

Brass Tacks

An in-depth look at a radio-related topic



Guide to using CHIRP

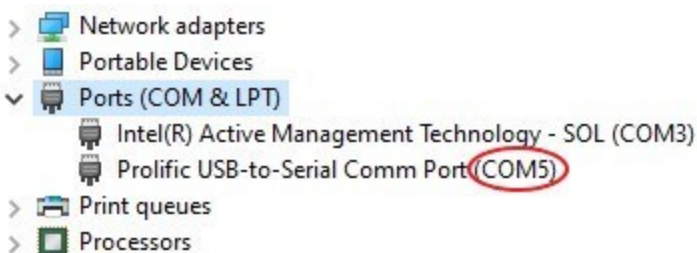
Unlike cell phones, walkie-talkies, and CB radios, ham radios don't typically arrive from the manufacturer or store, pre-programmed with a set of channels or frequencies. The programming is left to us, and we can choose to set up our radios manually or programmatically. If we elect to do it by computer, we typically use one of three applications to do the programming: RT Systems, manufacturer ("OEM") software, or CHIRP. Just so you'll know, [RT Systems](#) is probably the best amateur radio programming software there is, costs around \$50, and normally sells with a programming cable as well. But if you want free, and you have the cable, then CHIRP might be for you.

You can use CHIRP to program HTs (handheld transceivers), mobile radios, and some HF rigs. This brief guide is not intended to be comprehensive, in that the focus will be on basic radio settings for analog HTs. CHIRP displays a slightly different interface between any two different transceiver models, so this guide intends to remain as generic as possible, and recommendations *tend* to apply to all models. The example I present here will be for the Baofeng UV-82, a dual-band HT with only two power settings and one *bank* of memory channels. Make sure your transceiver [make and model combination is supported](#) before running CHIRP.

Download the daily build

CHIRP works on Linux and Mac OS, but I'm going to describe its functions with the Windows version, since that's what most CHIRP users tend to use. Download CHIRP from [chirp.danplanet.com](#) and install it on your laptop. After that, you should always download and install the latest [daily build](#) of CHIRP before you start programming radios on a given day. If a released build has been pushed to the repository since your own latest version, CHIRP will prompt you to upgrade the software. Always accept the offer to upgrade, and close the CHIRP window while it's being updated.

Before starting CHIRP, plug your (typically USB) programming cable into your computer and allow Windows to discover the new hardware and install its driver. Be sure to use a cable that has an embedded chip made by FTDI or Prolific, if possible. If you're not sure which chip it uses, it might still work fine if you're using Windows 10. Press <Windows-X> (the Windows key and x) and select Device Manager. Open "Ports (COM & LPT)" and take note of which COM port the cable is using, then close Device Manager:



With your radio turned off, plug the programming cable into it, make sure you have an antenna attached, and then turn on the HT, the volume set at least halfway.

