GARS Workshop - May 2020

Dallas KD4HNX

CHIRP Software

The focus of this presentation is for:

- New Hams
- Elmers
- ARES members with a Go Kit
- Anybody that goes on vacation or a roadtrip with a radio
- Anybody looking to buy a new VHF/UHF radio

What is CHIRP?

Straight from the CHIRP website:

https://chirp.danplanet.com/projects/chirp/wiki/Home

CHIRP is a free, open-source tool for programming your amateur radio. It supports a large number of manufacturers and models, as well as provides a way to interface with multiple data sources and formats.

CHIRP is the brainchild of Dan Smith, KK7DS

There are 30+ Developers and 25+ Website/Wiki editors

Manager: Dan Smith

Developer: Aaron P, Alexey K, Angus Ainslie, Ben Weiss, Bernhard Hailer, Bill Crossley, Brian Dickman, Daniel Clemmensen, Derek Chauran, Filippi Marco, Jens Jensen, Jim Unroe, Joseph Scanlan, K. Arvanitis, Keith Williamson, Klaus Ruebsam, Mark Adams, Mathias Weyland, Nathan Crapo, Nicholas Vahalik, Nicolas Pike, Patrick Lang, Pavel Milanes, Rhett Robinson, Richard Cochran, Rick DeWitt, Ron Wellsted, Tim Smith, Tom Hayward, Tony F, Tyler Tidman, Wade Simmons, Windsor Schmidt, Zach Welch

Wiki Editor: Aaron P, Adam Coddington, Brian Dickman, Christof Harper, Daniel Clemmensen, Dave Nathanson, Derek Chauran, Hew Lines, Jason Willebeek-LeMair, Jeff Otterson, John LaMartina, Keith Williamson, Klaus Ruebsam, Mark Dunkle, Mathias Weyland, Neil Katin, Nicholas Vahalik, Nicolas Pike, Pavel Milanes, Predrag Supurovic, Rick DeWitt, Robert Terzi, Ron Wellsted, Thomas Garvey, Tim Smith, Tyler Tidman

Spam Cleaner: Bernhard Hailer

In the past...

I've used CHIRP to program those cheap/inexpensive Chinese radios that have attracted so many new hams to the air waves.

- AnyTone
- Baofeng
- Pofung
- TYT
- Wouxun
- Any many more...

Plus CHIRP works with brands we know and love:

- Alinco
- Icom
- Kenwood
- Yaesu

CHIRP supports to many radios to list here...

The list of radios CHIRP supports is always changing to see a list follow this link:

https://chirp.danplanet.com/projects/chirp/wiki/Home

The problems CHIRP helps to overcome: #1

The Chinese radios and their many variants **MAY** come with their own programming software that is very hard to use.

Many of the USB programming cables don't work because of pirated USB chips.

To program the radios by hand is very complex:

- Small buttons
- To many menus
- To many steps
- Nearly impossible to edit a memory channel

The problems CHIRP helps to overcome: #2

It seems that every batch of the inexpensive radios has a new variation that affects how they are programmed.

Software and or cables that worked with one make/model may not work with others of the same make/model which is very frustrating to the new ham and the Elmer trying to help them.

CHIRP gives the Elmer a common interface to program the radios.

Only one software package to learn/master.

The problems CHIRP helps to overcome: #3

The new ham is overwhelmed with stuff like:

- Input frequency
- Output frequency
- Offset (positive or negative)
- Tone, PL Tone, CTCSS, Digital Tone, etc…

With a CHIRP file they can SEE a listing of local repeaters and what makes them work.

The problems CHIRP helps to overcome: #4

The CHIRP file can be shared via email, websites, email groups, floppy disk and USB sticks.

They can be discussed over the phone or radio with the new ham sitting at their PC and their Elmer in their ear. It puts them in the driver's seat.

The CHIRP software is FREE so no issues with pirated software.

CHIRP works on Windows 2000 and newer, Linux, and Mac OS.

The problems CHIRP helps to overcome: #5

Even if you have programming software for a radio(s) CHIRP has value because you can see/share what is needed.

- Frequency
- Callsign
- Tone, DTCS, etc
- Offset (+/-)
- Shift (which is different for each band)
- Mode FM, DV, P25
- City/Landmark (Stone Mountain, Bank, Hospital, Broadcast Tower)

One of the biggest hurdles of CHIRP

Getting a USB cable for the radio(s) you want to program

Buy from a reputable dealer

I use RT Systems cables

What I learned about CHIRP recently: #1

I've heard rumors of those that have bricked* their radio by using CHIRP

- Bricked meaning the software has corrupted the radio's programming so bad it doesn't work anymore and even doing a reset to factory settings fails.

