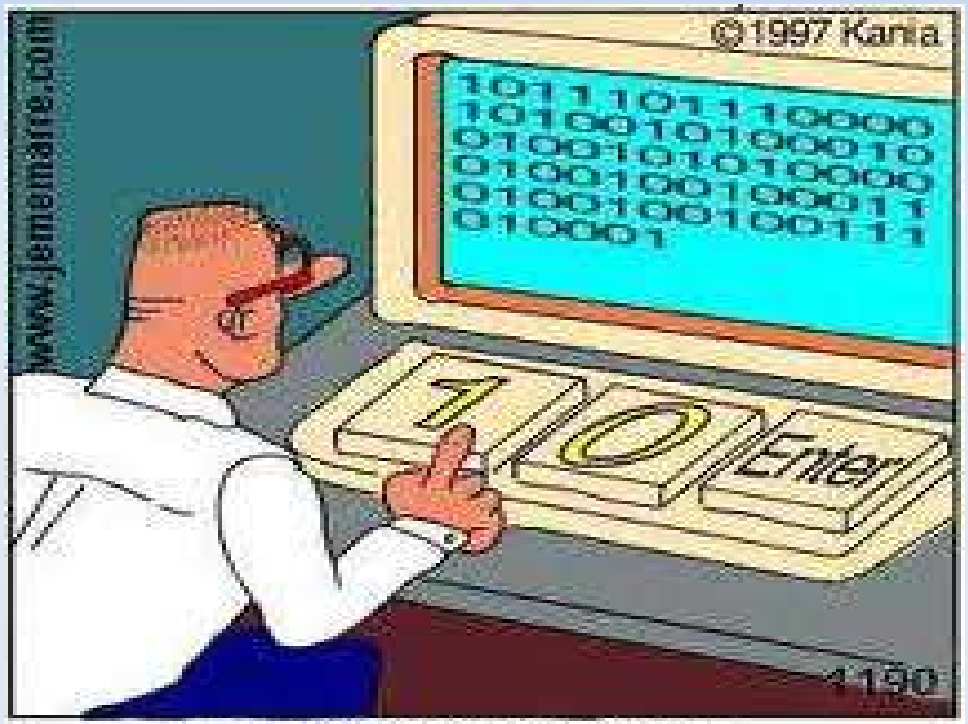
Programming (portable) radios



Le vrai programmeur ...

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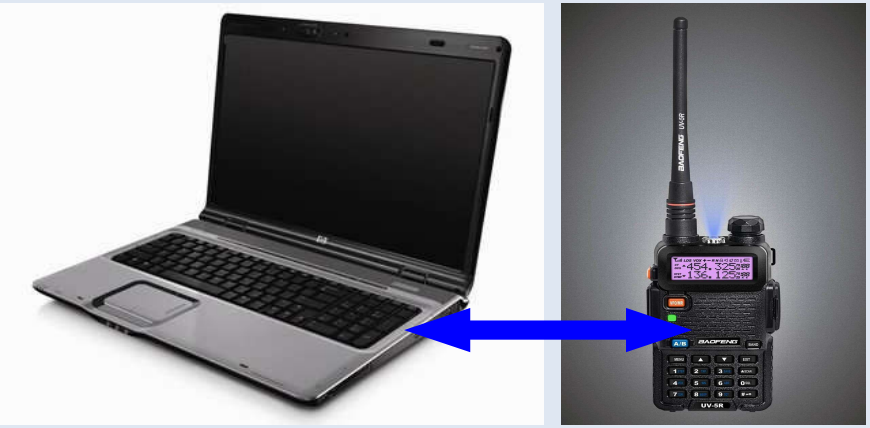
PD0JDG
May, 2012

Agenda

- Introduction
- Programs
- CHIRP
- Systeem requirements
- Programming
- Conclusion

