

Intro to Cheap HTs & Programming with CHIRP

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Overview

- Introduction to Baofeng Radios
- Manual Programming
- Programming with CHIRP

Baofeng/Pofung HTs

- First Introduced in 2011
 - FCC approval in 2012
- Inexpensive: \$30-\$40
- Power: 4W/1W (8W variants)
- Frequency Range (Rx AND Tx):
 - 136.00-174.00 MHz
 - 400.00-480.00 MHz
 - (220.00-260.00 MHz variants)
- FM Broadcast and National Weather Service Receive
- Dual Display
- Dual Monitor (Switching)
- Storage Channels: 128
- Battery Life: 12hrs



Baofeng Variants

BaoFengTech.com



Certain Models are NOT Compared as they are Reproductions or Clones (Such as the UV-82L or UV-89)

Visit BaoFengTech.com for More Information



UV-5R

Original

1st Generation UV-5R



UV-5R - Cosmetic Variants

UV-5RA, UV-5RB, UV-5R V2+, UV-5RE, UV-5RAX+, UV-5R Plus

1st Generation UV-5R



BF-F8+

2nd Generation UV-5R

2nd Generation UV-5R



BF-F8+ - Cosmetic Variants

GT-3 Mark II, A-52, 997-S, BF-UV5301,

2nd Generation UV-5R



BF-F8HP

Highest Powered BaoFeng

3rd Generation UV-5R



UV-82

Works with all UV-82 Series Accessories

Works with all UV-82 Series Accessories



UV-82C

The Only Commercial Model

Works with all UV-82 Series Accessories



UV-82X

The Only 220 Mhz Model

Works with all UV-82 Series Accessories

UV-5R Accessory Compatibility

All accessories work among all models except case specific accessories such as: battery packs, battery eliminators, AA Battery Packs, and Extended 3800Mha Batteries

	1st Generation UV-5R	1st Generation UV-5R	2nd Generation UV-5R	2nd Generation UV-5R	3rd Generation UV-5R	UV-82	UV-82C	UV-82X
Works With All UV-5R Accessories	Works With All UV-5R Accessories	Limited Battery Compatibility	Works With All UV-5R Accessories	No Battery Compatibility	Works With All UV-5R Accessories	Works with all UV-82 Series Accessories	Works with all UV-82 Series Accessories	Works with all UV-82 Series Accessories
PCB (Printed Circuit Board)	UV-5R 1st Gen Board	UV-5R 1st Gen Board	UV-5R 2nd Gen Board	UV-5R 2nd Gen Board	UV-5R 2nd Gen Board	UV-82 Board	UV-82 Board	UV-82 Board
MAXIMUM Power Output	4 Watt	4 Watt	4-5 Watt	4-5 Watt	8 Watt	5 Watt	5 Watt	5 Watt
LED Light	1st Gen LED Light	1st Gen LED Light	2nd Gen LED Light	2nd Gen LED Light	2nd Gen LED Light	2nd Gen LED Light	2nd Gen LED Light	2nd Gen LED Light
Speaker	700mw	700mw	700mw	700mw	700mw	1 watt	1 watt	1 watt
Compared to the UV-5R	Original	None - Cosmetic Only	Minor Upgrades	Minor Upgrades	Re-Design	Completely Upgraded	Completely Upgraded	Completely Upgraded
Frequency Mode	136-174 / 400-480Mhz	136-174 / 400-480Mhz	136-174 / 400-520Mhz	136-174 / 400-520Mhz	136-174 / 400-520Mhz	136-174 / 400-520Mhz	136-174 / 400-520Mhz	136-174 / 220-260
Case Quality	'Rugged'	'Rugged'	'Rugged'	'Rugged'	'Rugged'	'Commercial Grade'	'Commercial Grade'	'Commercial Grade'
Display	Tri-Color	Tri-Color	Inverted, Privacy Display	Inverted, Privacy Display	Tri-Color	Tri-Color	Tri-Color	Tri-Color
Channel to Frequency Mode	VFO Button	VFO Button	VFO Button	VFO Button	VFO Button	Power on Holding "Menu"	Power on Holding "Menu"	Power on Holding "Menu"
Push-to-Talk Switch - Options Below Single - Alternate Channels Via A/B Button Dual - Alternate Channels Via PTT Switch Both - Programmable via PC	Single	Single	Single	Single	Single	Dual	Both	Dual
Part 90 Compliant VFO must be able to be disabled	No	No	No	No	No	No	Yes	No

Baofeng Variants

Best in Class



Best Overall UV-82 Series



Picked because it is the heaviest-duty BaoFeng
Picked because it has the highest quality PCB Board
Picked because of the more ergonomic case and keypad
Picked because of the LOUD 1 Watt speaker
Picked because it's PCB causes better RX/TX than the other radios

This Series Includes the:

Only Current 220 Mhz BaoFeng - UV-82X

Only Current Commercial Use Approved BaoFeng - UV-82C

Best Overall UV-5R BF-F8HP



Picked Because it is the only TRI-POWER (8 watt) BaoFeng
Picked Because of the Special High Gain V-85 Antenna
Picked Because of the Updated 76 Page User Manual
Picked because it uses the 2nd Gen PCB UV-5R Board
Picked because it is compatible with ALL UV-5R accessories
Picked because of the expanded frequency range

*The 2nd/3rd UV-5R GEN PCB (Printed Circuit Board) has been updated
with newer components including:
Radio Frequency IC
Power Amplifier IC
Frequency Modulated Receiver Chip
and LED Flashlight*

Best Economical UV-5R BF-F8+



Picked Because of the @nd Gen Privacy Display
Picked because it uses the 2nd Gen PCB UV-5R Board
Picked because it is compatible with ALL UV-5R accessories
Picked because of the expanded frequency range

The 2nd UV-5R GEN PCB (Printed Circuit Board) has been updated
with newer components including:
Radio Frequency IC
Power Amplifier IC
Frequency Modulated Receiver Chip
and LED Flashlight

- **Others:**

- Order enough units and you can have the radio rebranded however you like

Limitations

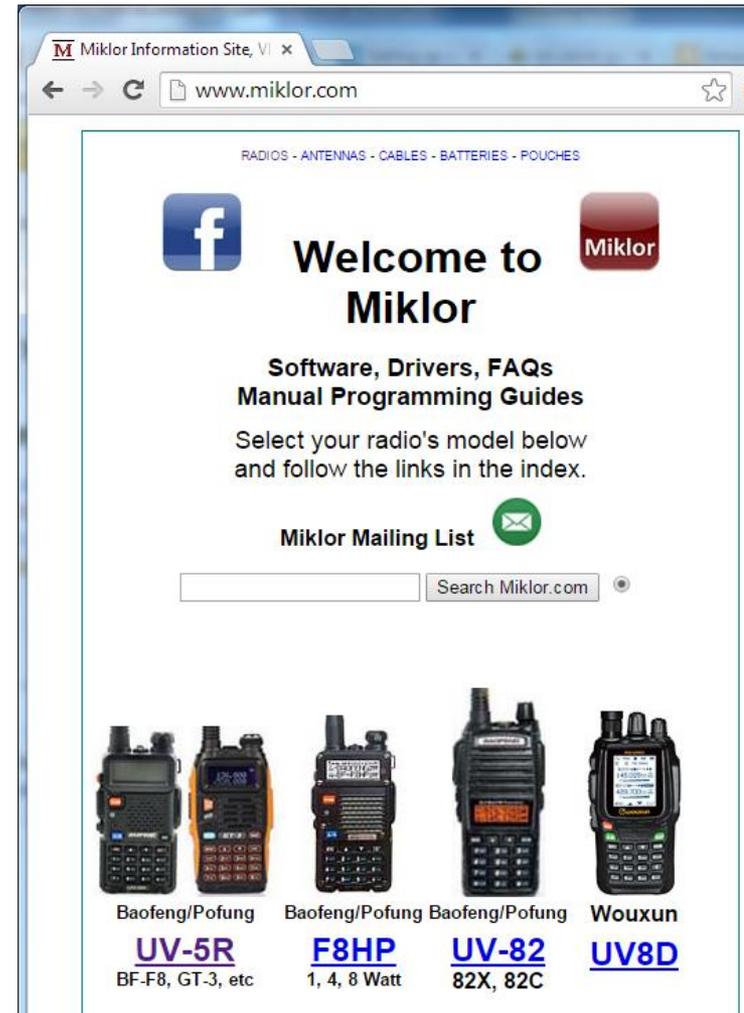
- S-Meter
- Squelch
- Scanning Speed
- Firmware Not Upgradable
- Antenna on original UV-5R
 - Inexpensive upgrades on Ebay
- Difficult to Program?

Purchasing

- Price Range: \$30-\$40
- Typically Included
 - Radio
 - Lithium Battery
 - Antenna
 - Belt Clip
 - Charging Base
 - Earpiece w/ mic
 - Lanyard
 - Manual
- Some variants include upgraded antenna
- Accessory compatibility:
http://www.miklor.com/uv5r/pdf/UV5R_Acc_Guide.pdf

Baofeng References

- miklor.com
- Baofengtech.com
- 409shop.com
- Amazon.com
- **NV5E Presentation:**
http://www.k5sld.com/presentations/201405/Chinese_Handie_Talkies.pdf



Programming

Basic Manual Programming

1. Get Into Programming (VFO A) Mode and disable Dual Watch (TDR)
(Menu 7)
2. Delete old data
(Menu 28)
3. Setup RX Frequency and Settings and Store
(Menu 11 – RX TONE; Menu 27 – SAVE)
4. Setup TX Frequency and Settings and Store
(Menu 13 – TX TONE; Menu 27 – SAVE)

Manual Programming Example

- Program N5TT Repeater into Memory 99
 - RX: 146.640 MHz
 - TX: 146.040 MHz
 - TX Tone: 162.2

Manual Programming Example

1. Switch to VFO Mode
 - a) UV-5R: MEM/VFO Button
 - b) UV-82: Hold Menu while powering on
 2. Select VFO A (Upper Display)
 - a) A/B Button
 3. Disable Dual Watch (TDR)
[Menu] -> [7] -> [Menu] -> Off -> [Menu] -> [Exit]
 4. Set Frequency Step to 5KHz
[Menu] -> [1] -> [Menu] -> Select 5KHz -> [Menu] -> [Exit]
 5. Wide Bandwidth
[Menu] -> [5] -> [Menu] -> Select Wide -> [Menu] -> [Exit]
 6. Delete Prior Data (Menu 28)
[Menu] -> [28] -> [Menu] -> 099 -> [Menu] -> [Exit]
- } Unnecessary if set previously

Manual Programming Example

7. Key In RX Frequency
146640
8. Disable RX Tone <- Unnecessary unless previously set
[Menu] -> [11] -> [Menu] -> Off -> [Menu] -> [Exit]
9. Store RX Frequency
[Menu] -> [27] -> [Menu] -> 099 -> [Menu] -> [Exit]
10. Set TX Tone
[Menu] -> [13] -> [Menu] -> 162.2 -> [Menu] -> [Exit]
11. Key In TX Frequency
146040
12. Store TX Frequency
[Menu] -> [27] -> [Menu] -> 099 -> [Menu] -> [Exit]
13. Switch Back to Chanel Mode
 - a) UV-5R: MEM/VFO Button
 - b) UV-82: Hold Menu while powering on

KC7OM's UV5R Quick Guide

Baofeng UV-5R Quick Guide

VFO/MR –select Frequency Mode.

A/B - select upper display.

BAND - select VHF or UHF range [in freq.mode]

[M]+7+[M] ▲▼ select "dual-watch OFF" [M]+[E]

[M]+1+[M] ▲▼ select 5.0 KHz Step [M]+[E]

[M]+5+[M] ▲▼ WIDE Bandwidth. [M]+[E]

[M]+28+[M] Enter Chan # to delete. [M]+[E]

Program a frequency into memory:

Press VFO/MR-Freq. Mode-key in frequency

[M]+25+[M] ▲▼ select Offset + - or OFF [M]+[E]

[M]+13+[M] ▲▼ key or Keypad set PLTone. [M]+[E]

[M]+2+[M] ▲▼ High/Low Power. [M]+[E]

[M]+27+[M] Enter Chan # store Receive Freq. [M]+[E]

[*SCAN] Key - Display will show Transmit Freq.

[M]+27+[M] This will store Transmit Freq. [M]+[E]

Press VFO/MR – return to Channel Mode

0 SQUELCH [5]	10 Rec-DCS [OFF]	20 PTT-LT [0]	30 RX-LED
1 FRQ STEP [5.]	11 R-CTCS [OFF]	21 UpDisplay FREQ CHAN NAME	31 TX-LED
2 TXP [H/L] Togg [#]	12 T-DCS [OFF]	22 LoDisplay FREQ CHAN NAME	32 ALARM [SITE]
3 Batt SAVE OFF/2/4	13 T-CTCS [OFF/67-254]	23 Busy Lockout [OFF]	33 BAND VHF
4 VOX [OFF]	14 VOICE [ENG]	24 Key Lock [OFF] [#] toggle	34 TDR-AB OFF
5 WN BAND [Wide]	15 ANI-ID Comm. use	25 Freq. Shift OFF/+/-	35 STE [OFF]
6 Display [5]	16 DTMFST [OFF]	26 OFFSET .500/.600	36 RP-STE [OFF]
7 Dual Watch [ON/OFF]	17 S-CODE [N/A]	27 MEM-CH 000-127	37 RPT-RL [OFF]
8 KEY BEEP [ON/OFF]	18 SC-REV [CO]	28 DEL-CH 000-127	38 PONMSG MSG
9 Time Out [120]	19 PTT-ID [OFF]	29 WT-LED	39 ROGER [OFF]

40 RESETS EVERYTHING [DANGER]

Suggested settings for Ham Radio Use. - KC7OM ©

Programming with CHIRP

About CHIRP

- FREE!!!
- chirp.danplanet.com
- Or Google: chirp radio programming
- Supports over 80 radio models including many HT and Mobile units from:
 - Yaesu
 - Kenwood
 - Icom
 - Baofeng/Pofung
 - Wouxun

Prerequisites

- Radio supported by CHIRP
- Windows XP/Vista/7/8/10
 - Linux and Apple versions of CHIRP are available
- Programming cable
- CHIRP Software

Programming Cable

- Amazon

Baofeng Programming Cable for BAOFENG UV-5R/5RA/5R Plus/5RE, UV3R Plus, BF-888S

by BaoFeng

★★★★☆ 449 customer reviews | 33 answered questions

List Price: ~~\$25.00~~

Price: **\$6.20** ✓Prime

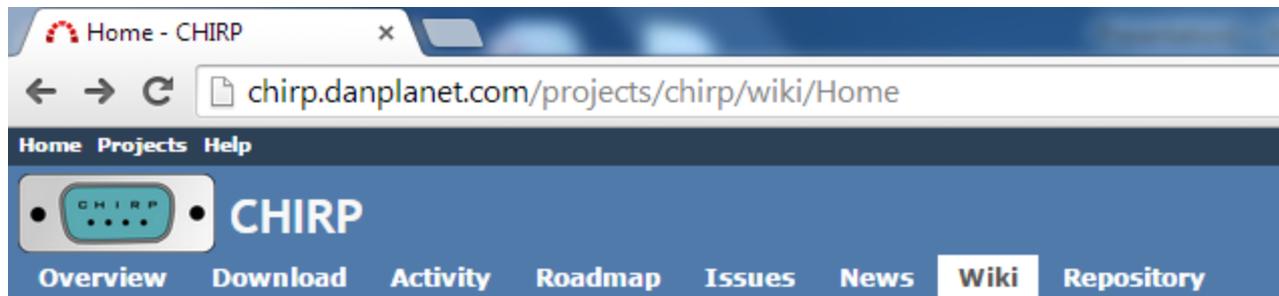
You Save: **\$18.80 (75%)**

- Throw away the driver disk
- Use Prolific Driver 2.0.2.1 (XP) or 3.2.0.0 (Vista/7/8/10)
- Follow installation instructions at http://www.miklor.com/COM/UV_Drivers.php



Installing CHIRP

- Main Website: <http://chirp.danplanet.com/>



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.



