GMARC- CHIRP Presentation

Presentation by Dick Weir, N8HG

At the February 20, 2024

GMARC General Membership Meeting

How many of you have had the pleasure of manually programming a ham radio?

So how much fun was that?

So, what is Chirp?

Chirp is a desktop computer software application to help in programming radios. There are versions that run on Windows, MAC and Linux computers.

Why use Chirp?

Instead of manually programming each aspect of a radio channel into your radio, Chirp can do most of the heavy lifting for you. Chirp also has libraries' of current repeaters that are free to use.

Do I have to use Chirp?
Nope! You can manually program all of your radios. Which I do not recommend. That would be very painful. But you certainly have the right to do it.

Does Chirp work with my radio?
Chirp covers almost all radios at this time. As new radios come on the market, Chirp quickly supports these new devices. Check the Chirp website for a complete list of radios.

What is the cost of Chirp?
Chirp is free to download and use. It is written and supported by hams.

How hard is it to use?
It is not that hard as most of the operations are very intuitive. Once you play with it for awhile it will become second nature to you.

What equipment do I need?
You need two things.
1. A computer running either Microsoft Windows, Apple MAC or Linux operating systems.
2. A programming cable.
   The cable is different for each manufacture. Some come with the radios, some use universal USB cables and some have to be purchased from the manufacture. Each manufacture is different.

Where can I get extra help:
YouTube has a wonderful tutorial. I would suggest you watch this first '*before*' installing Chirp.
   https://www.youtube.com/watch?v=ufB9FXsLpKY

This YouTube channel was suggested by Dave (KZ8Z).
Thanks Dave.

Chirp also has their own Frequently Asked Questions (FAQ) help page at:
   https://chirp.danplanet.com/projects/chirp/wiki/FAQ

Operating System requirements for CHIRP:
1.   Windows 10 and later (64-bit)
2.   macOS Big Sur and later
3.   Linux (all modern distros with python3)

To get started:
1. Search for "chirp.danplanet.com" on the web
      (https://chirp.danplanet.com/projects/chirp/wiki/Home)

2. Download CHIRP for your platform (Windows, MAC, or
     Linux)

3. Check out the "How to get help" page, and the rest of the
     Documentation on this page.

4.   Be sure to review the FAQ.
        Latest Windows installer is
        "chirp-next-20240216-installer.exe". You can download
        newer version at any time without having to delete the old
        Chirp executable.

How to connect your specific radio to your computer?
You will have to go to your radio manual and read up on how to connect your computer to your particular radio for programming. Each manufacture has their own way to interface with their hardware. Some require a specific cable, and others can use a universal cable.

Radio example #1: Yaesu 8900R needs a special USB cable to connect to the back of the radio.
                    This cable cost about $30.
Radio example #2: AnyTone D578UV III Pro uses a standard USB-A to Type-Mini-AB connector.   Since I had several on hand, there was no cost to me.

What kind of cable do I need?
 The cables will vary in price. Generally less than $45. As I mentioned, some of the newer radios can and do use universal USB cables. The CHIRP project recommends cables from BlueMax49ers. Also check the CableGuide page, which has details about potential pitfalls and some information about cables that are compatible with multiple radios.
        BlueMax48ers page: https://bluemax49ers.com/
        CableGuide page:
        https://chirp.danplanet.com/projects/chirp/wiki/CableGuide

How to startup Chirp:
Open up the Chirp application for your specific operating system. Once opened, you will be presented with a screen showing:

Welcome to
Get started by ether:
Opening a file (File Menu)
Downloading a radio (Radio Menu)

THIS NEXT STEP IS VERY VERY IMPORTANT!!!!
Since Chirp needs to know the "exact" format and configuration of your radio, the best thing to do is to "DOWNLOAD" the contents "FROM" your radio as a "baseline" configuration file. Label this configuration file as "Baseline_ver_000" and save. Then save another copy as "Edit_ver_001". DO NOT ever edit version Baseline_ver_000. Only edit the versions "Edit_ver_xxx".

I would strongly urge you to save your changes to a new version OFTEN. Such as version Edit_ver_002, Edit_ver_003, etc. So if and when you have a problem, you can always go back to a previous version that was working. I have used this method on more than one occasion. Be sure to incorporate the version number into you configuration file at a fixed location. More on the later.

<u>Organization of radio frequencies for my 2m & 440 radios:</u>
Each radio will have a different number of memory locations to store frequencies. So there are many ways to organize the order of your freq.

 My radio can save several hundred channels, so I have chosen to organize them this way.
   channel 1   to 49 are VHF channels
   channel 50 to 79 are UHF channels
   channel 80 to 89 are VHF Simplex channels
   channel 90 to 98 are UHF Simplex channels.
   channel 99 is the Hockey channel (local simplex freq for GMARC hams)
   channel 100 to 109 are NOAA weather channels
   channel 110 is my channel to store the current version. Such as
   "ver_216". This is important!

Chirp program spread sheet columns:

Freq	freq in MHz
Name	Name of channel (6 characters)
Tone Mode	Tone TSQL DTCS
Tone	Tone freq 67 to 254 Hz
DTCS	not used
Duplex	+ - split none
Offset	freq offset (0.6 or 5.0 MHz)
Mode	FM NFM AM
Skip	S = Skip this channel from scanning
Power	low mid2 mid1 high
Comment	comment

ADDING channels:
You can add as many channels as you wish manually, but there is a better way:

      In Chirp select the "Radio" drop down menu,
      Then select "Query Source".
      Then select "RepeaterBook" or "DMR MARC". There are also other
      sources which you can experiment with later.

Repeater book website:
      https://www.repeaterbook.com/index.php/en-us/
      RepeaterBook.com" is a worldwide database.
      It will allow you to select:
            Country (worldwide) (United States)
            Service (Amateur or GMRS)
            State / Province
            location (latitude & longitude) and distance from this location.
            filter: such as county, country, hospital, etc.
            Limit Bands: (10M, 6M, 4M, 2M. 70 cm, 23 cm, 13 cm, 3 cm)
            Limit modes: (FM, DV, DMR, DN)

Daily use:

Once the channels are in your configuration file, you can copy, paste, delete as much as you like to get the perfect configuration just for you. As you use your radios, you will certainly want to make some changes.

I would suggest that you first visit the YouTube channel on Chirp.

With that said, I will now take questions...

Dick Weir
N8HG