Almost all radio programming software, including CHIRP stressed READ before WRITING. Read what's in memory and save that file. What that did was prove that the software could communicate to the radio. If what you read looks like garbage don't write to the radio

My new install of CHIRP forces me to read before I can write to my radio.

What I learned about CHIRP recently: #2

CHIRP works with RepeaterBook which is a database of repeaters

With a few mouse clicks I was able to download a FREE listing of 563 Amateur repeaters into CHIRP for the entire state of Georgia.

- Frequency
- Callsign
- Tone, DTCS, etc
- Offset (+/-)
- Shift (which is different for each band)
- Mode FM, DV, P25
- City

What I learned about CHIRP recently: #3

This means I can plan my road trip/vacation and download a list of repeaters for every state I drive through.

Every ARES member should have a copy in their Go Kit

The entire 563 repeater list is only 46KB

- 10m
- 6m
- 2m
- 1.25m

- 70cm
- 33cm
- 23cm

What I learned about CHIRP recently: #4

That old, tattered, ARRL Repeater Directory you have in your glovebox just might be a thing of the past

- AL 400+ 35KB
- GA 560+ 46KB
- FL 800+ 71KB
- SC 280+ 25KB
- TN 370+ 32KB
- All fits on a Single Sided Single Density 5" floppy with 150KB to spare
- Imagine what you could store on a thumb drive
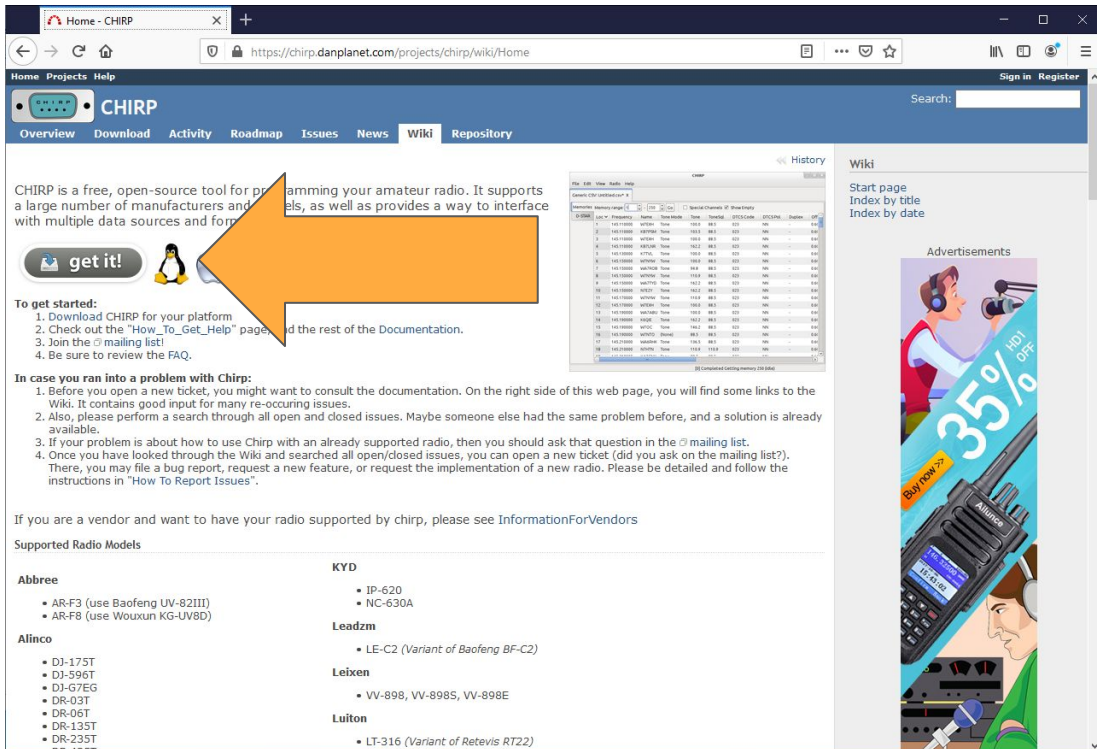
Where do I get CHIRP