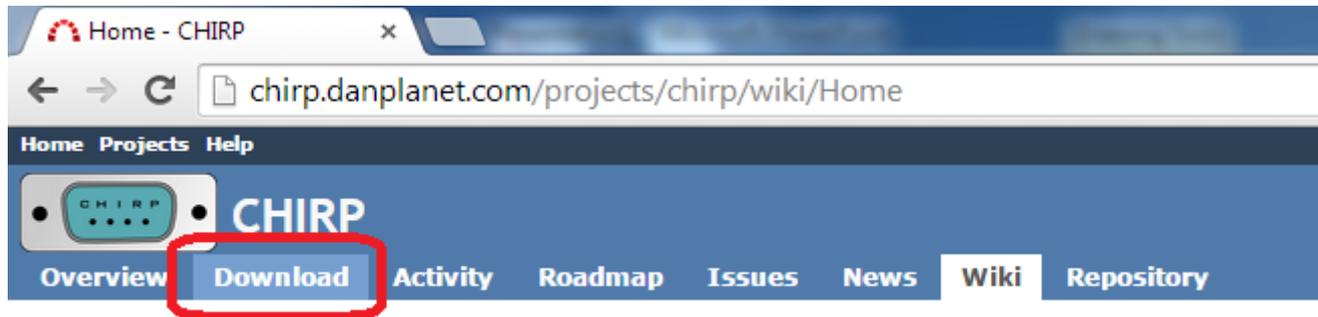
To get started:

1. Download CHIRP for your platform
2. Check out the [How_To_Get_Help](#) page, and the rest of the Documentation
3. Join the [mailing list](#)!
4. Be sure to review the [FAQ](#)

Supported Radio Models

CHIRP Latest Daily Build

- Download Latest Daily Build from http://trac.chirp.danplanet.com/chirp_daily/LATEST/



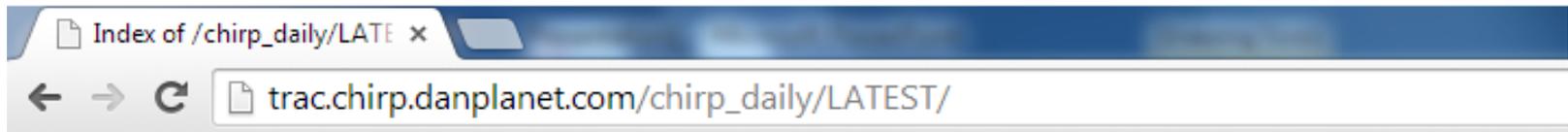
CHIRP Latest Daily Build

- Click Latest Daily Builds

CHIRP Downloads

	Stable Release 0.4.1 released on 8-October-2014	Daily Development Builds
Windows installer	chirp-0.4.1-installer.exe ^{1 2} (<i>Recommended</i>)	latest daily builds
Windows standalone	chirp-0.4.1-win32.zip ^{1 2}	
Mac OS X	Install the Python runtime ³ then chirp-0.4.1.app.zip ^{4 5}	
Linux source	chirp-0.4.1.tar.gz ⁶	

CHIRP Latest Daily Build



**BAOFENG'S ONLY TRI-POWER RADIO
8 WATT HIGH POWER OUTPUT**

**Click Here
to
LEARN MORE**



Name Last modified Size Description

Parent Directory			-
Model_Support.html	02-Feb-2015 00:06	323K	
SHA1SUM	02-Feb-2015 00:06	472	
Test_Report.html	02-Feb-2015 00:06	78K	
chirp-daily-20150202-installer.exe	02-Feb-2015 00:06	10M	
chirp-daily-20150202-win32.zip	02-Feb-2015 00:06	13M	
chirp-daily-20150202.app.zip	02-Feb-2015 00:06	573K	
chirp-daily-20150202.tar.gz	02-Feb-2015 00:06	462K	
rpttool-0.3.tar.gz	02-Feb-2015 00:06	288K	

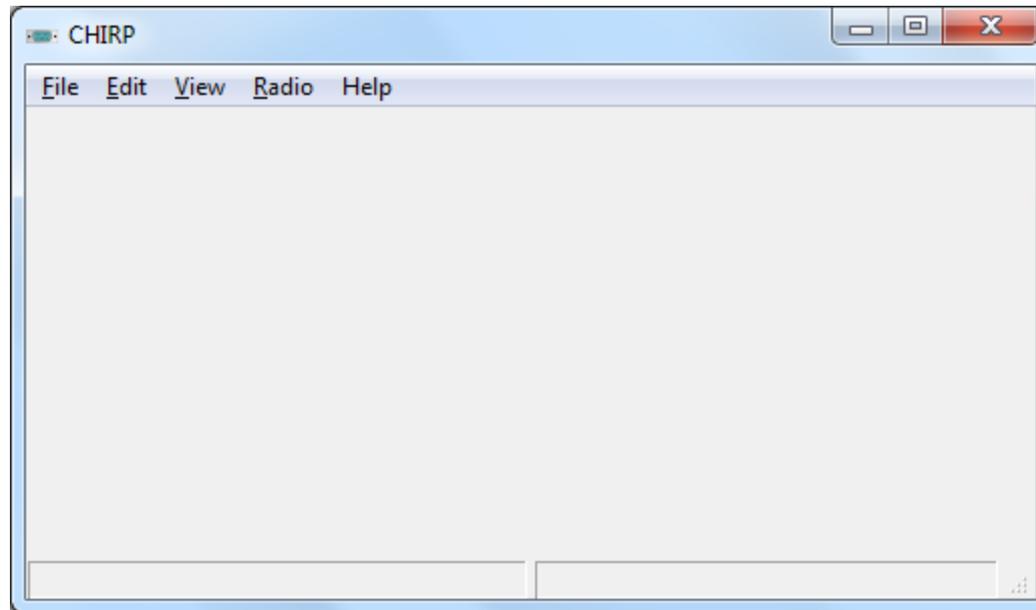
Apache/2.2.22 (Ubuntu) Server at trac.chirp.danplanet.com Port 80

Programming with CHIRP

- 1. Run CHIRP**
2. Create Image (download) from Radio
3. Change Settings and Memories
4. Program (upload to) Radio

Run CHIRP

- Start->All Programs->CHIRP->CHIRP

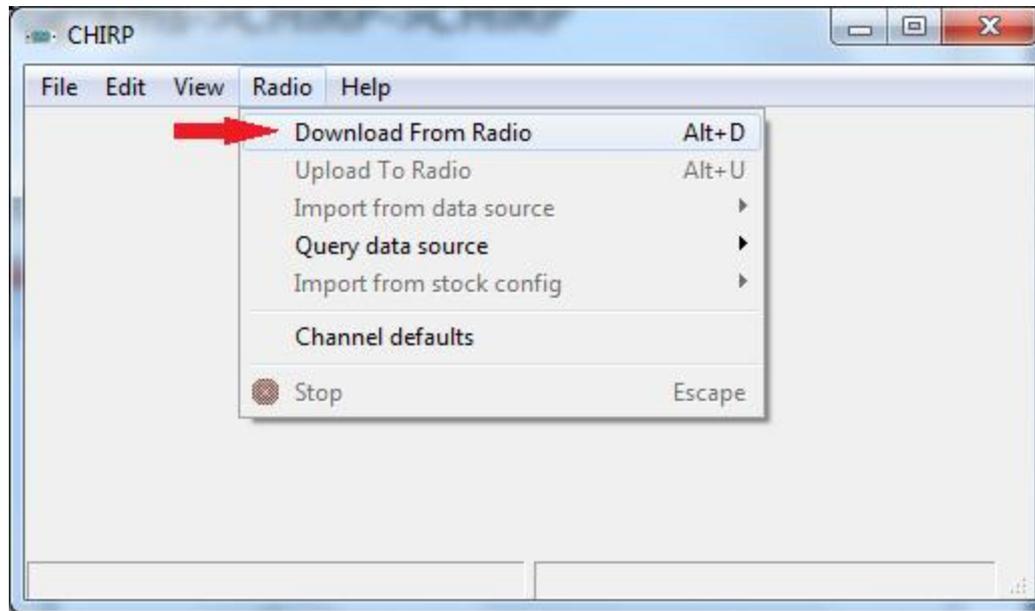


Programming with CHIRP

1. Run CHIRP
- 2. Create Image (download) from Radio**
3. Change Settings and Memories
4. Program (upload to) Radio

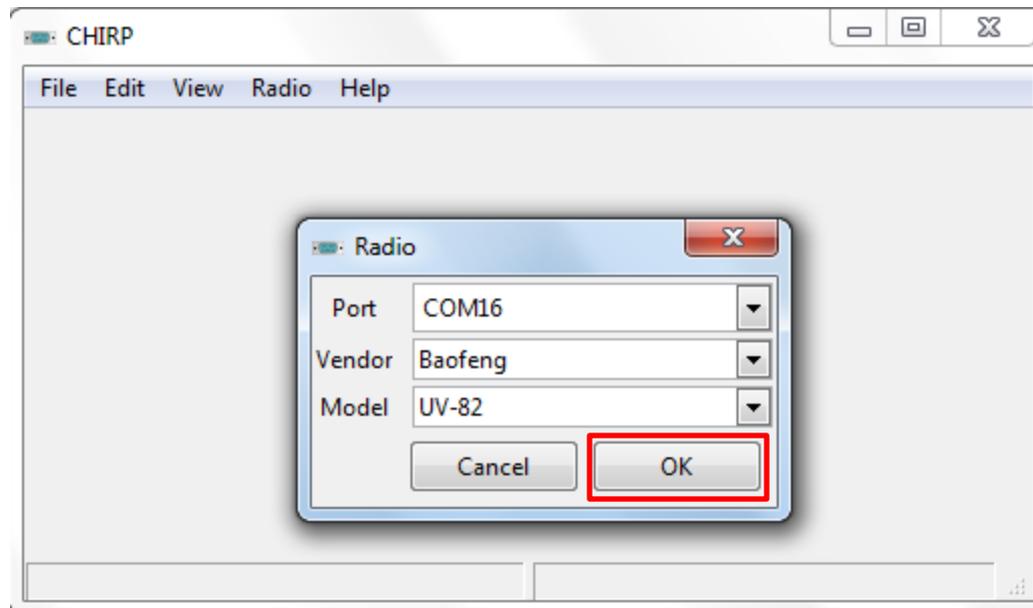
Download From Radio

- Allows CHIRP to create an initial radio image
- Required even if all memories are empty



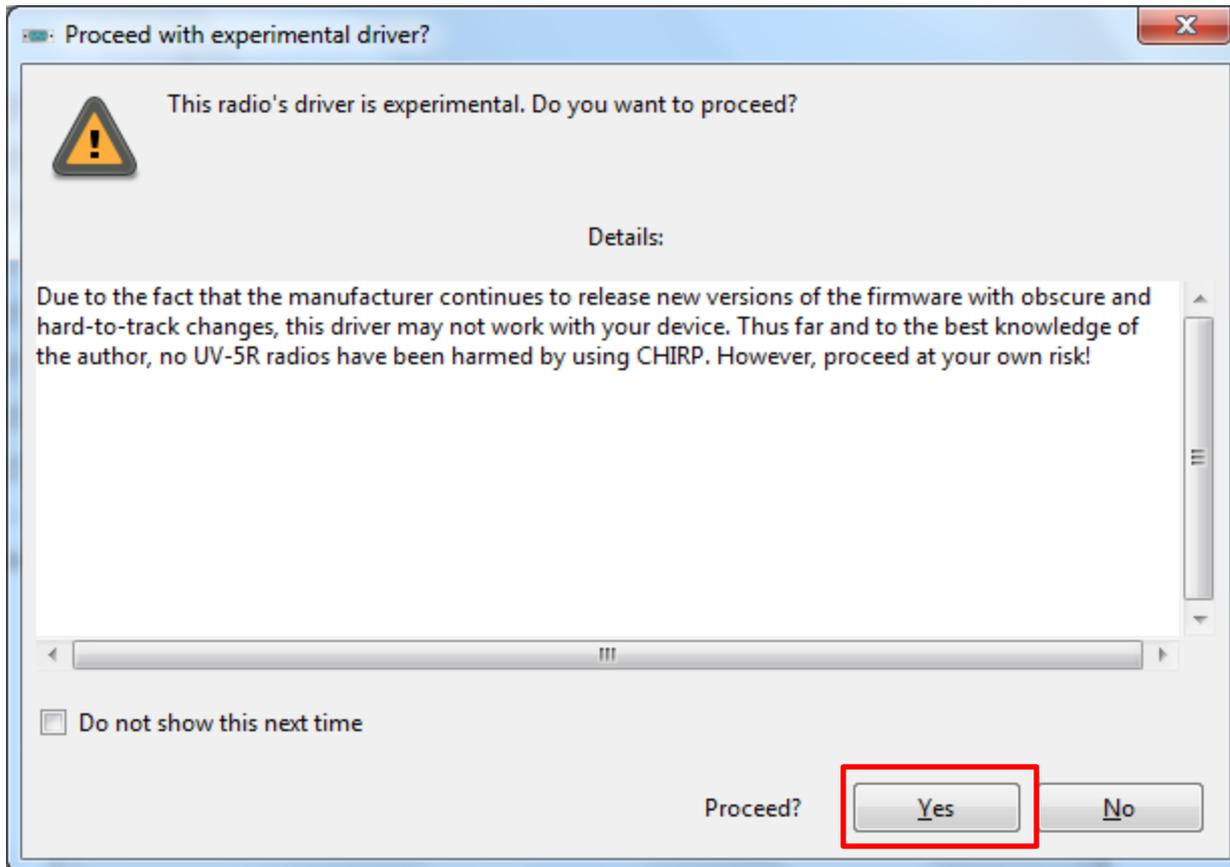
Download From Radio

- Select COM Port, Manufacturer, and Model
- If your specific Baofeng model not shown, your model is likely covered by UV-5R