Introduction

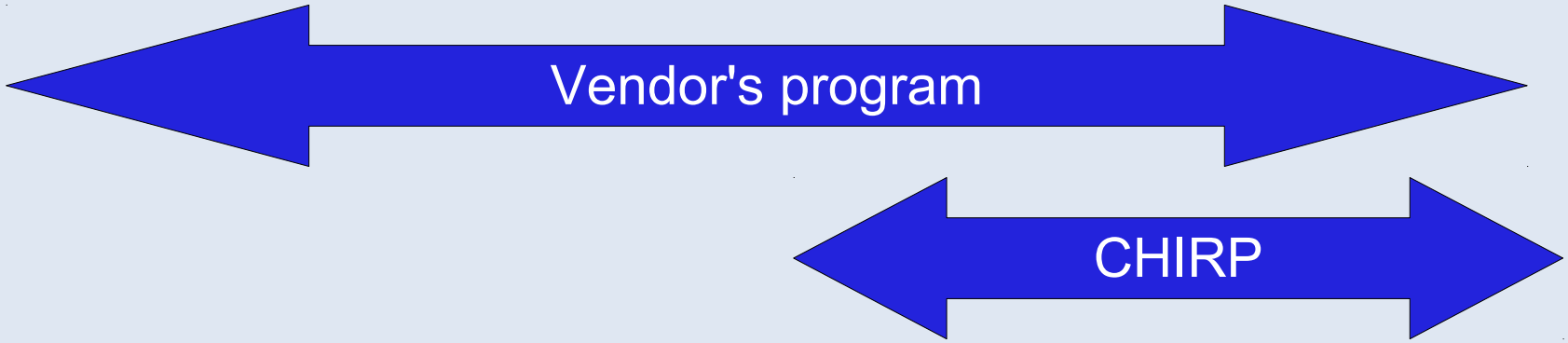
- Modern radios can be programmed by using a computer, a program and a cable:
  - Easier than on the (small) radio
  - Multiple configurations can be saved
  - Easy to exchange with fellow hams



Introduction

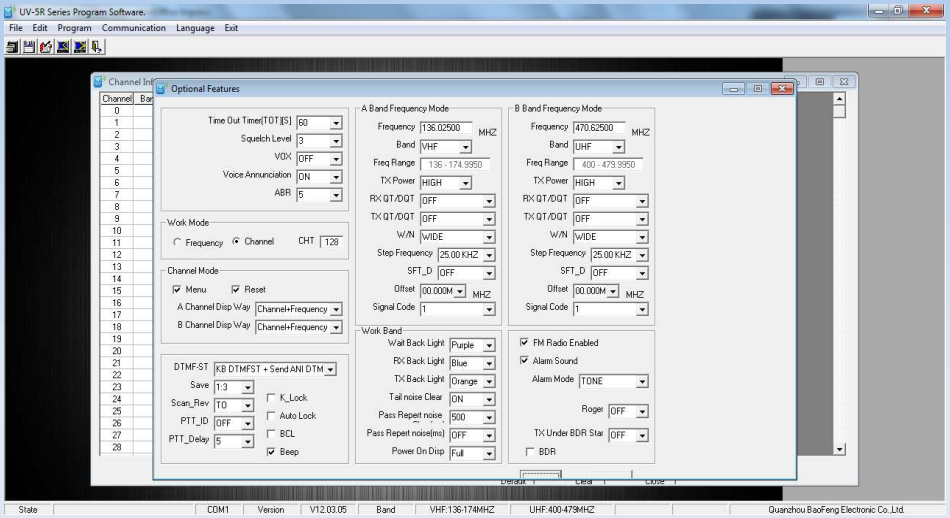
Progamming radios

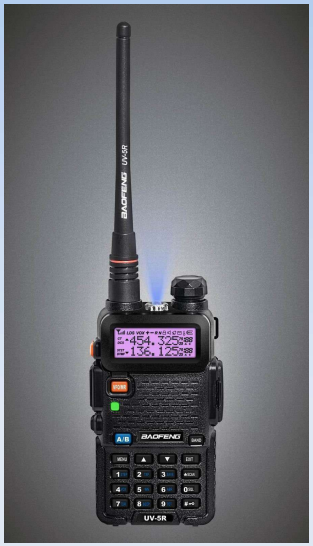
Specific	Generic
FM channles Display colors Squelch level VFO mode Frequency limitations Etc.	Channel fequency Repeater offset CTCSS tone DCS setting Channel name Etc.