From the CHIRP website of course

https://chirp.danplanet.com/projects/chirp/wiki/Home

Get ready for a few screenshots

From the CHIRP homepage click on the get it button

Window 2000 to 10, MacOS, Ubuntu, other Linux

Scroll down to find the version you want:
- Windows 2000 to 10
- Mac
- Ubuntu
- Other Linux
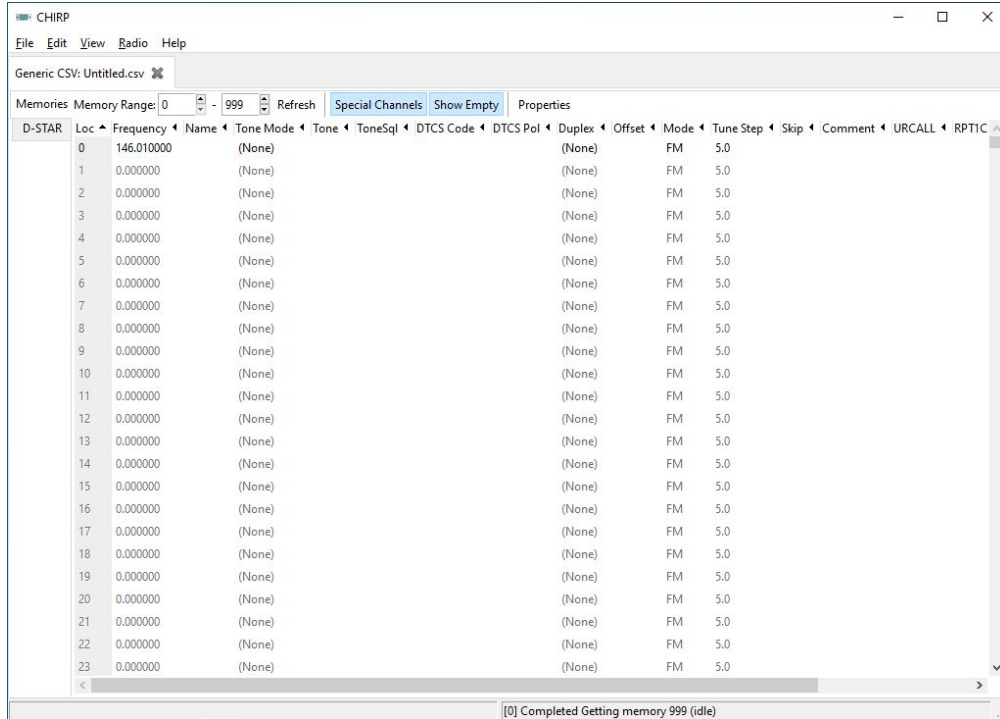
CHIRP doesn't look like much when started
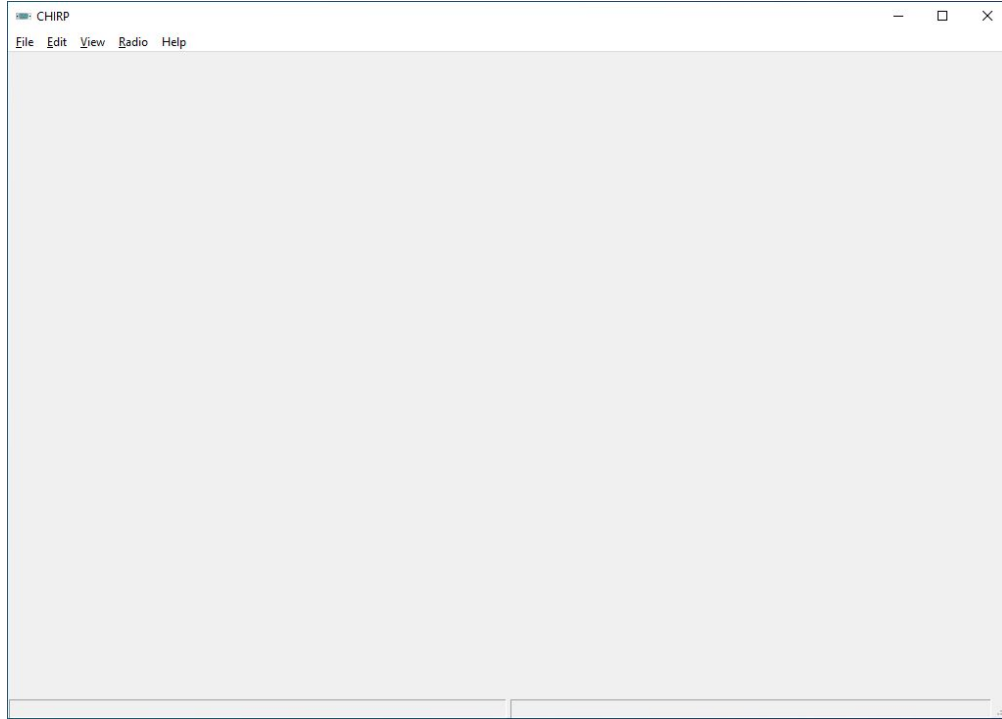
Just a blank page