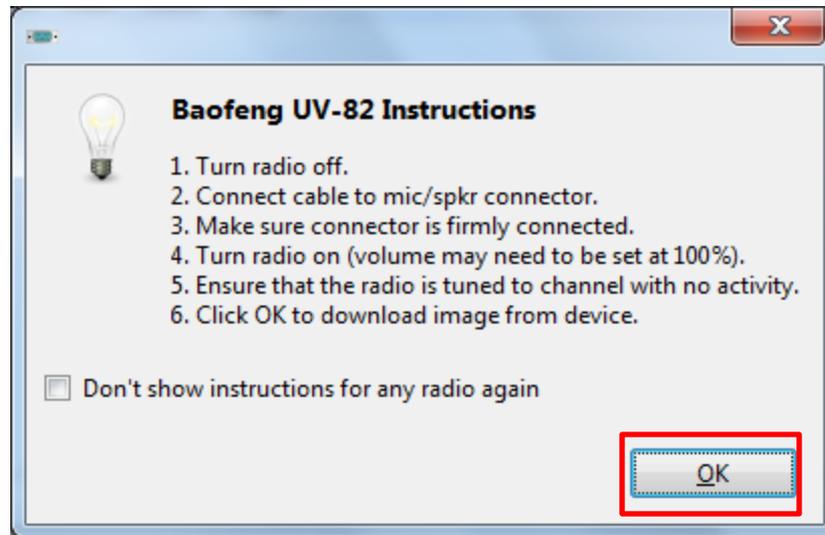
Download From Radio

- Accept Disclaimer



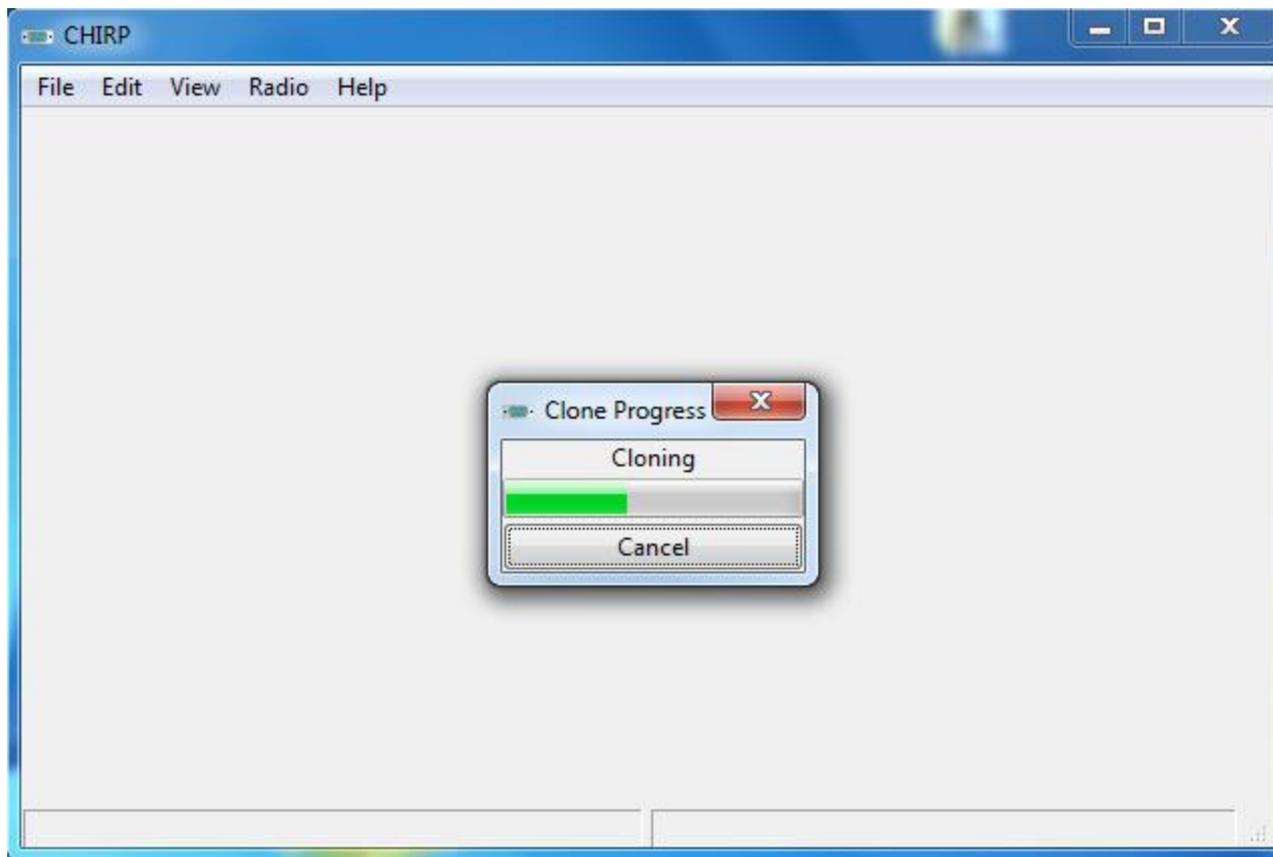
Download From Radio

- Follow the instructions and click OK



Download From Radio

- Progress bar as CHIRP clones the radio



Common Problems

- “Radio did not Respond” or “Radio did not ACK Program Mode” or Radio Transmits
 - The mic connector may not be plugged in all the way.
- “Error reading from COM port x”
 - Check COM port number
- “Error reading from comm device”
 - Downgrade to Prolific Driver 3.2.0.0
- “Radio version not Supported”
 - Get latest Daily Build of CHIRP
- Check correct Make/Model selected
- Try increasing the radio’s volume level



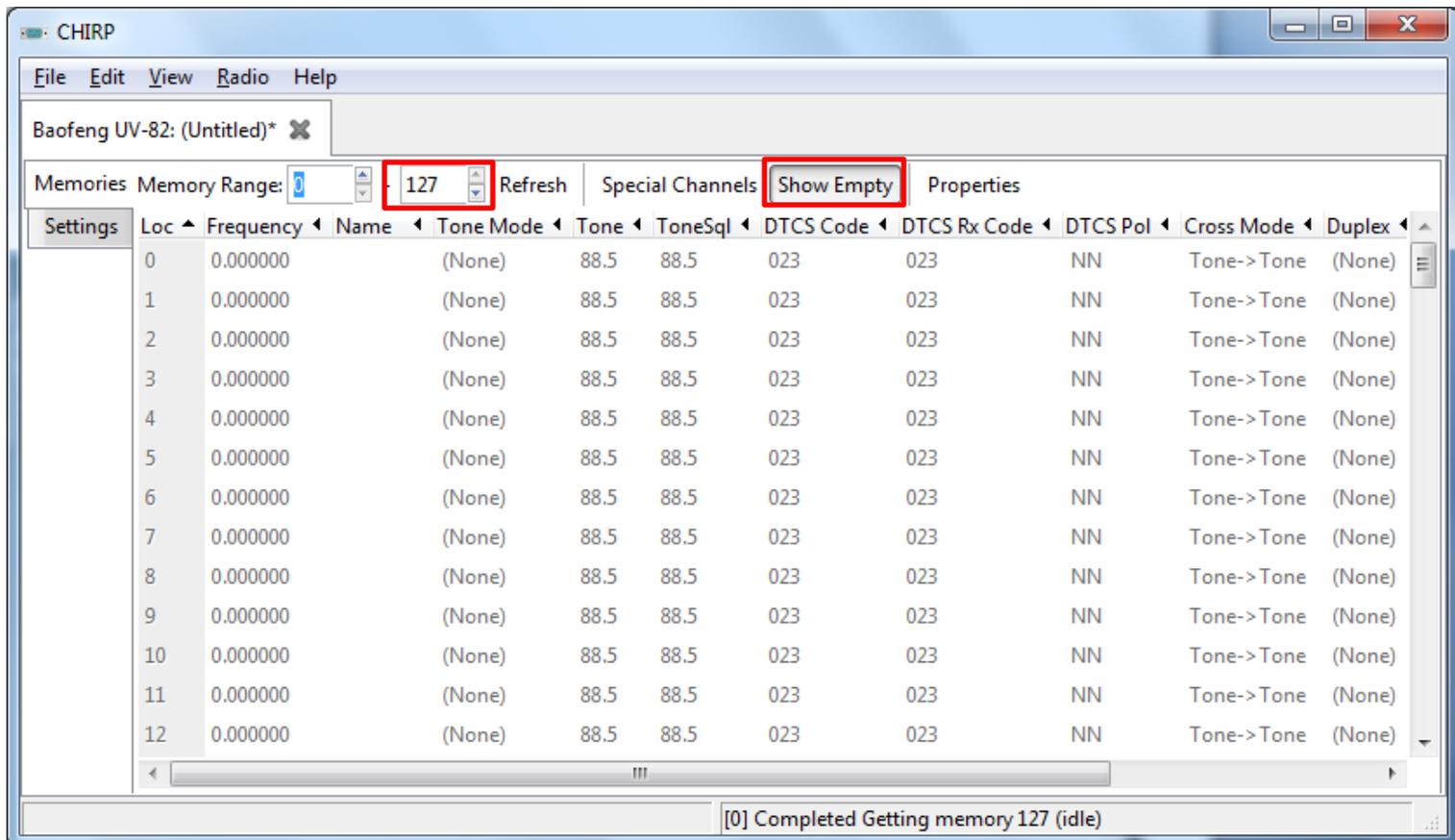
Photo Courtesy miklor.com and KF5DEY

Programming with CHIRP

1. Run CHIRP
2. Create Image (download) from Radio
- 3. Change Settings and Memories**
4. Program (upload to) Radio

Blank Image

- Show Empty and set memory range

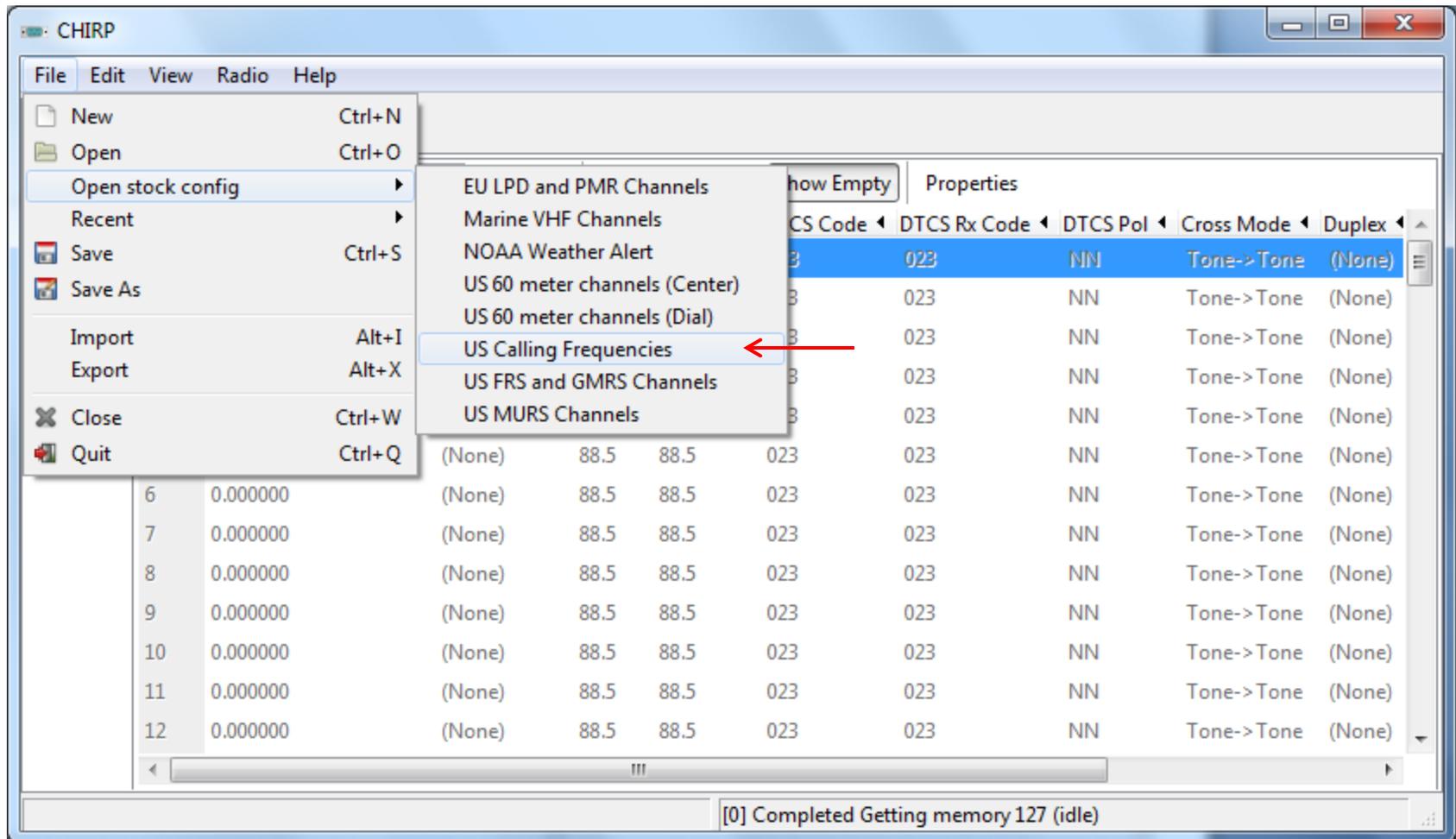


Change Settings

Copy/Paste Method

1. Load Stock Configs
 - a) Calling Frequencies
 - b) NOAA Weather
 - c) FRS/GMRS
2. Query Data Sources
 - a) Repeater Directories
3. Cut/Paste into image file

Load Stock Config

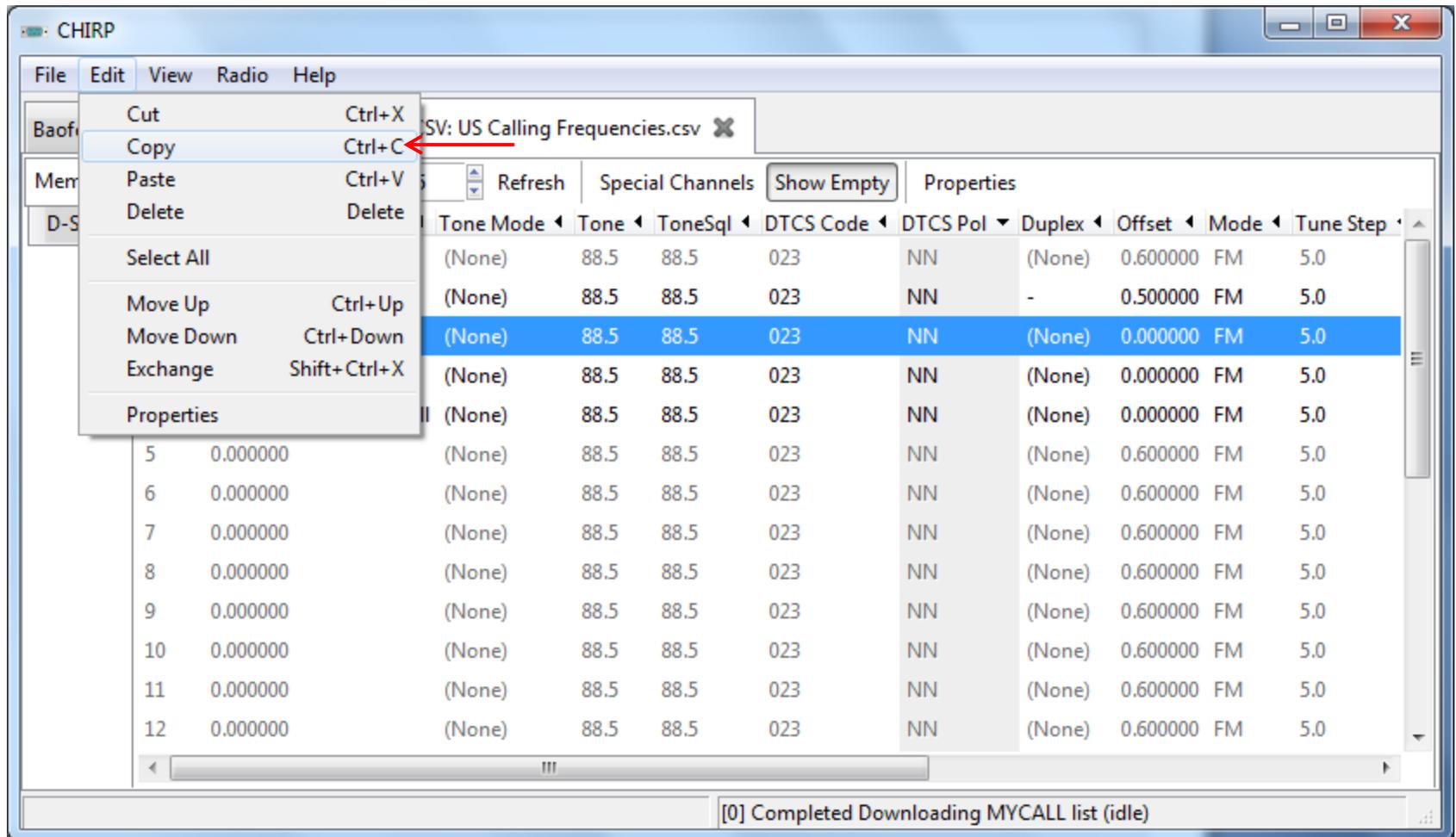


Load Stock Config

The screenshot shows the CHIRP software interface. At the top, there is a menu bar with 'File', 'Edit', 'View', 'Radio', and 'Help'. Below the menu bar, there are two tabs: 'Baofeng UV-82: (Untitled)*' and 'Generic CSV: US Calling Frequencies.csv'. A red box labeled 'New Tab' points to the '+' icon in the tab bar. Below the tabs, there are controls for 'Memories Memory Range: 0 - 25', 'Refresh', 'Special Channels', and 'Show Empty'. The main area is a table with columns: 'D-STAR', 'Loc', 'Frequency', 'Name', 'Tone Mode', 'Tone', 'ToneSql', 'DTCS Code', 'DTCS Pol', 'Duplex', 'Offset', 'Mode', and 'Tune Step'. The table contains 13 rows of data. The second row (Loc 2) is highlighted in blue, and the number '2' in the 'Loc' column is enclosed in a red box. At the bottom of the window, there is a status bar that reads '[0] Completed Downloading MYCALL list (idle)'.