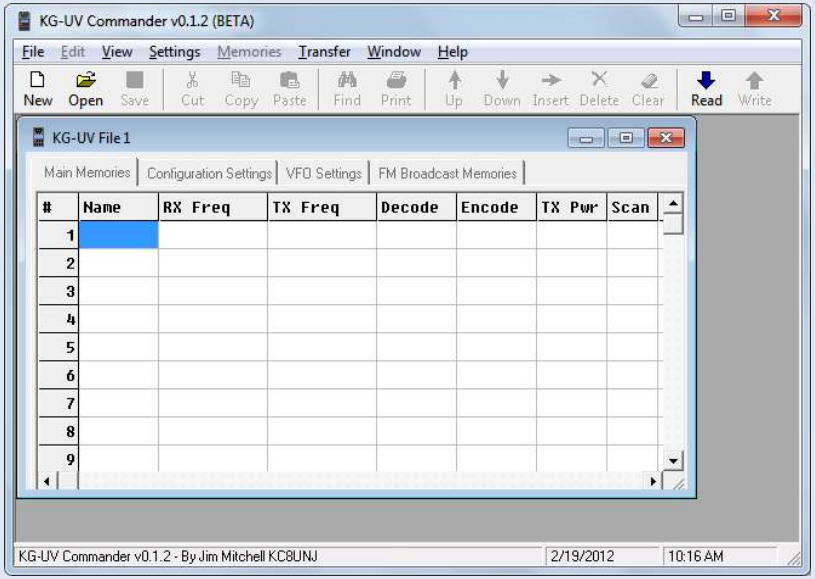


CHIRP is restricted to generic programming, but can easy exchange information.