File - New

Not much better but now you can see fields where you can add things.

File - Open stock config
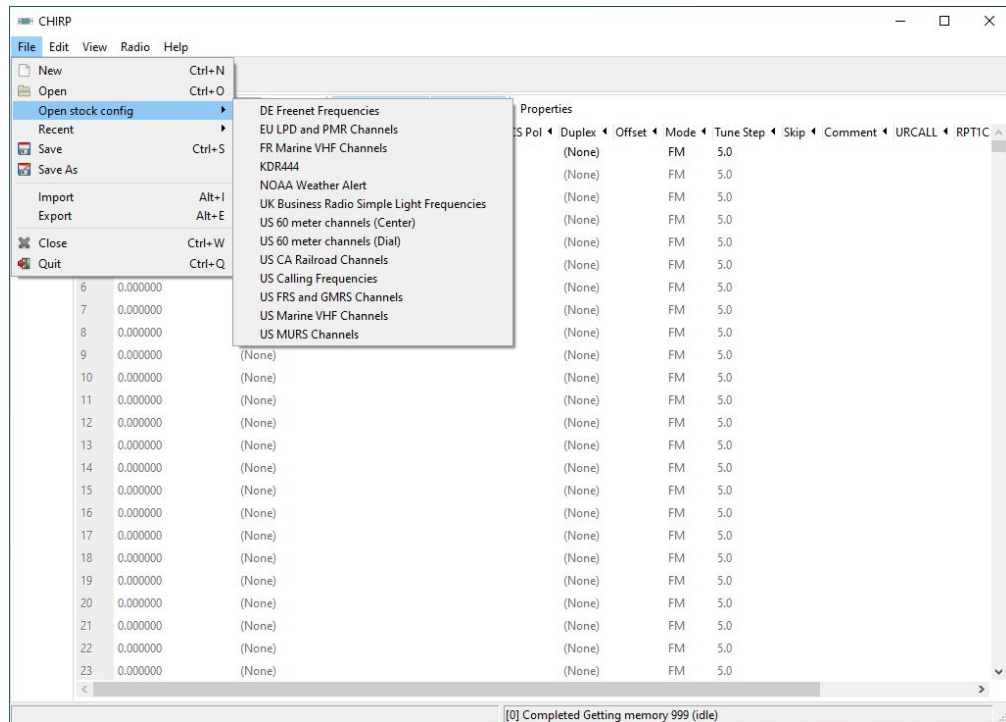
Cool stuff to listen to:
- NOAA Weather
- Railroad Channels
- Marine Radio
- FRS
- GMRS
- MURS

Radio - Download from Radio
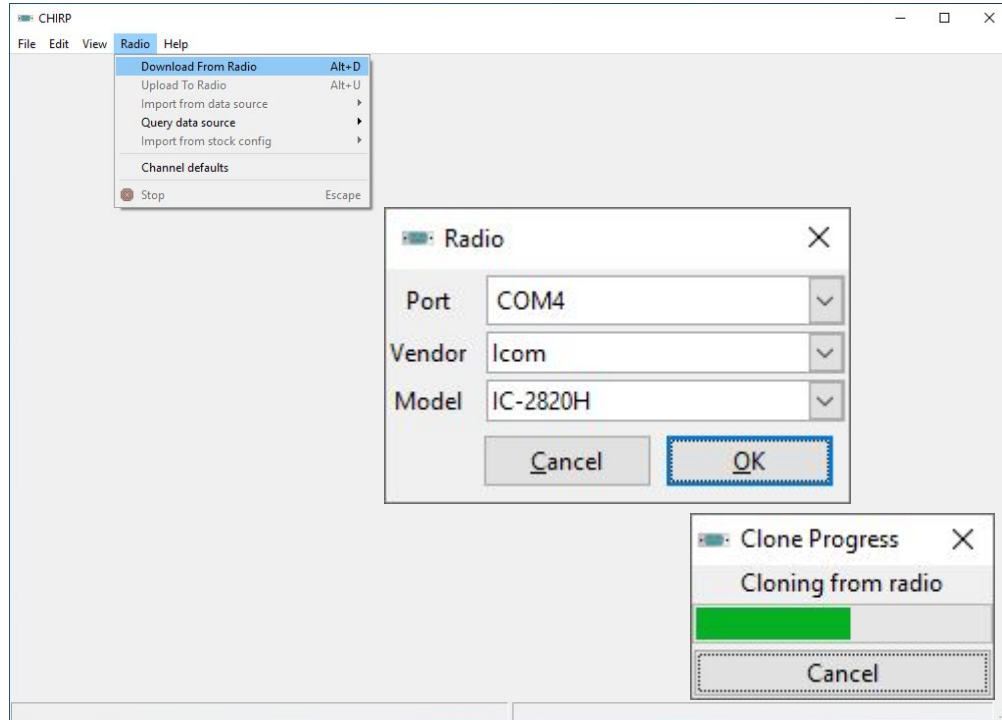
- Set COMM Port
- Set Vendor
- Set Model
- Press OK