D-STAR	Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Pol	Duplex	Offset	Mode	Tune Step
	0	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0
	1	52.525000	6m Call	(None)	88.5	88.5	023	NN	-	0.500000	FM	5.0
	2	146.520000	2m Call	(None)	88.5	88.5	023	NN	(None)	0.000000	FM	5.0
	3	223.500000	220 Call	(None)	88.5	88.5	023	NN	(None)	0.000000	FM	5.0
	4	446.000000	70cm Call	(None)	88.5	88.5	023	NN	(None)	0.000000	FM	5.0
	5	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0
	6	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0
	7	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0
	8	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0
	9	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0
	10	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0
	11	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0
	12	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0

Load Stock Config (Copy)

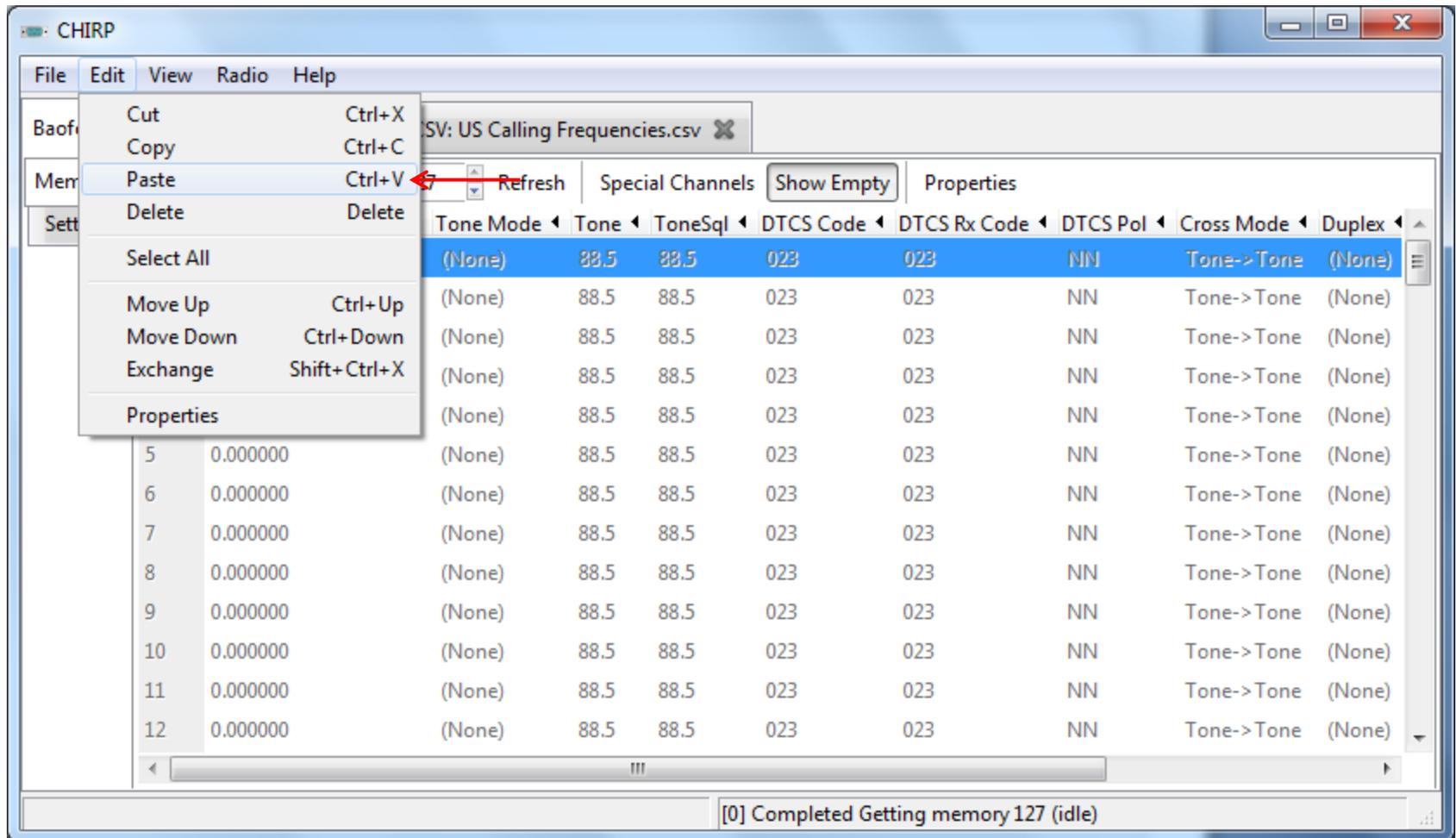


Load Stock Config (Paste)

The screenshot shows the CHIRP software interface. The menu bar includes 'File', 'Edit', 'View', 'Radio', and 'Image Tab' (highlighted with a red box). The main window displays a table of radio memory settings for a Baofeng UV-82. The table has columns for Loc, Frequency, Name, Tone Mode, Tone, ToneSql, DTCS Code, DTCS Rx Code, DTCS Pol, Cross Mode, and Duplex. The 'Memory Range' is set from 0 to 127. The status bar at the bottom indicates '[0] Completed Getting memory 127 (idle)'.

Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex
0	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
1	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
2	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
3	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
4	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
5	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
6	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
7	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
8	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
9	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
10	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
11	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
12	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)

Load Stock Config (Paste)



Load Stock Config (Pasted)

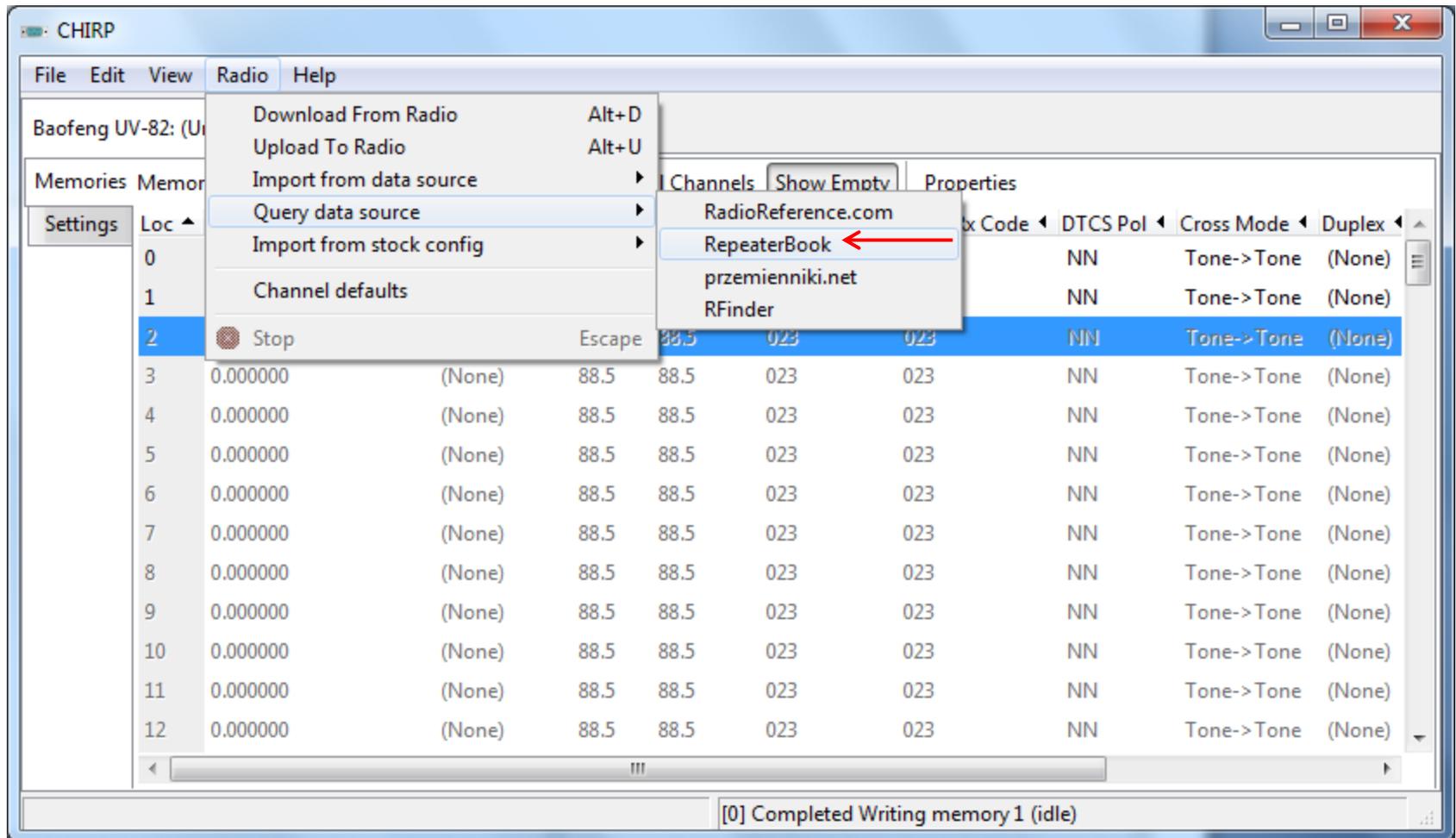
The screenshot shows the CHIRP software interface. The window title is "CHIRP". The menu bar includes "File", "Edit", "View", "Radio", and "Help". The active tabs are "Baofeng UV-82: (Untitled)*" and "Generic CSV: US Calling Frequencies.csv". The "Memories" section shows a range from 0 to 127. The "Settings" tab is selected, displaying a table of memory configurations. The first row (Loc 0) is highlighted with a red border. The status bar at the bottom indicates "[0] Completed Getting memory 127 (idle)".

Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex
0	146.520000	2M CALL	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
1	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
2	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
3	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
4	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
5	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
6	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
7	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
8	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
9	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
10	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
11	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
12	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)

Load Stock Config

- Copy/Paste other calling frequencies
- Repeat for other stock configs of interest
 - NOAA Weather
 - FRS/GMRS

Query Data Source



Query Data Source

The screenshot shows the CHIRP software interface. The main window displays a table of memory channels. A dialog box titled 'RepeaterBook Query' is open, allowing the user to filter the data by State, County, and Band.

CHIRP Memory List:

Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex
0	146.520000	2M CALL	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
1	446.000000	70CM CA	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
2	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
3	0.000000	(N	(N					NN	Tone->Tone	(None)
4	0.000000	(N	(N					NN	Tone->Tone	(None)
5	0.000000	(N	(N					NN	Tone->Tone	(None)
6	0.000000	(N	(N					NN	Tone->Tone	(None)
7	0.000000	(N	(N					NN	Tone->Tone	(None)
8	0.000000	(N	(N					NN	Tone->Tone	(None)
9	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
10	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
11	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
12	0.000000	(None)	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)

RepeaterBook Query Dialog:

- State: Texas
- County: Williamson County, TX
- Band: 2 meters (144MHz)

Buttons: OK, Cancel

Query Data Source

The screenshot shows the CHIRP software interface. At the top, there is a menu bar with 'File', 'Edit', 'View', 'Radio', and 'Help'. Below the menu bar, there are two tabs: 'Baofeng UV-82: (Untitled)*' and 'RepeaterBook:'. A red arrow points to the 'RepeaterBook:' tab, which is labeled 'New Tab' in a red box. Below the tabs, there is a 'Memories' section with a 'Memory Range' of 0 to 25, a 'Refresh' button, and a 'Special Channels' section with a 'Show Empty' button. The main area is a table with columns: Loc, Frequency, Name, Tone Mode, Tone, ToneSql, DTCS Code, DTCS Pol, Duplex, Offset, Mode, and Tune Step. The table contains 13 rows, with rows 1 through 11 highlighted by a red box. The status bar at the bottom shows '[0] Completed Getting memory 1000 (idle)'.

Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Pol	Duplex	Offset	Mode	Tune Step
0	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0
1	145.130000	KE5RCS	(None)	88.5	88.5	023	NN	-	0.600000	DV	5.0
2	145.210000	KA9LAY	Tone	97.4	88.5	023	NN	-	0.600000	FM	5.0
3	145.330000	WD5EMS	Tone	162.2	88.5	023	NN	-	0.600000	FM	5.0
4	145.370000	KC5WLF	Tone	114.8	88.5	023	NN	-	0.600000	FM	5.0
5	145.450000	WC5EOC	Tone	162.2	88.5	023	NN	-	0.600000	FM	5.0
6	145.470000	KB2PMD	Tone	114.8	88.5	023	NN	-	0.600000	FM	5.0
7	146.640000	N5TT	Tone	162.2	88.5	023	NN	-	0.600000	FM	5.0
8	146.700000	N5MNW	Tone	110.9	88.5	023	NN	-	0.600000	FM	5.0
9	146.980000	W2MN	Tone	103.5	88.5	023	NN	-	0.600000	FM	5.0
10	147.080000	NA6M	Tone	100.0	88.5	023	NN	+	0.600000	FM	5.0
11	147.120000	W2MN	Tone	103.5	88.5	023	NN	+	0.600000	FM	5.0
12	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0

Query Data Source

The screenshot shows the CHIRP software interface with a list of radio memories. The 'D-STAR' memory is selected, and the 'DV' mode is highlighted. Annotations indicate the steps to query the data source: clicking on the 'D-STAR' memory and then using Shift+click to select the range from memory 0 to 11.

Memory	Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Pol	Duplex	Offset	Mode	Time Step
D-STAR	0	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	
	1	145.130000	KE5RCS	(None)	88.5	88.5	023	NN	-	0.600000	DV	5.0
	2	145.210000	KA9LAY	Tone	97.4	88.5	023	NN	-	0.600000	FM	5.0
	3	145.330000	WD5EMS	Tone	162.2	88.5	023	NN	-	0.600000	FM	5.0
	4	145.370000	KC5WLF	Tone	114.8	88.5	023	NN	-	0.600000	FM	5.0
	5	145.450000	WC5EOC	Tone	162.2	88.5	023	NN	-	0.600000	FM	5.0
	6	145.470000	KB2PMD	Tone	114.8	88.5	023	NN	-	0.600000	FM	5.0
	7	146.640000	N5TT	Tone	162.2	88.5	023	NN	-	0.600000	FM	5.0
	8	146.700000	N5MNW	Tone	110.9	88.5	023	NN	-	0.600000	FM	5.0
	9	146.980000	W2MN	Tone	103.5	88.5	023	NN	-	0.600000	FM	5.0
	10	147.080000	NA6M	Tone	100.0	88.5	023	NN	+	0.600000	FM	5.0
	11	147.120000	W2MN	Tone	103.5	88.5	023	NN	+	0.600000	FM	5.0
	12	0.000000		(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0