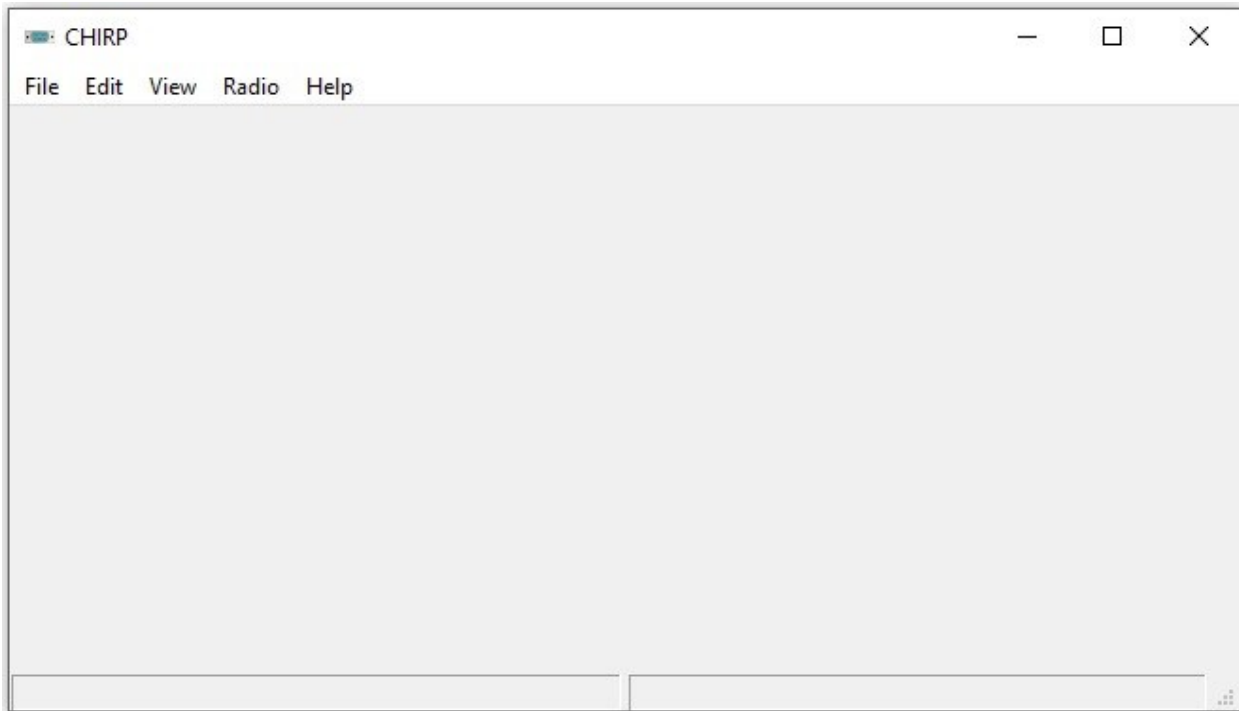
Brass Tacks

continued

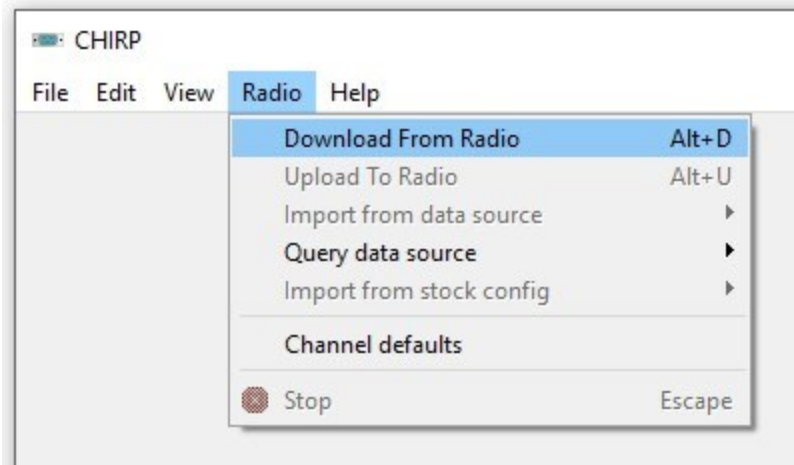


Start the program

When you open CHIRP, it normally displays a very blank window, showing only the tab titles, so don't let that worry you:



Click the **Radio** tab, then **Download From Radio**:

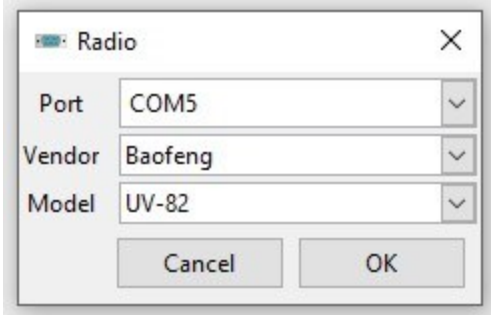


Brass Tacks

continued



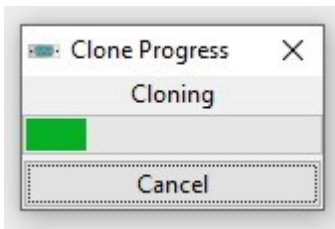
CHIRP will display the Port, Vendor, and Model dialogue window. Select the COM port number you took note of (that Device Manager displayed for your cable), along with the make (Vendor) and model of radio you're going to program, then press OK. Also click to Proceed if warning messages appear regarding experimental drivers.