(Note 3 screen shots)

My IC-2820

53 D-Star memories from a road trip I took from TX to SC

8 Central TX repeaters

12 Local 2m and 70cm repeaters

I've proven I can READ from my radio

File - New

Radio - Import from data source - RepeaterBook
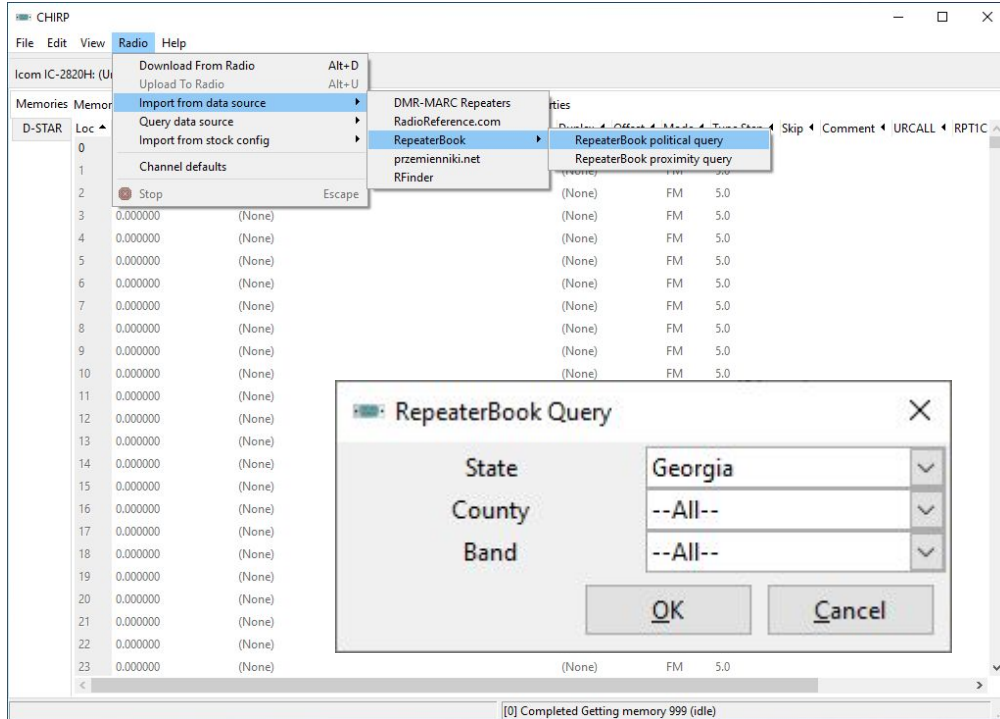
Make sure to select **RepeaterBook political query**

Then in the popup fill in the State (Georgia)