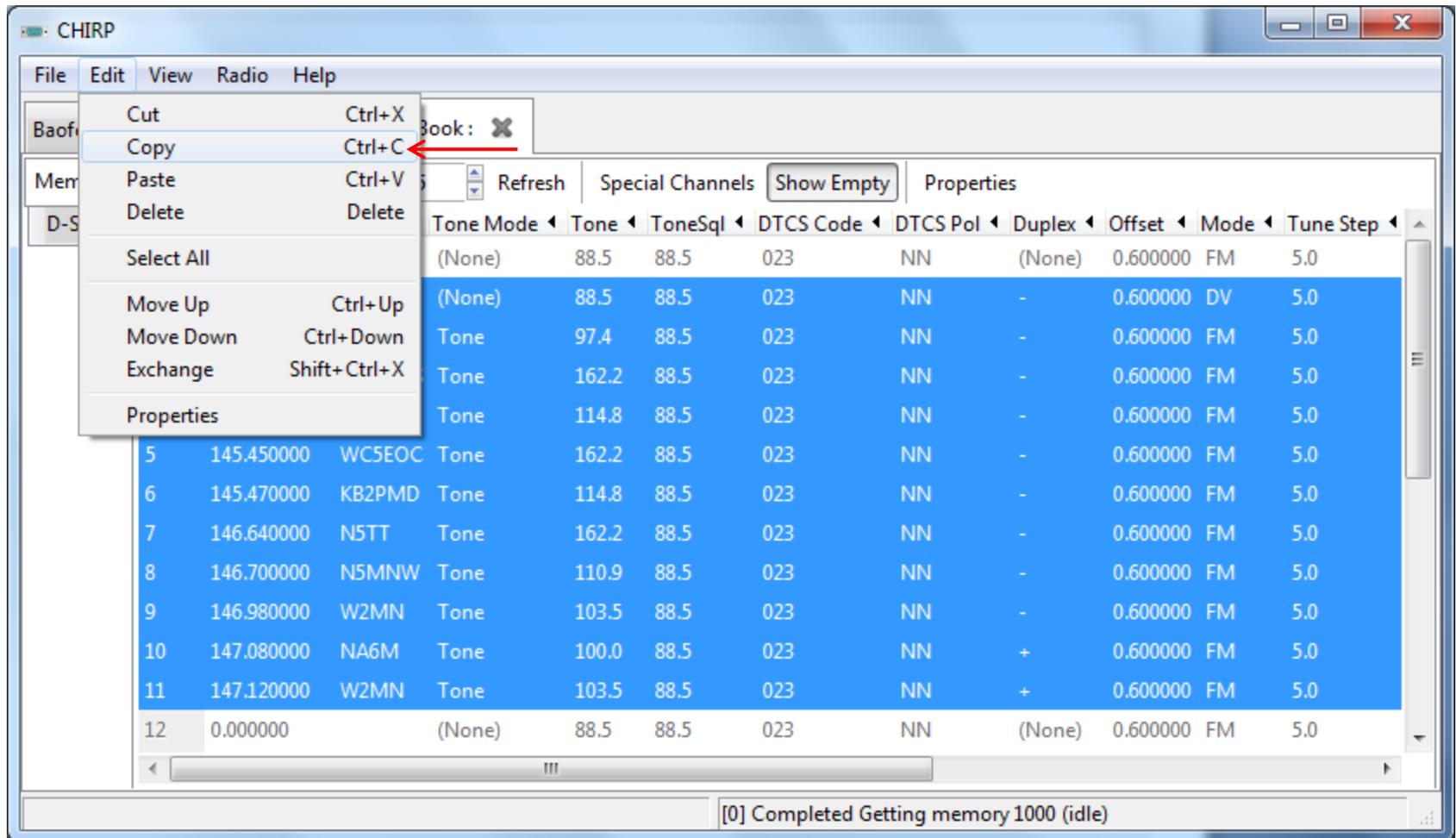
1. Click

2. Shift+click

Note D-STAR

[0] Completed Getting memory 1000 (idle)

Query Data Source (Copy)



The screenshot shows the CHIRP software interface. The 'Edit' menu is open, with 'Copy' selected. A red arrow points to the 'Copy' option. The background shows a table of radio channels with columns for Tone Mode, Tone, ToneSql, DTCS Code, DTCS Pol, Duplex, Offset, Mode, and Tune Step. The table contains 12 rows of data, with rows 5 through 11 highlighted in blue.

	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Pol	Duplex	Offset	Mode	Tune Step			
	(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0			
	(None)	88.5	88.5	023	NN	-	0.600000	DV	5.0			
	Tone	97.4	88.5	023	NN	-	0.600000	FM	5.0			
	Tone	162.2	88.5	023	NN	-	0.600000	FM	5.0			
	Tone	114.8	88.5	023	NN	-	0.600000	FM	5.0			
5		145.450000	WC5EOC	Tone	162.2	88.5	023	NN	-	0.600000	FM	5.0
6		145.470000	KB2PMD	Tone	114.8	88.5	023	NN	-	0.600000	FM	5.0
7		146.640000	N5TT	Tone	162.2	88.5	023	NN	-	0.600000	FM	5.0
8		146.700000	N5MNMW	Tone	110.9	88.5	023	NN	-	0.600000	FM	5.0
9		146.980000	W2MNMN	Tone	103.5	88.5	023	NN	-	0.600000	FM	5.0
10		147.080000	NA6M	Tone	100.0	88.5	023	NN	+	0.600000	FM	5.0
11		147.120000	W2MNMN	Tone	103.5	88.5	023	NN	+	0.600000	FM	5.0
12		0.000000	(None)	(None)	88.5	88.5	023	NN	(None)	0.600000	FM	5.0

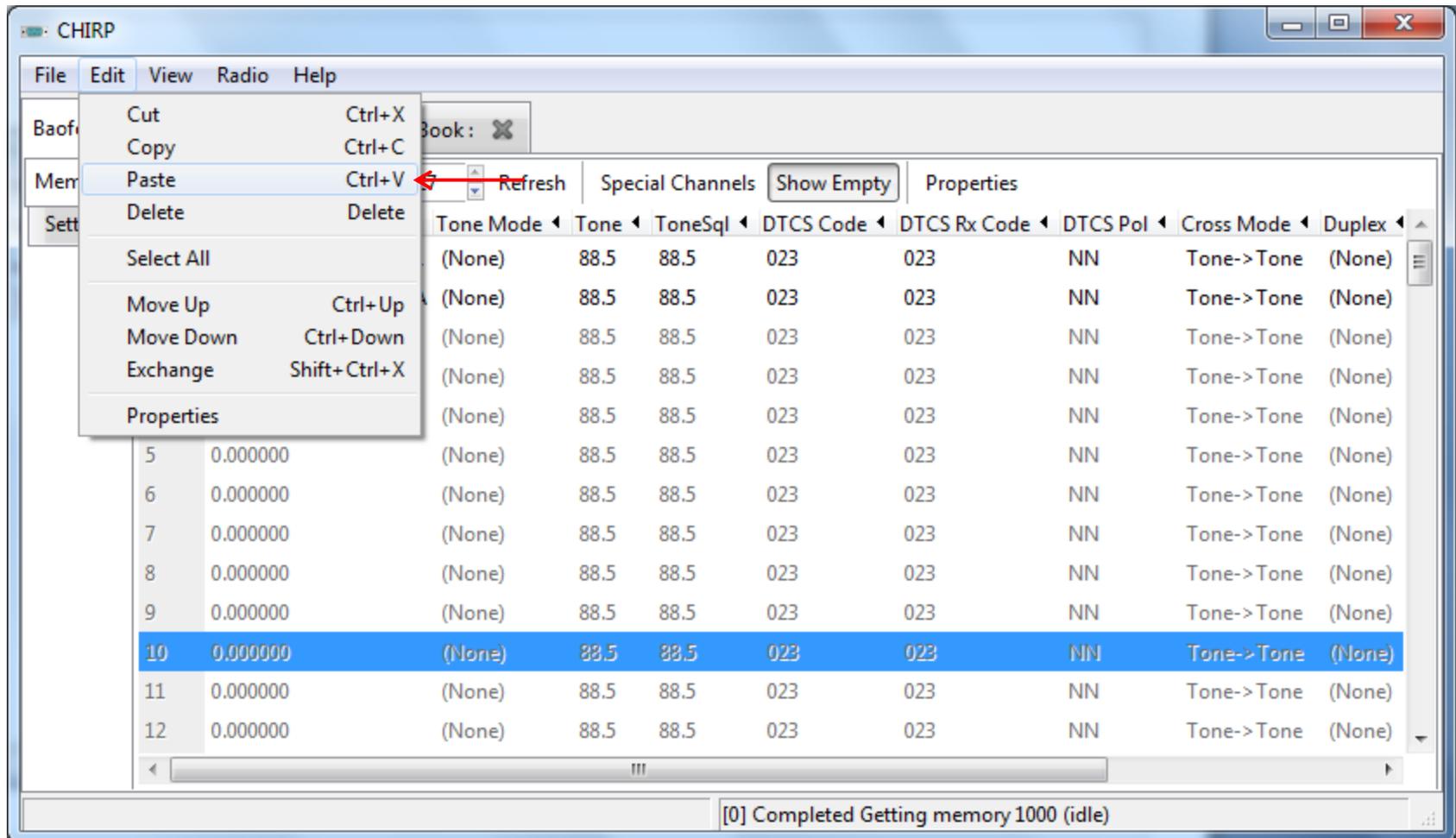
[0] Completed Getting memory 1000 (idle)

Query Data Source (Paste)

The screenshot shows the CHIRP software interface. The menu bar includes 'File', 'Edit', 'View', and 'Radio'. The 'Radio' menu is open, and the 'Image Tab' is highlighted with a red box. Below the menu bar, there are tabs for 'Baofeng UV-82: (Untitled)*' and 'RepeaterBook:'. The main area displays a table of radio memories with columns: Loc, Frequency, Name, Tone Mode, Tone, ToneSql, DTCS Code, DTCS Rx Code, DTCS Pol, Cross Mode, and Duplex. Row 10 is selected and highlighted in blue. A red box with the text 'Select Entry to Paste Into' points to row 10. The status bar at the bottom shows '[0] Completed Getting memory 1000 (idle)'.

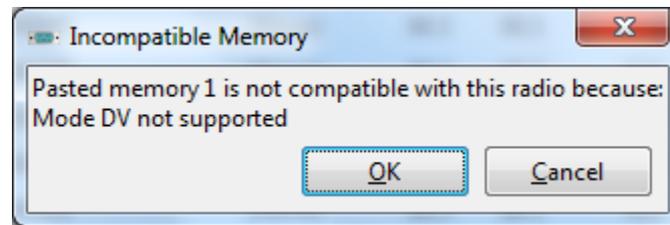
Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex
0	146.520000	2M CALL	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
1	446.000000	70CM CA	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
2	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
3	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
4	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
5	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
6	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
7	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
8	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
9	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
10	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
11	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
12	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)

Query Data Source (Paste)



Query Data Source (Paste Error)

- Paste Error: D-STAR (DV) mode not supported



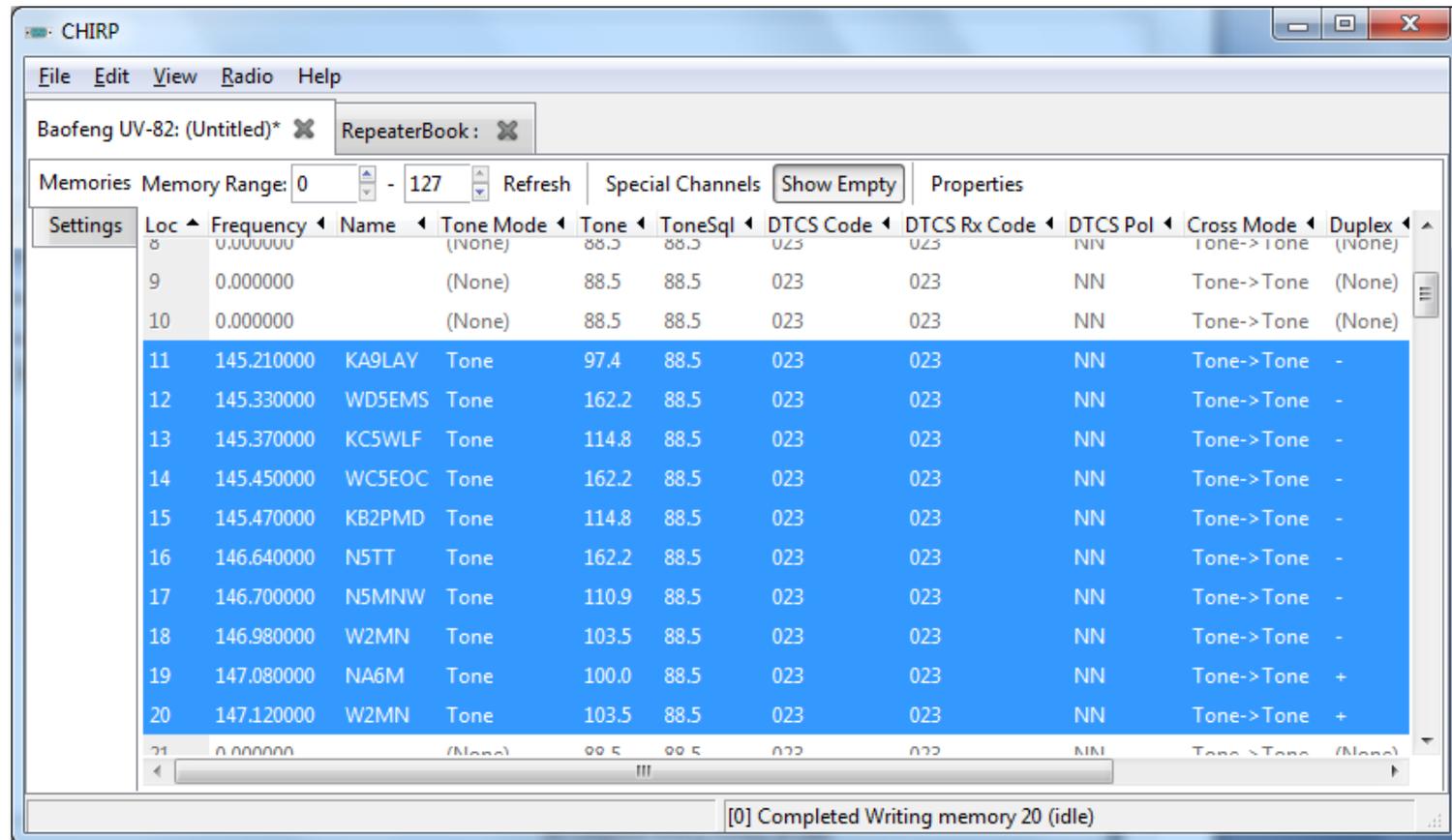
Query Data Source (Paste)

The screenshot shows the CHIRP software window with a menu bar (File, Edit, View, Radio, Help) and a toolbar. The main area displays a table of radio memories. A red box highlights the entry for memory 10, which is empty. The text 'D-STAR Entry Empty' is written in red inside the box. The status bar at the bottom indicates '[0] Completed Writing memory 20 (idle)'.

Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex
8	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
9	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
10	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
11	145.210000	KA9LAY	Tone	97.4	88.5	023	023	NN	Tone->Tone	-
12	145.330000	WD5EMS	Tone	162.2	88.5	023	023	NN	Tone->Tone	-
13	145.370000	KC5WLF	Tone	114.8	88.5	023	023	NN	Tone->Tone	-
14	145.450000	WC5EOC	Tone	162.2	88.5	023	023	NN	Tone->Tone	-
15	145.470000	KB2PMD	Tone	114.8	88.5	023	023	NN	Tone->Tone	-
16	146.640000	N5TT	Tone	162.2	88.5	023	023	NN	Tone->Tone	-
17	146.700000	N5MNW	Tone	110.9	88.5	023	023	NN	Tone->Tone	-
18	146.980000	W2MN	Tone	103.5	88.5	023	023	NN	Tone->Tone	-
19	147.080000	NA6M	Tone	100.0	88.5	023	023	NN	Tone->Tone	+
20	147.120000	W2MN	Tone	103.5	88.5	023	023	NN	Tone->Tone	+
21	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)

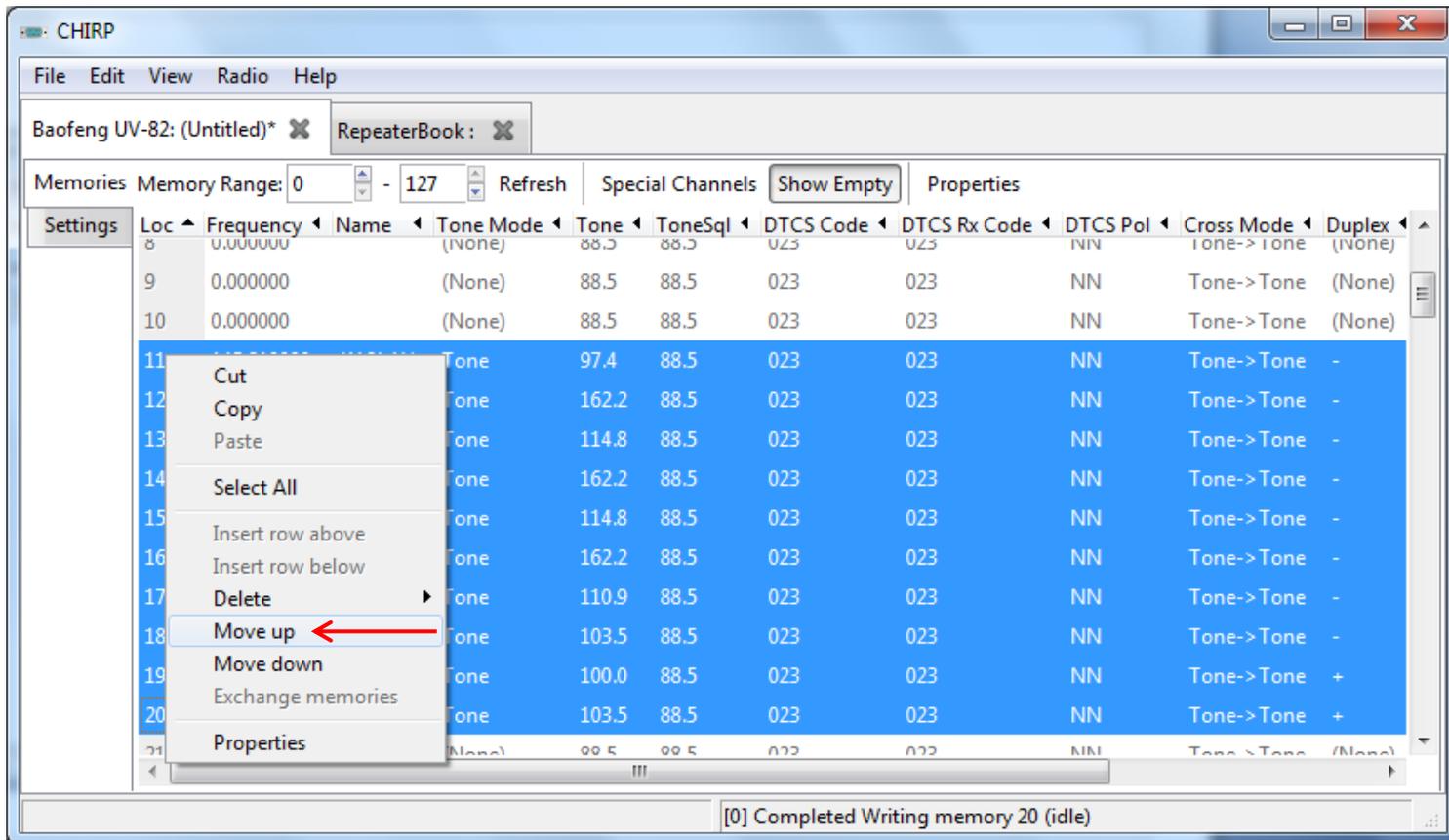
Shifting Entries Up

- Select rows to shift



Shifting Entries Up

- Right-click and select Move up



Shifting Entries Up

- Rows Shifted Up

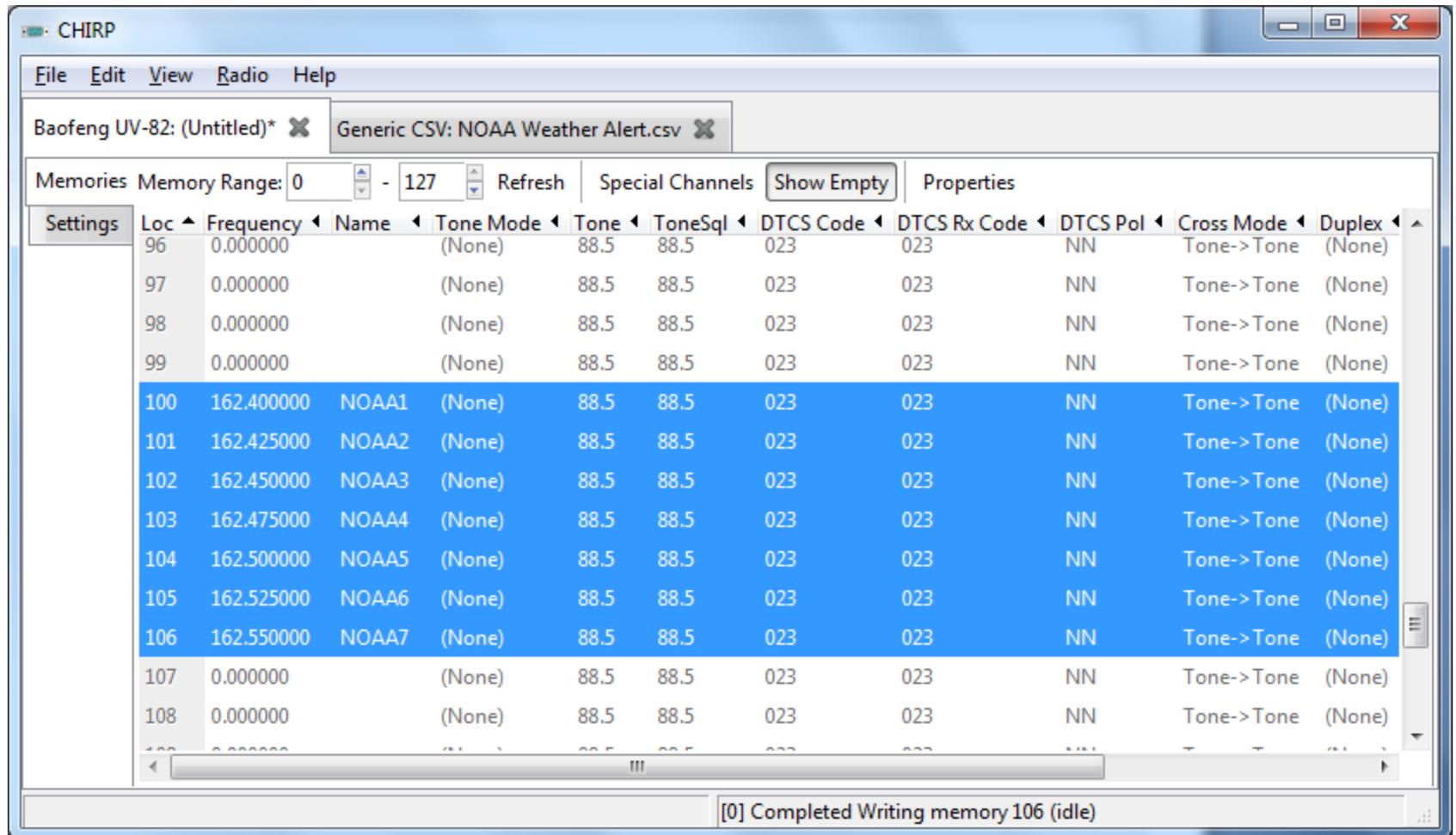
The screenshot shows the CHIRP software interface with a table of radio memories. The table has columns for Loc, Frequency, Name, Tone Mode, Tone, ToneSql, DTCS Code, DTCS Rx Code, DTCS Pol, Cross Mode, and Duplex. The rows are numbered 8 through 21. A red arrow points to the 'Settings' column. The status bar at the bottom indicates '[0] Completed Moving memory from 10 to 20 (idle)'.

Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex
8	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
9	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
10	145.210000	KA9LAY	Tone	97.4	88.5	023	023	NN	Tone->Tone	-
11	145.330000	WD5EMS	Tone	162.2	88.5	023	023	NN	Tone->Tone	-
12	145.370000	KC5WLF	Tone	114.8	88.5	023	023	NN	Tone->Tone	-
13	145.450000	WC5EOC	Tone	162.2	88.5	023	023	NN	Tone->Tone	-
14	145.470000	KB2PMD	Tone	114.8	88.5	023	023	NN	Tone->Tone	-
15	146.640000	N5TT	Tone	162.2	88.5	023	023	NN	Tone->Tone	-
16	146.700000	N5MNV	Tone	110.9	88.5	023	023	NN	Tone->Tone	-
17	146.980000	W2MN	Tone	103.5	88.5	023	023	NN	Tone->Tone	-
18	147.080000	NA6M	Tone	100.0	88.5	023	023	NN	Tone->Tone	+
19	147.120000	W2MN	Tone	103.5	88.5	023	023	NN	Tone->Tone	+
20	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
21	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)

Query Data Source

- Repeat for other Repeater counties/bands
- Reorganize as desired using copy/paste or move up/down

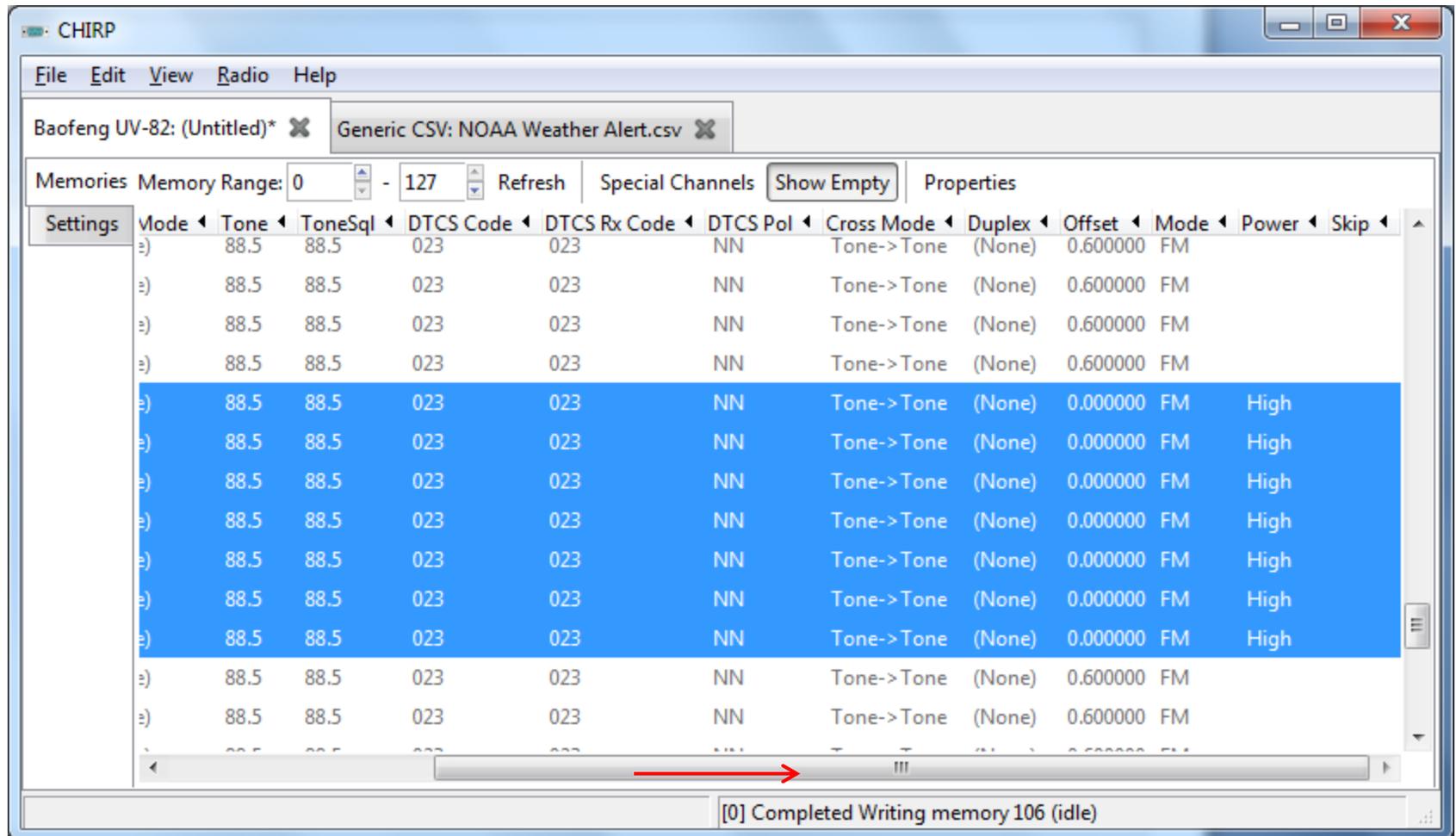
Scan Skip



The screenshot shows the CHIRP software interface. The window title is "CHIRP". The menu bar includes "File", "Edit", "View", "Radio", and "Help". The toolbar shows "Baofeng UV-82: (Untitled)*" and "Generic CSV: NOAA Weather Alert.csv". Below the toolbar, there are controls for "Memories" (Memory Range: 0 - 127), "Refresh", "Special Channels", "Show Empty", and "Properties". The main area is a table with columns: "Settings", "Loc", "Frequency", "Name", "Tone Mode", "Tone", "ToneSql", "DTCS Code", "DTCS Rx Code", "DTCS Pol", "Cross Mode", and "Duplex". The table contains 11 rows of data. Rows 100 through 106 are highlighted in blue. Row 106 is selected. The status bar at the bottom shows "[0] Completed Writing memory 106 (idle)".

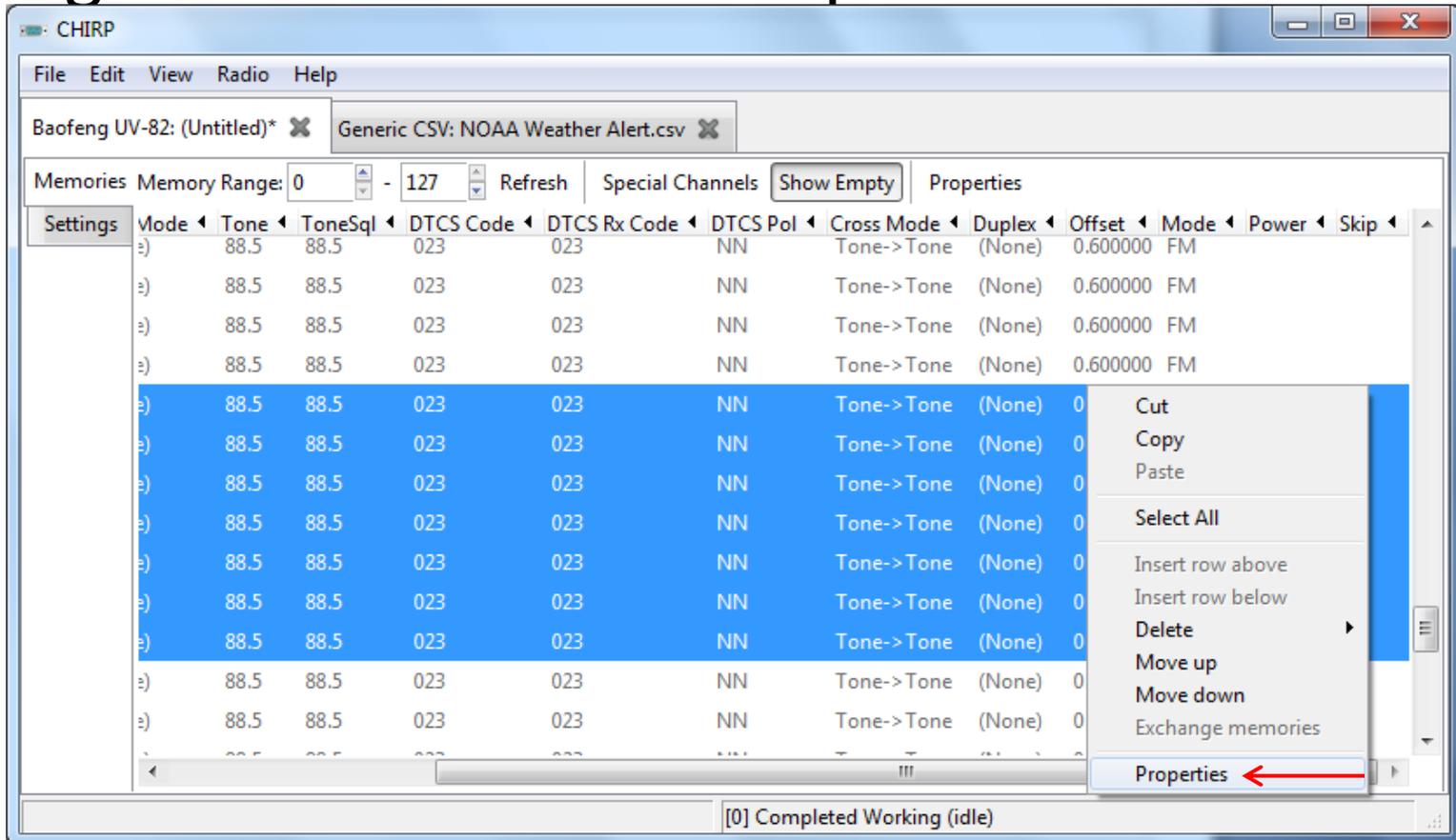
Settings	Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex
	96	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	97	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	98	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	99	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	100	162.400000	NOAA1	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	101	162.425000	NOAA2	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	102	162.450000	NOAA3	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	103	162.475000	NOAA4	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	104	162.500000	NOAA5	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	105	162.525000	NOAA6	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	106	162.550000	NOAA7	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	107	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)
	108	0.000000		(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)

