequencies, but also on FRS and GMRS frequencies, not to mention a wide swath of licensed frequencies as well.

FRS—Family Radio Service band is also part of the PRS bands. The FRS band is usable for personal or business two-way (TX/RX) communications. This is also the band that is used most often by kids with their cheap walk-talkie blister pack radios and FRS is considered the “consumer band” when compared with GMRS and MURS bands.

The FRS services consists of 22 frequencies, which are shared with GMRS. While there are no license requirements there are restrictions on which radios can use the FRS service. FRS allows analog FM voice operation and digital positional and text messaging with strict limitations. Digital voice modes such as DMR, P25, D-STAR, and System Fusion (C4FM) are not allowed on the FRS band.

The FRS frequencies are listed below and these remember are also shared with the GMRS band, but only the FRS specifics are listed (the GMRS specifics will be listed in their own section).

NOTE: There may be other channel specifics not mentioned here, like peak envelope power, effective radiated power, calling/safety/emergency/travel channels

Ch 1	462.5625Mhz (NFM)
Ch 2	462.5875Mhz (NFM)
Ch 3	462.6125Mhz (NFM)
Ch 4	462.6375Mhz (NFM)
Ch 5	462.6625Mhz (NFM)

Ch 6	462.6875Mhz (NFM)
Ch 7	462.7125Mhz (NFM)
Ch 8	467.5625Mhz (NFM)
Ch 9	467.5875Mhz (NFM)
Ch10	467.6125Mhz (NFM)
Ch11	467.6375Mhz (NFM)
Ch12	467.6625Mhz (NFM)
Ch13	467.6875Mhz (NFM)
Ch14	467.7125Mhz (NFM)
Ch15	462.5500Mhz (NFM)
Ch16	462.5750Mhz (NFM)
Ch17	462.6000Mhz (NFM)
Ch18	462.6250Mhz (NFM)
Ch19	462.6500Mhz (NFM)
Ch20	462.6750Mhz (NFM)
Ch21	462.7000Mhz (NFM)
Ch22	462.7250Mhz (NFM)

Because FRS is in the UHF band, these higher frequencies are more useful for urban areas and indoors. The frequencies will generally reflect and bounce around between obstructions, where the lower MURS frequencies would tend to be absorbed and fall off in the same environment. Because of the lower power of the FRS band these are generally not suitable for critical communications.

GMRS—General Mobile Radio Service or GMRS band is also part of the PRS bands. While GMRS band **DOES** require a license, I'm mentioning GMRS here because it shares 22 frequencies with the non-license FRS band which may pose some confusion and then it also has 8 additional frequencies that are GMRS specific. As mentioned the GMRS band shares frequencies with the FRS band, but GMRS allows higher TX power than is allowed for FRS communications. Transmitting on the GMRS band requires only a “no-test” license. This license can be attained online by anyone 18 years of age and older.

GMRS allows for external antennas (think CB radios) and up to 5 watts ERP (Effective Radiated Power) on channels 1-14 and up to 50 watts on channels 15-30. With this additional operating power GMRS is a good option for serious recreational, prepper and emergency communications.