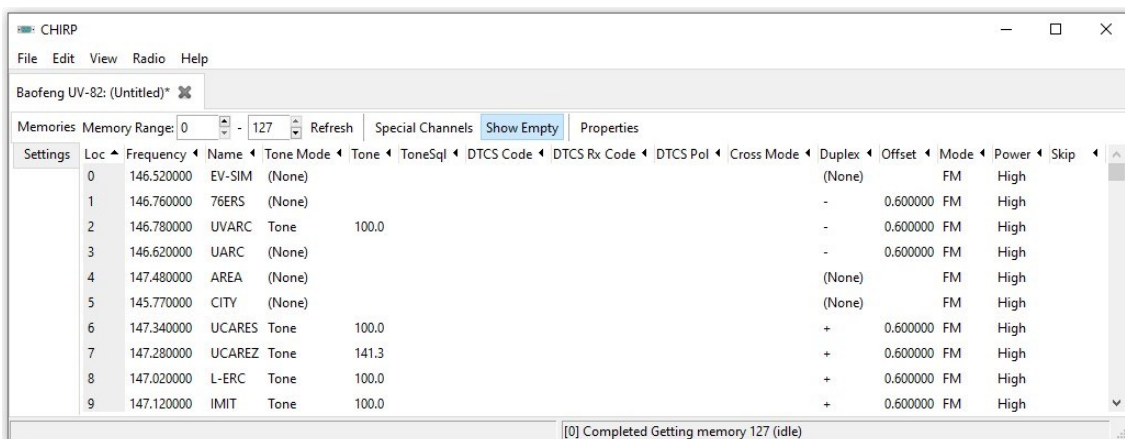
When the Instructions window appears, follow them and click OK:



If all is working as expected, CHIRP will display the Cloning window, to indicate the download progress:



Once the download is complete, CHIRP will populate the **Memories** spreadsheet with all the frequency and channel information that's currently stored in your HT, which might not be meaningful if it's not been programmed previously.



At this point, you're free to modify the fields to accommodate your own programming frequencies and settings. But there's an easier way.

Brass Tacks

continued

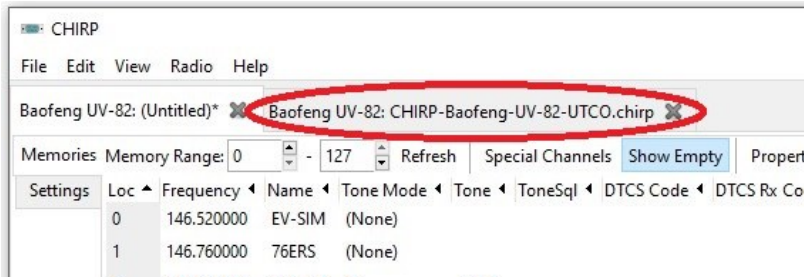
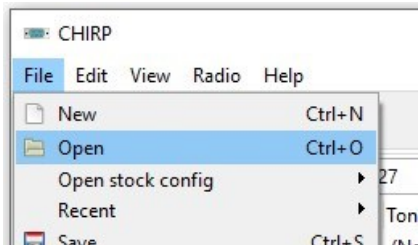


Go to my [Software Programming link](#) and identify your transceiver make and model in the table. Under your general location (UT Co, in this example), find three links, IMG, CSV, and PDF:

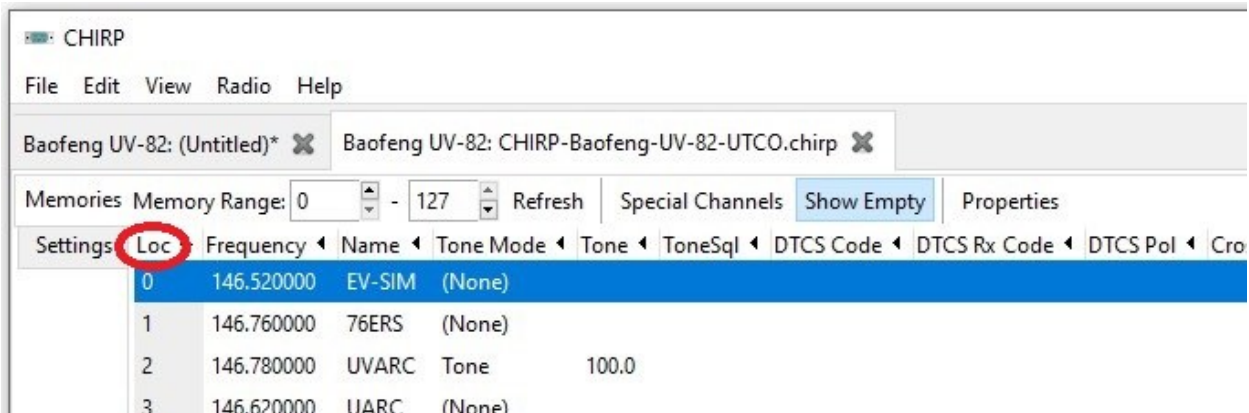
Baofeng UV-6R	IMG CSV PDF	IMG CSV PDF	IMG CSV PDF	IMG CSV PDF
Baofeng UV-82	IMG CSV PDF	IMG CSV PDF	IMG CSV PDF	IMG CSV PDF
Baofeng UV-82HP	IMG CSV PDF	IMG CSV PDF	IMG CSV PDF	IMG CSV PDF

Click the IMG link, which (in this example) downloads [CHIRP-Baofeng-UV-82-UTCO.chirp](#) and saves it to your Downloads folder. In CHIRP, click **File**, then **Open**:

Navigate to your Downloads folder and select the .chirp file you just downloaded. CHIRP will now display a new tab, which contains the frequency memories and settings information stored in the file:



With the **Memories** tab showing on the left, click the new tab, then click the first Loc number:

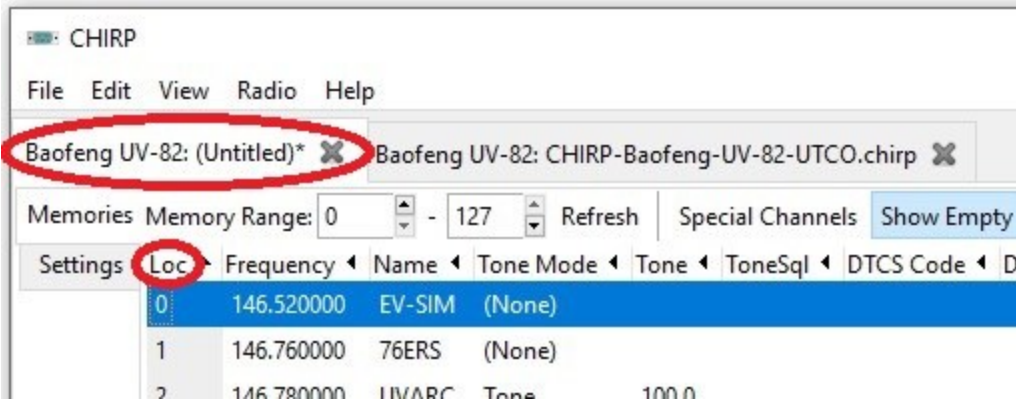


Brass Tacks

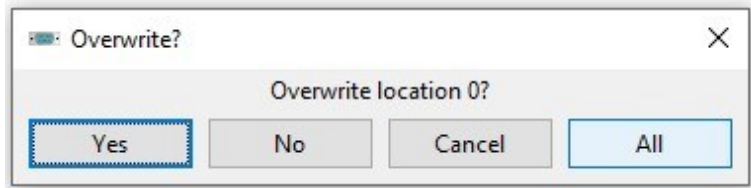
continued



Highlight all the rows you want to copy, as you would any spreadsheet, and copy them. Click the first tab, then right-click the first Loc number, and select Paste.