Scan Skip (Select Rows)



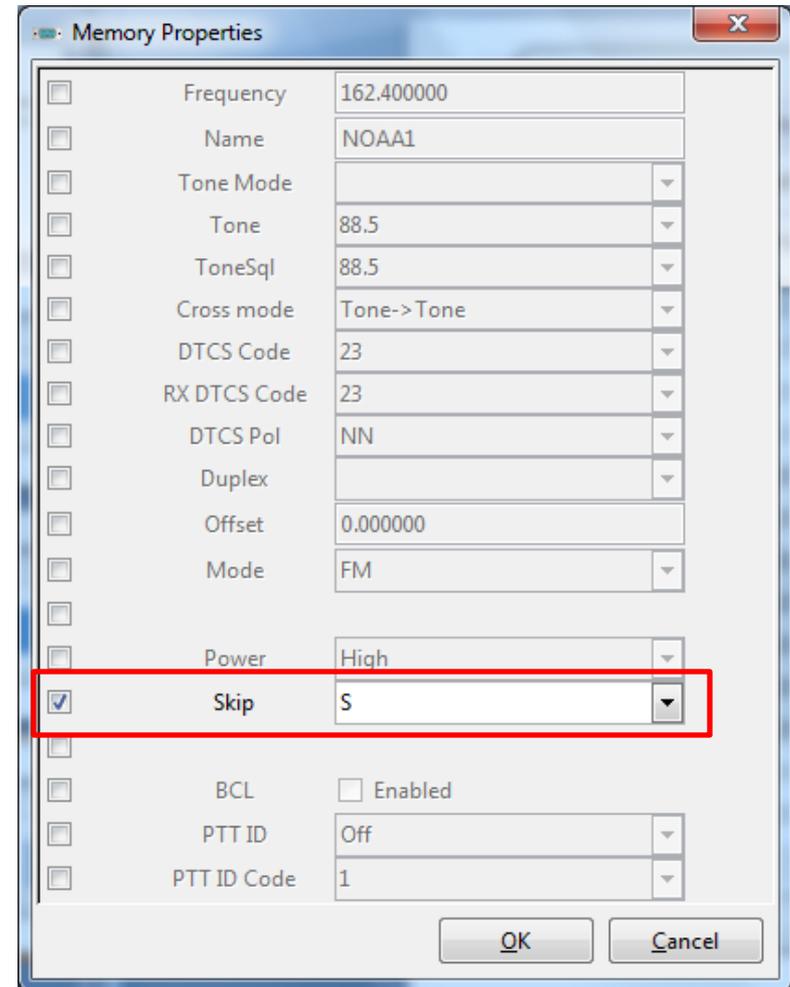
Scan Skip

- Right click and select Properties



Scan Skip

- Check “Skip” and set to ‘S’
- Click OK

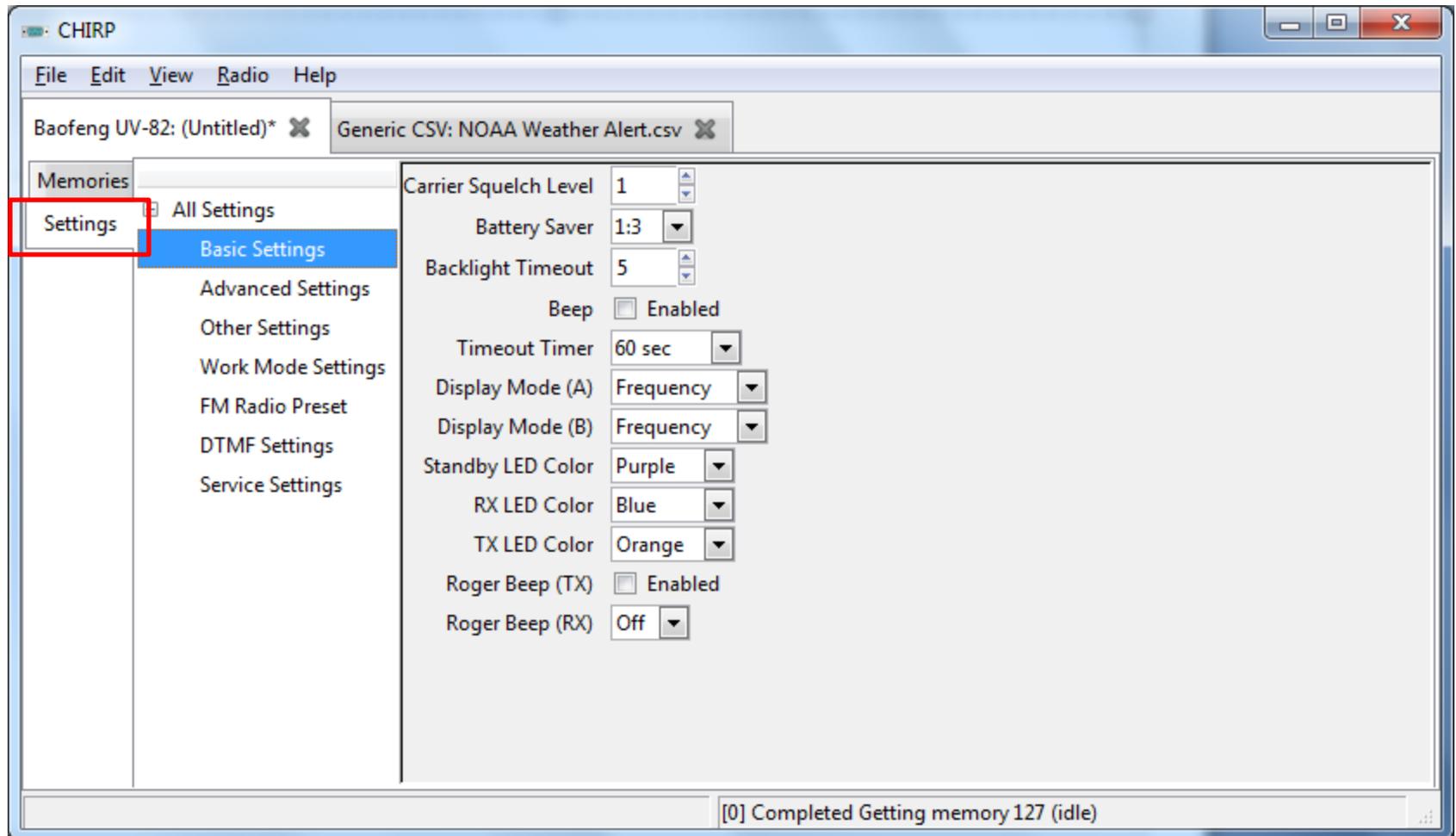


Scan Skip

The screenshot shows the CHIRP software interface. The window title is "CHIRP". The menu bar includes "File", "Edit", "View", "Radio", and "Help". The main window displays a table of scan skip settings for a Baofeng UV-82 radio. The table has columns for "Settings", "Memory Mode", "Tone", "ToneSql", "DTCS Code", "DTCS Rx Code", "DTCS Pol", "Cross Mode", "Duplex", "Offset", "Mode", "Power", and "Skip". The "Skip" column contains the letter "S" for several rows, which are highlighted with a red box. The status bar at the bottom indicates "[0] Completed Getting memory 127 (idle)".

Settings	Memory Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex	Offset	Mode	Power	Skip
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.600000	FM		
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.600000	FM		
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	S
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	S
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	S
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	S
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	S
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	S
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	S
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	S
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.600000	FM		
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.600000	FM		
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.600000	FM		
(one)		88.5	88.5	023	023	NN	Tone->Tone	(None)	0.600000	FM		

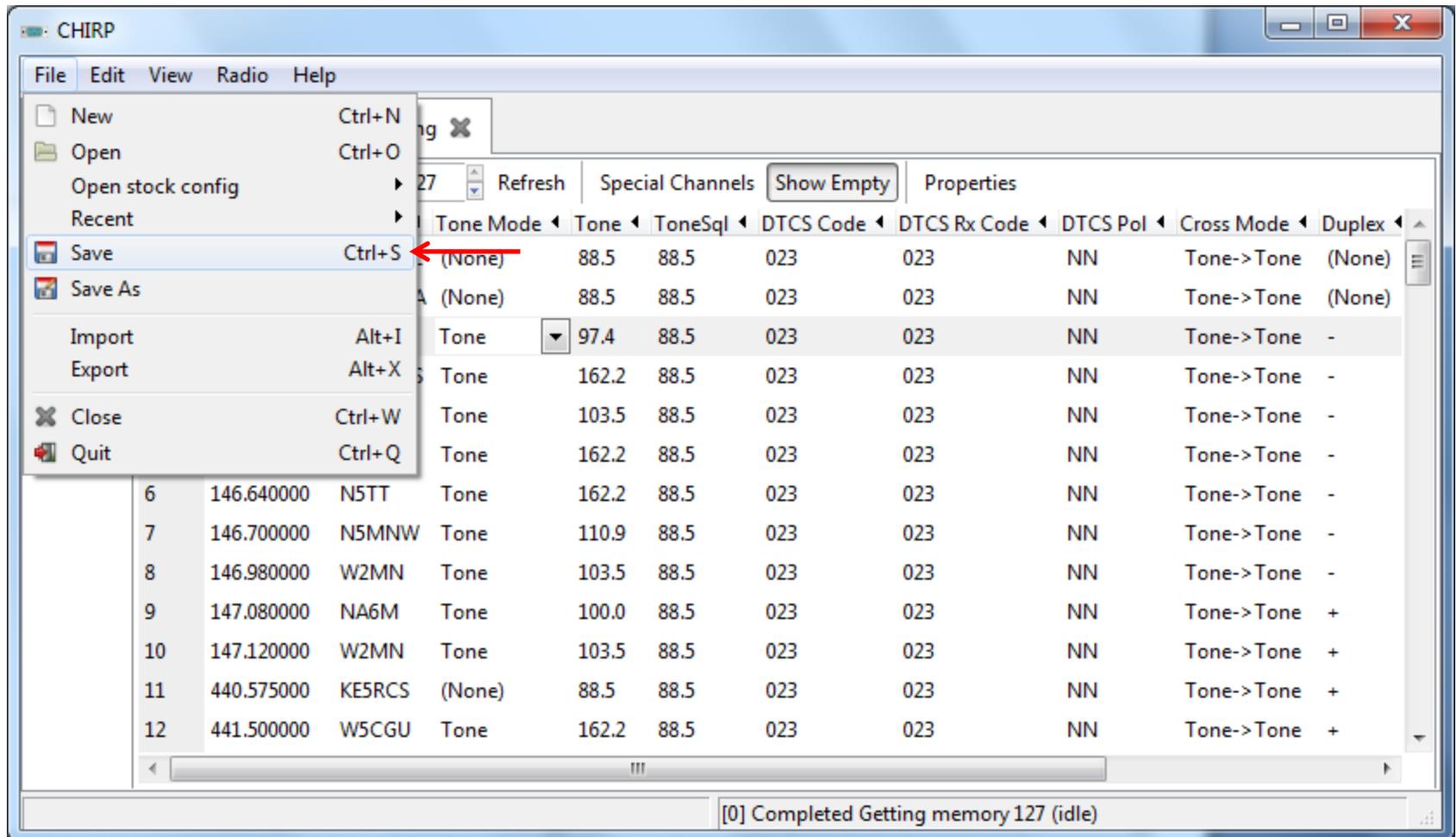
Changing other Settings



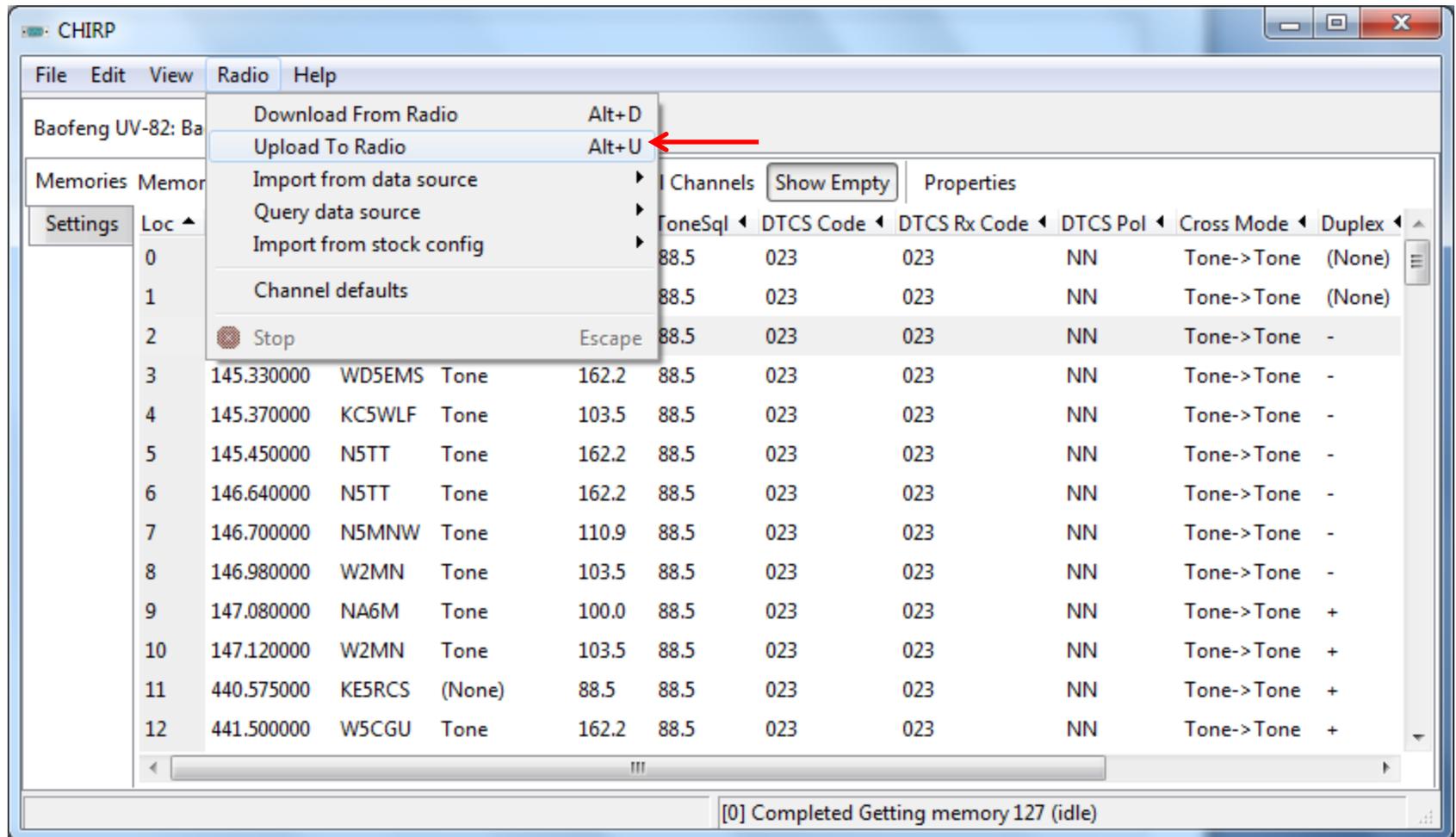
Programming with CHIRP

1. Run CHIRP
2. Create Image (download) from Radio
3. Change Settings and Memories
- 4. Program (upload to) Radio**

Upload To Radio (Save File)