Then press OK

Things to watch for
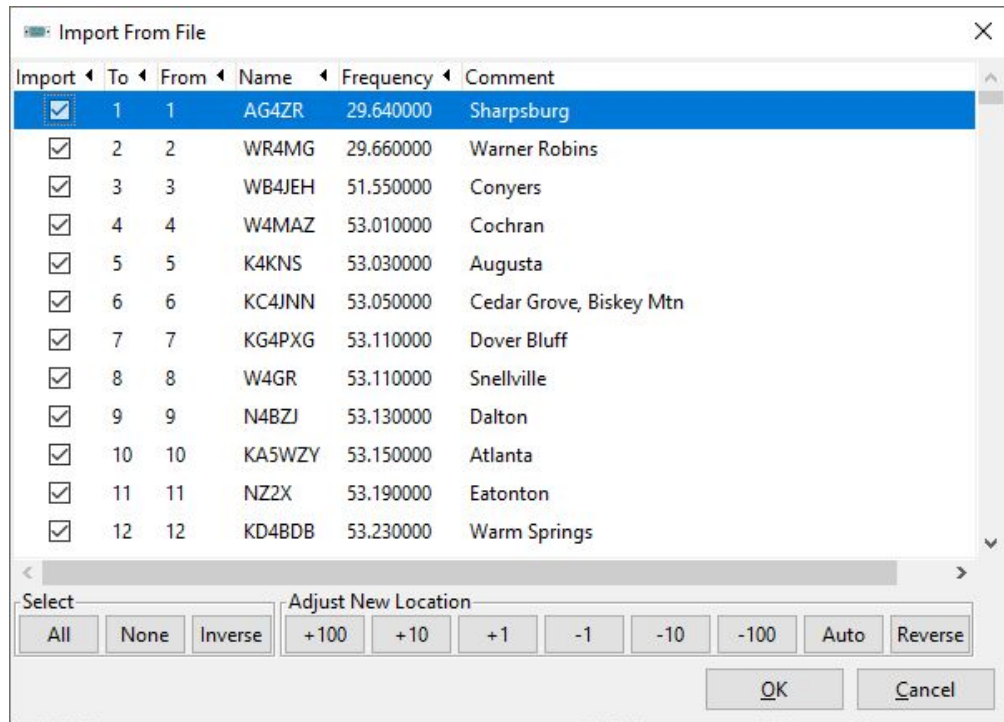
If you started from a new file pressing OK works fine…

IF you are on an active spreadsheet you need to Adjust where to dump these as it wipes out your previous settings.

OUCH!

Save often with meaningful names

This eye-chart shows 569 memories

Some memory channels are skipped

Let's try to WRITE this list to my IC-2820
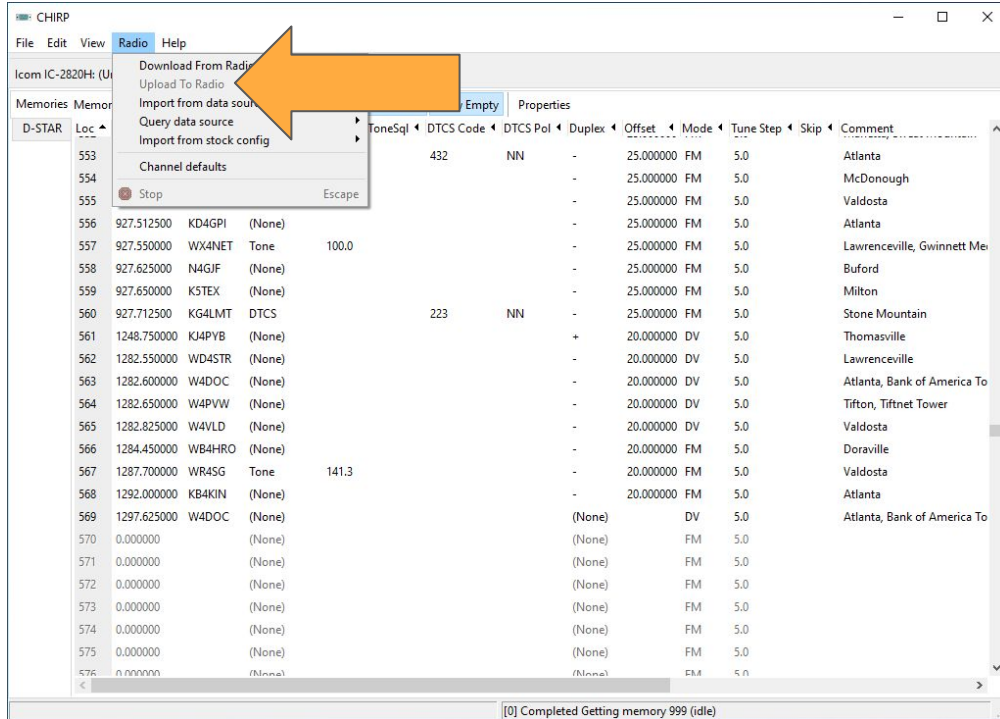
Note that Upload to Radio is grayed out