In the **Overwrite?** window, click All:



Click the **Settings** tab on the left, and set up some basic settings for your radio. I recommend the following:

Basic Settings

Beep: NOT enabled

Roger Beep: NOT enabled

Advanced Settings

Dual Watch: Enabled

Busy Channel Lockout: NOT enabled

Automatic Key Lock: NOT enabled

Broadcast FM Radio: Enabled

Squelch Tail Eliminate: NOT enabled

STE Repeater Delay: OFF

RESET Menu: Enabled

All Menus: Enabled

Other Settings

VHF TX Enabled: Enabled

UHF TX Enabled: Enabled

Work Mode Settings

VFO/MR Mode: Channel

Keypad Lock: NOT enabled

VFO Bandwidth (both A and B): Wide

VFO Tuning Steps (both A and B): 10.0

FM Radio Preset

FM Preset (MHz): 102.7

Brass Tacks

continued

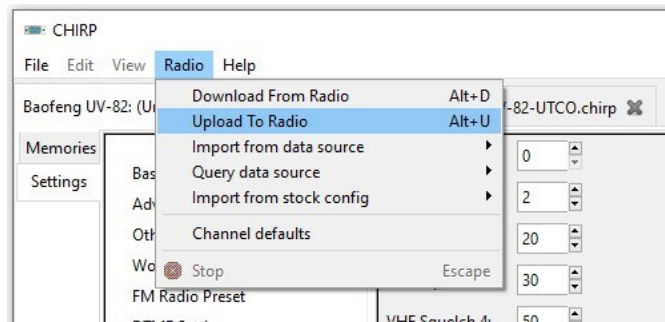
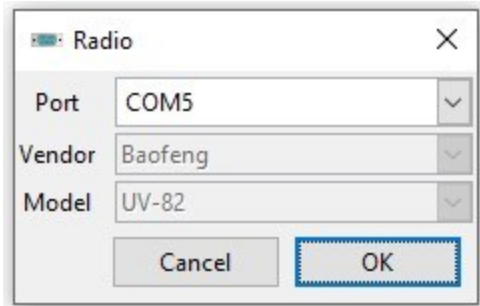
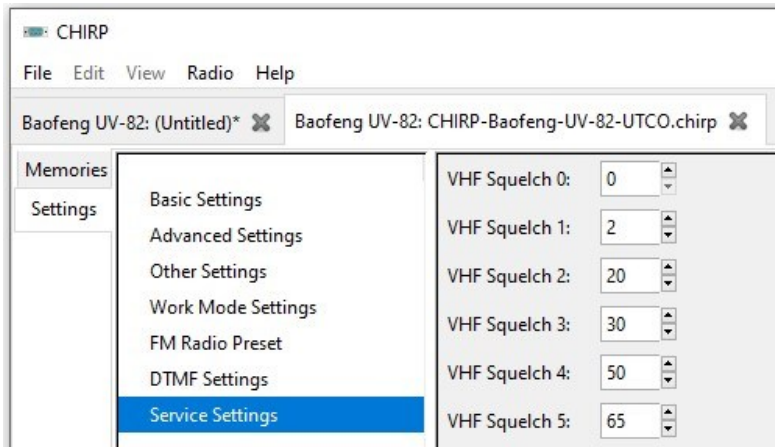


In the **Service Settings** page (only applicable to Baofeng HTs), change both the VHF and UHF squelch settings to the following:

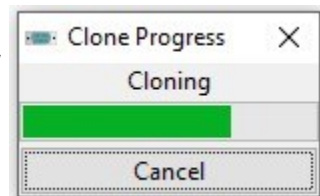
0 : 0	5 : 65
1 : 2	6 : 75
2 : 20	7 : 85
3 : 30	8 : 95
4 : 50	9 : 105

Now, with settings and memory channels set as you want them, you're ready to store them into your HT's memory. Optionally, I recommend that you first save your hard work onto your computer. Click the File tab, then Save As, and give your local file a meaningful name. By default, CHIRP will store its information in a binary file with the .img extension.

Click the **Radio** tab, then **Upload To Radio**:



CHIRP will display the Port, Vendor, and Model dialogue window again, only this time the Vendor and Model entries will be grayed out, indicating that you aren't able to modify them. Click OK to start the upload (*Clone*) from CHIRP to your HT. Once the upload process is complete, CHIRP will re-start your HT. Turn off the power to your HT, then unplug the programming cable from it.



Epilogue

At this point, your HT is all set and ready to be used. There are many points along the way where something could go wrong, causing you to re-start the procedure, but I'm going to leave them to you as a training exercise. If you run into anything you just can't figure out, please feel free to shoot me an email.

Noji Ratzlaff, KNØJI (kn0ji@arrl.net)