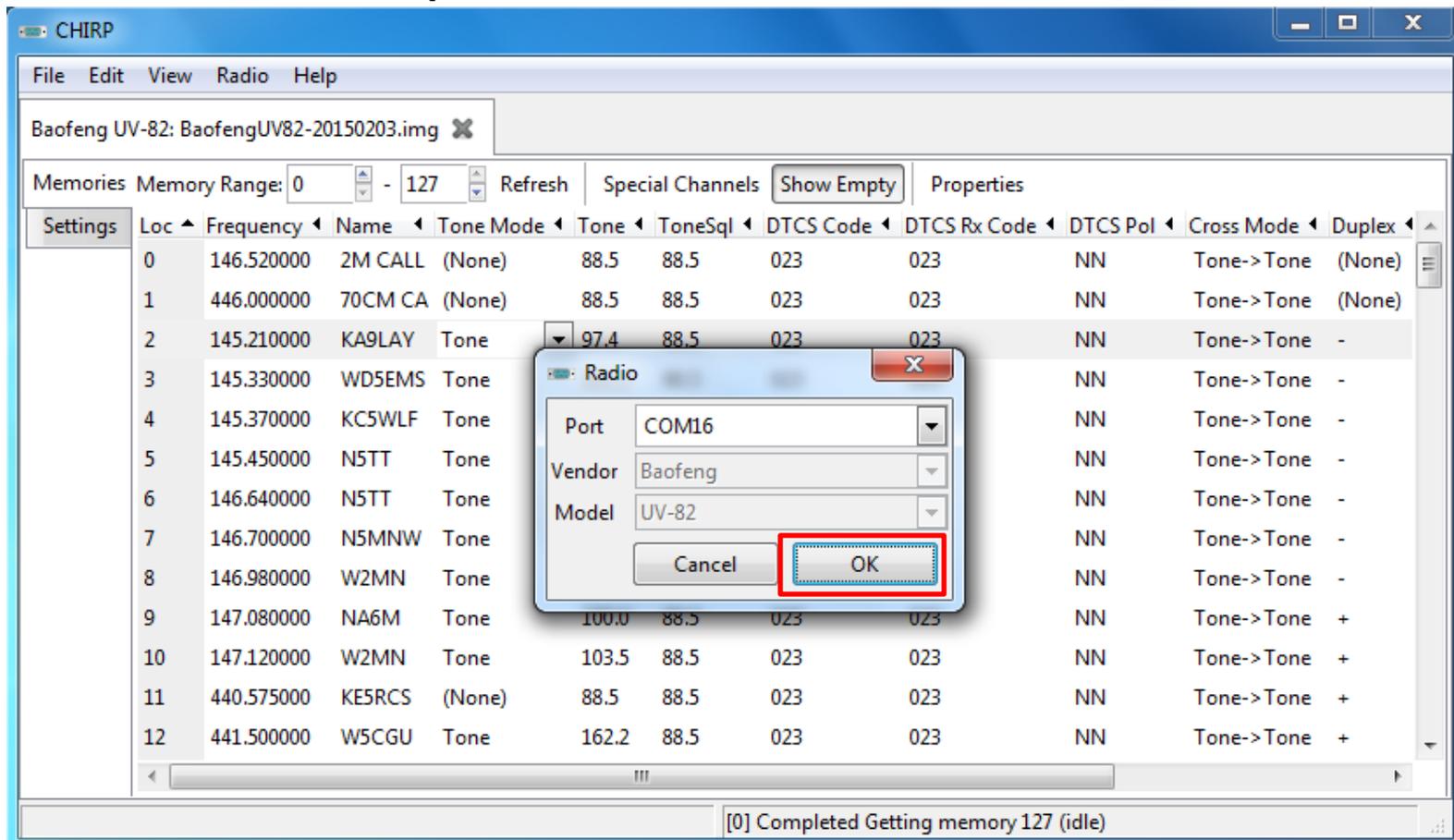


Upload To Radio



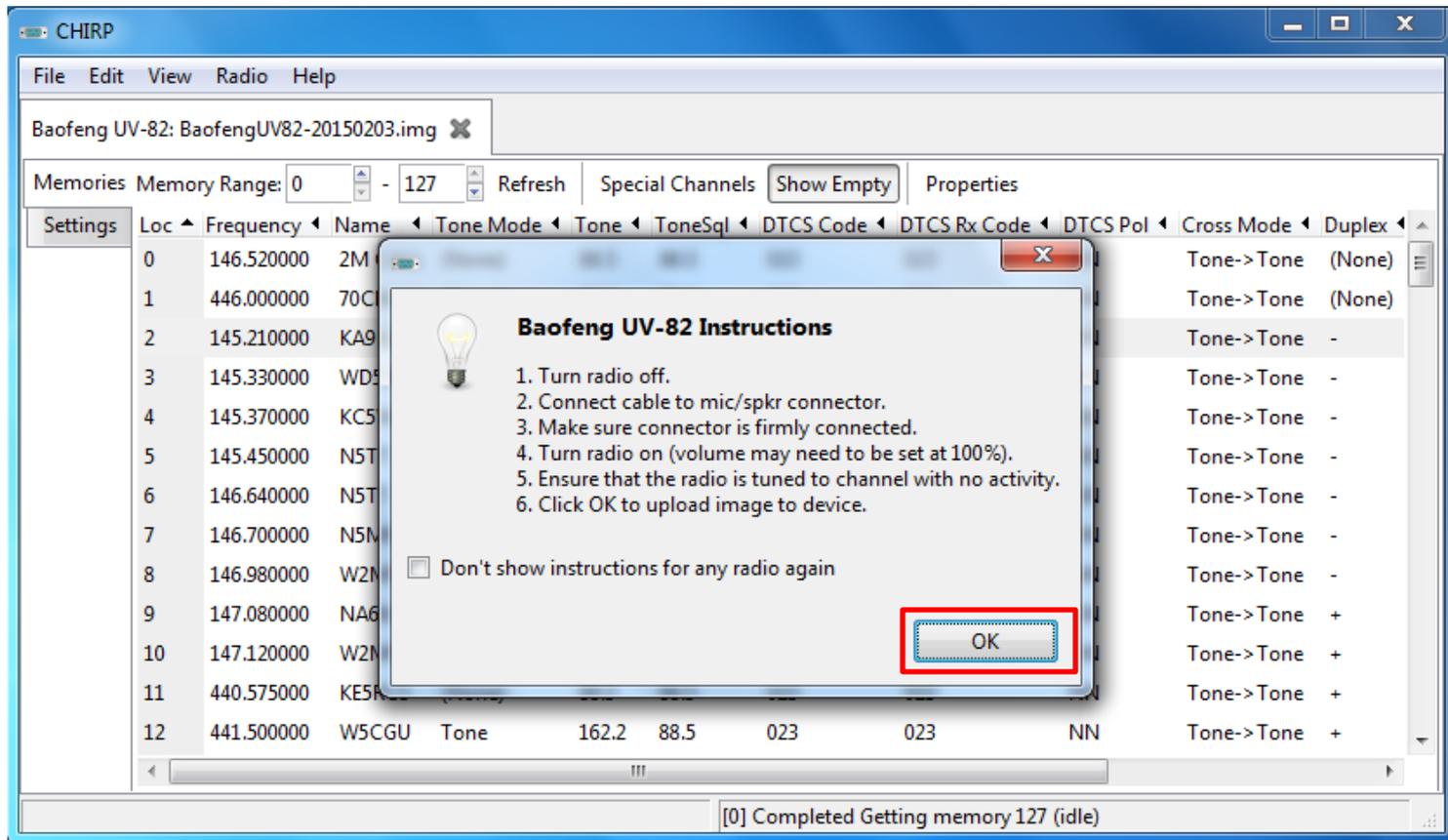
Upload To Radio

- Select COM port



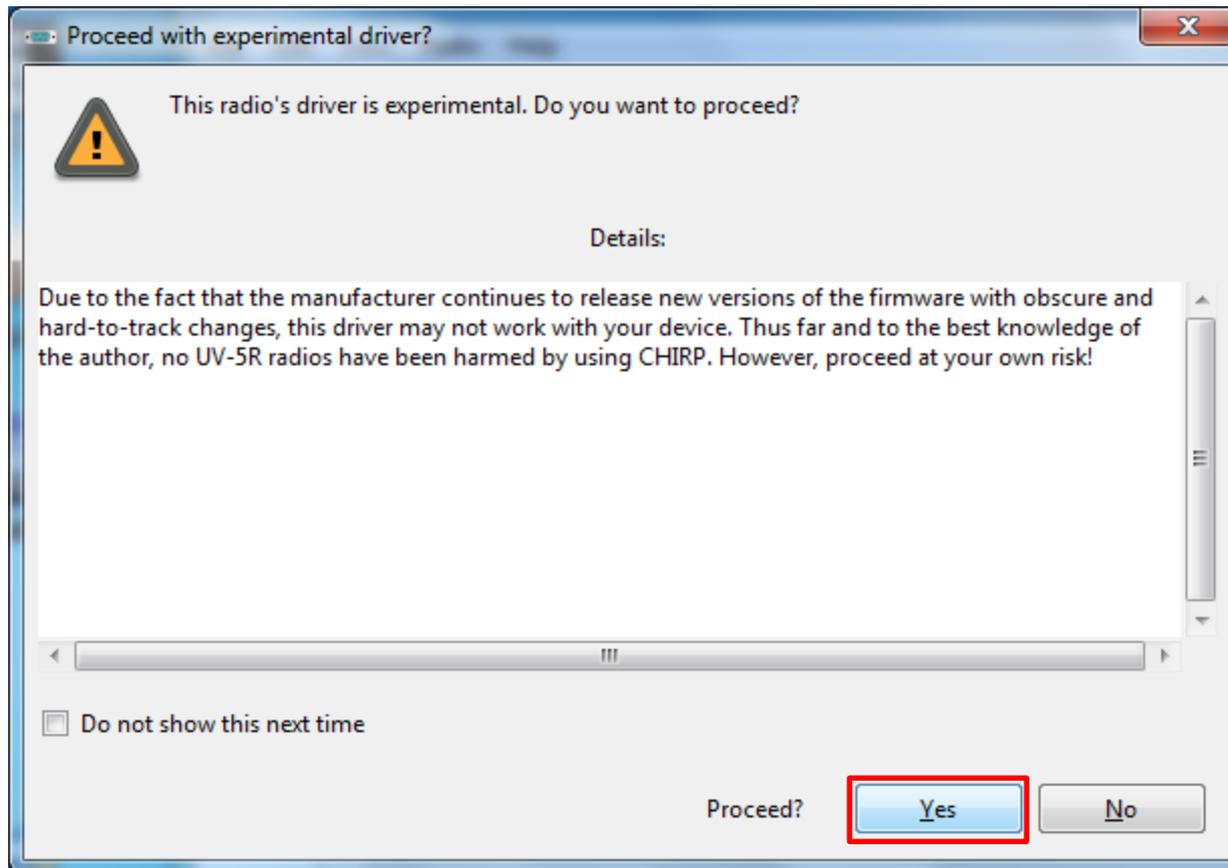
Upload To Radio

- Same as Download Instructions



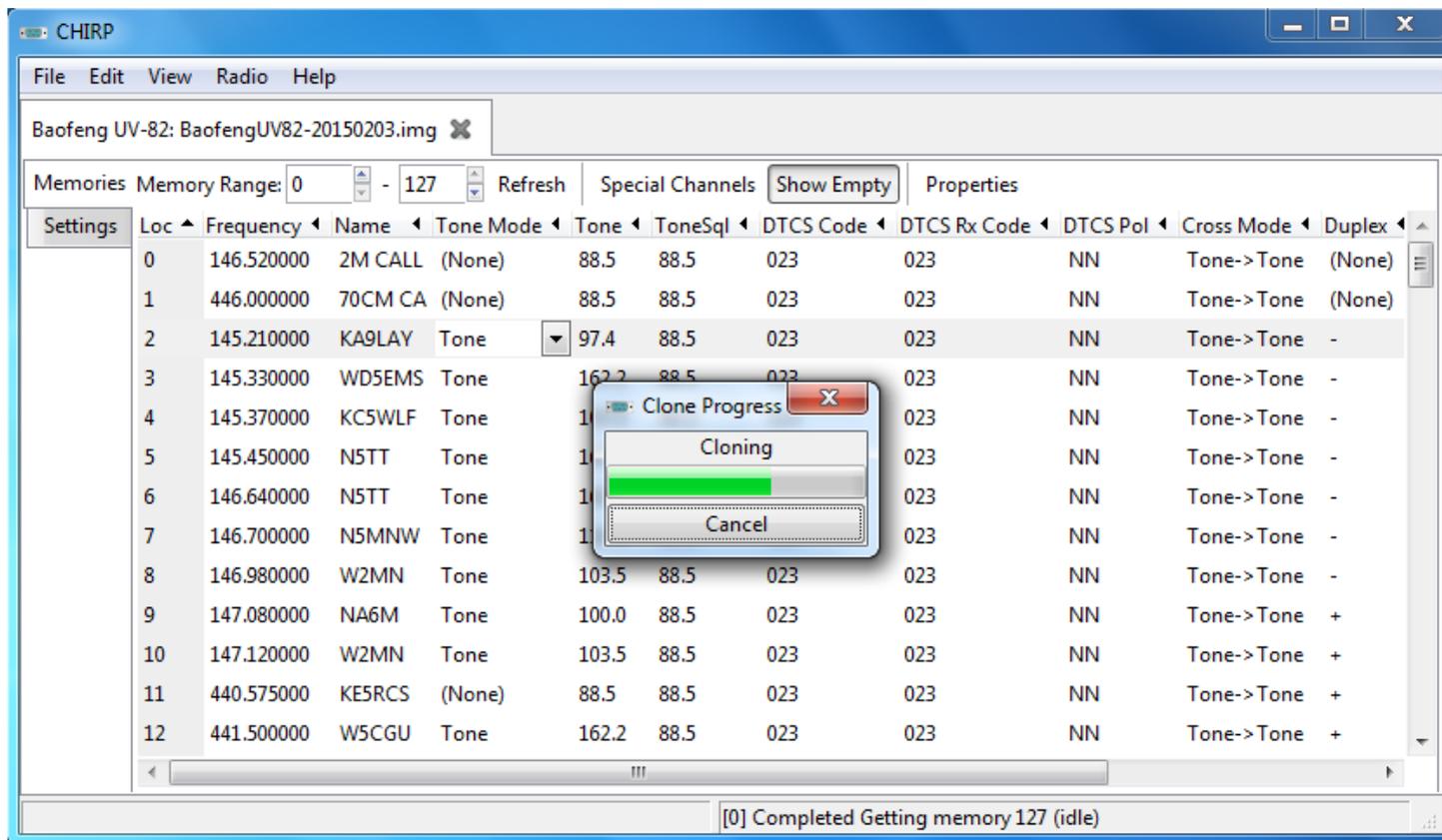
Upload To Radio

- Same Disclaimer



Upload To Radio

- Cloning Display. Radio will reboot when done



Conclusions

- Baofeng HTs
 - Inexpensive (some call disposable)
 - Not perfect, but adequate
- Manual Programming
 - Print a programming reference and keep it in your wallet or taped to battery
- CHIRP Programming
 - FREE!!!
 - Access to advanced features and settings
 - Repeater Directory Queries make filling the memories easy

Questions?

Backup

Warning

- Never clone from one radio to another using an old version of CHIRP

Baofeng Variants

- UV-5R – Original model
- UV-5R cosmetic variants
 - Examples: R+,R+Plus,R2,RA,RA+,RAX+,RB,RC,RCX+,RD,RE,RE-Plus,RG,RK,RQ,RS,RT,RU,S,BF-F9,GT-3 (MK2), BF-F8(+), ZT-V8(A,A+)
 - RAX,RCX (2m,1.25m)
- UV-3R – smaller, sans-keypad
- UV-82/82L/82X – Bigger, dual PTT, upgraded antenna
 - 82X is 2m, 1.25m version
 - 82C is commercial version
- F-11
- BF-F8HP/UV-5R TP/GT-3TP/BF-F9V2+
 - Tri-power (8W/4W/1W)