You have to READ before you can WRITE

So I'll RE-READ from my radio or select a file I read from my radio

But what if I added the GA repeaters to my TX file

I have 166 memories used

Here is the Import From File screen shot
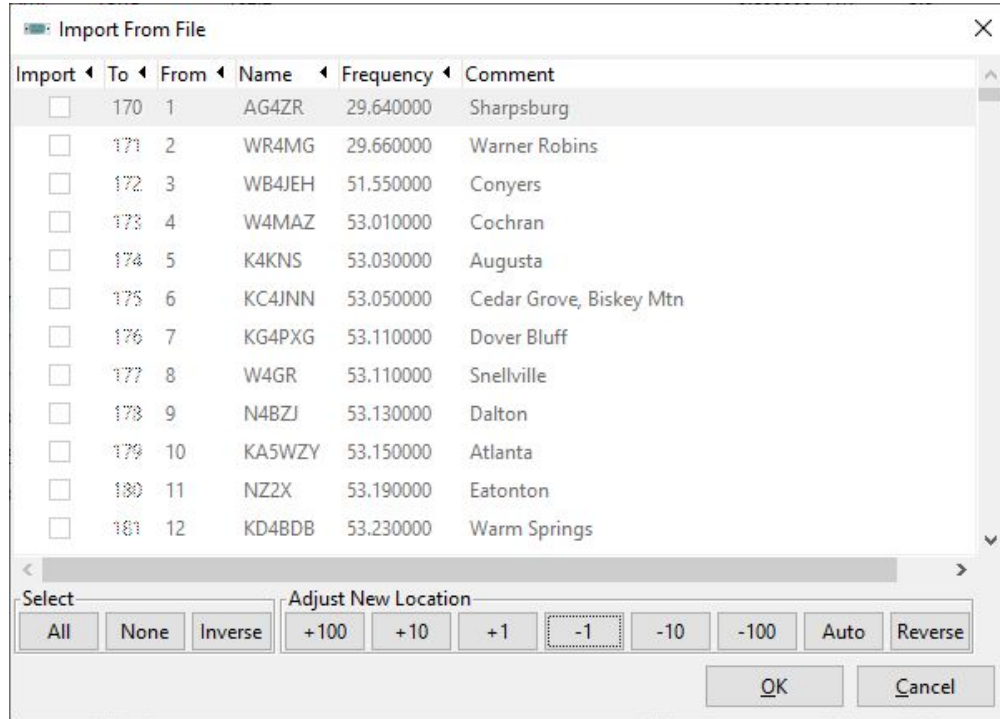
- Using the Adjust New Location buttons I set the import to 170
- Use the +100 +10 +1
- -1 -10 -100 to set the From start point
- Looks good
- See what happen

Not what you were expecting - But it's OK

The memories start at 197 because the input file listed 27 10m and 6m repeaters that the IC-2820 can't use.

170+27=197

Remember to save your file with a meaningful name

Frequencies out of my radios range are removed.

- ~~10m~~
- ~~6m~~
- 2m
- 1.25m (Receive Only)
- 70cm
- ~~33cm~~
- ~~23cm~~

Select memories to delete

Use the RIGHT Mouse button to select

Delete ...and shift all memories up

CHIRP does not get awards for deleting and moving

That was fun to watch CHIRP deleting and moving memory channels

Remember to save your file with a meaningful name

What if you want to monitor FRS and GMRS
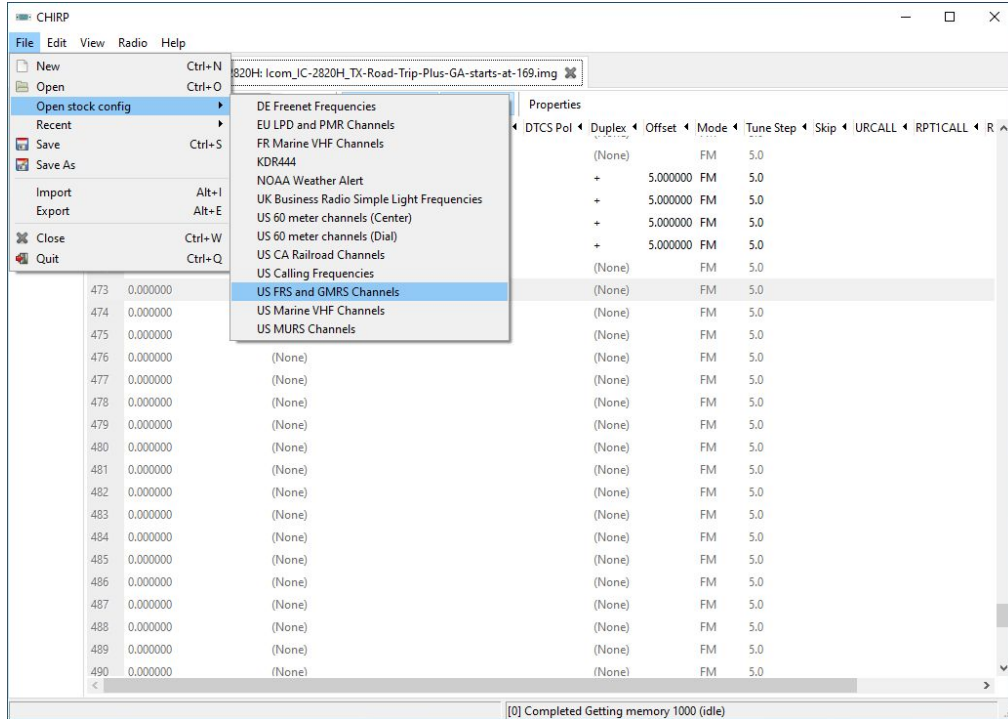
File - Open stock config

US FRS and GMRS Ch

Note this creates a new TAB but you have to click on it to open/see it

Cut-n-Paste from one Tab to the Next

Select the 52 channels to Copy and Paste them to your radio's file

Remember to save your file with a meaningful name

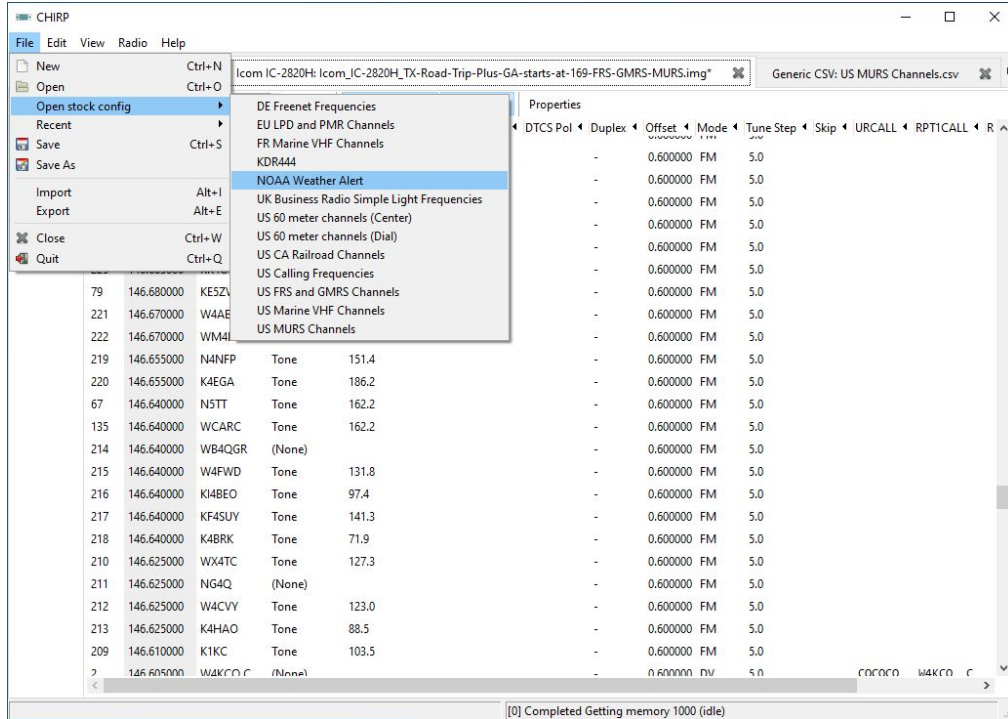Do not transmit out of the ham bands

You can do the same to add MURS too

Select the 5 MURS channels and Copy Paste the to your radio's file

Remember to save your file with a meaningful name

Do not transmit out of the ham bands

If your radio didn't come with NOAA frequencies

Simply make room with the shift commands and add them

Remember to save your file with a meaningful name

So there is my high altitude overview of CHIRP