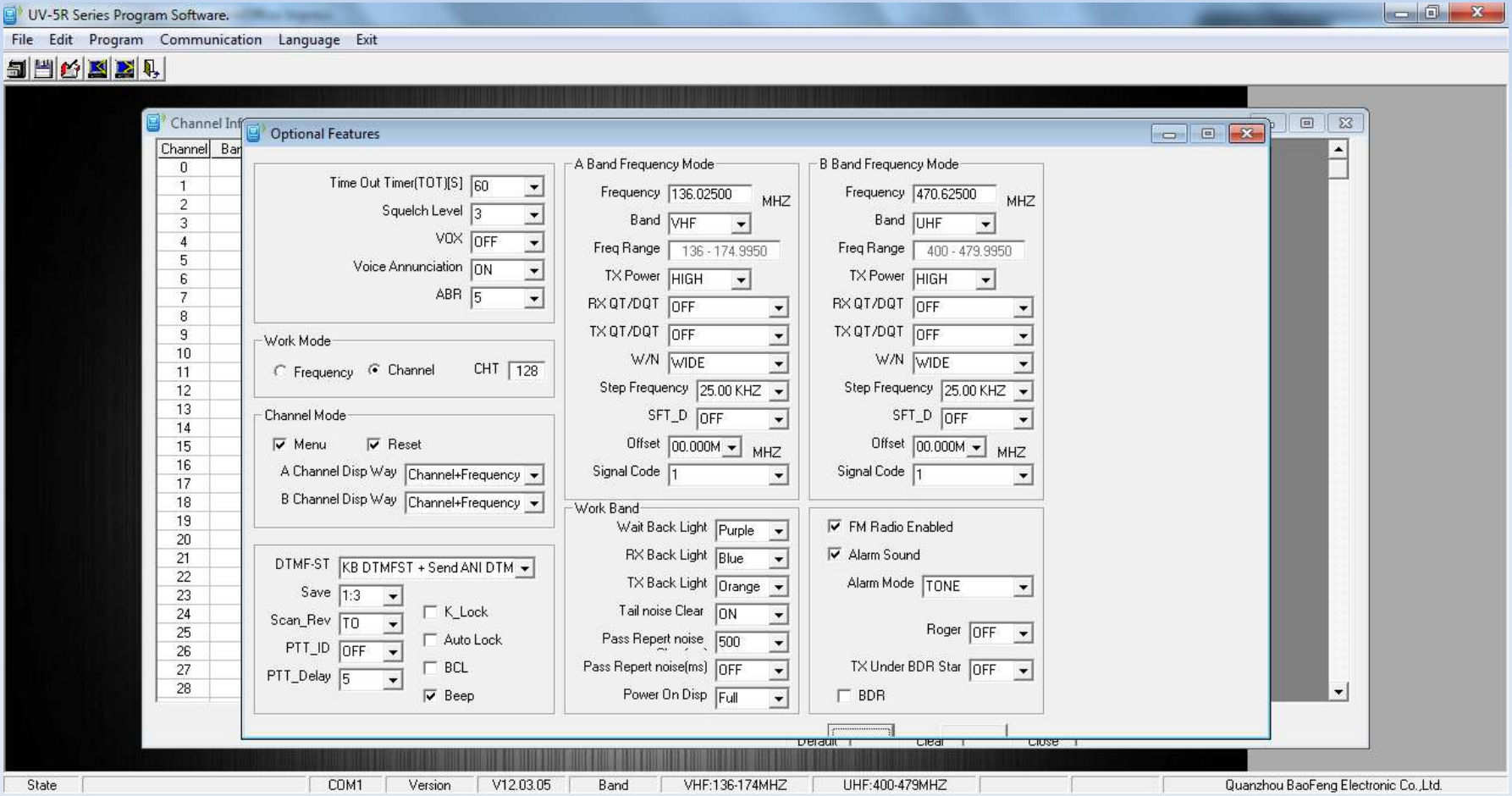
Specific programs



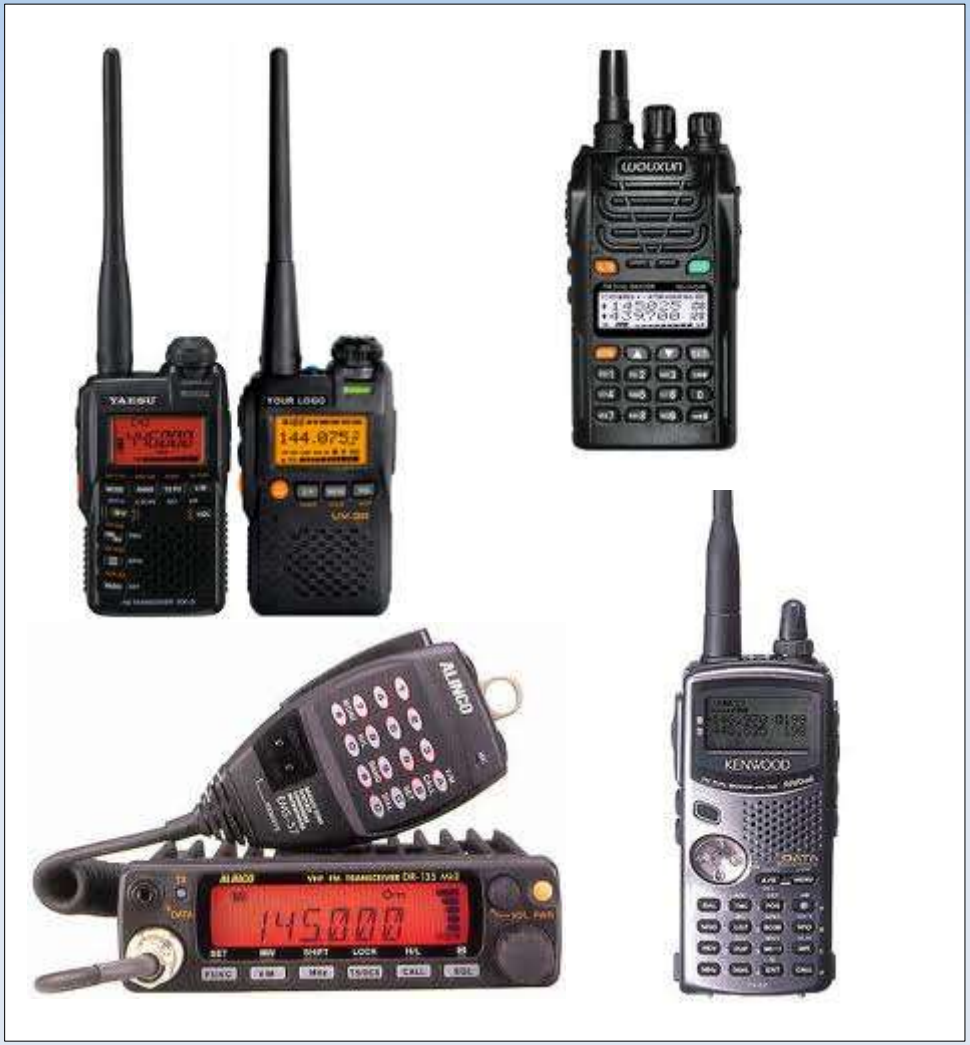




Baofeng UV-5R

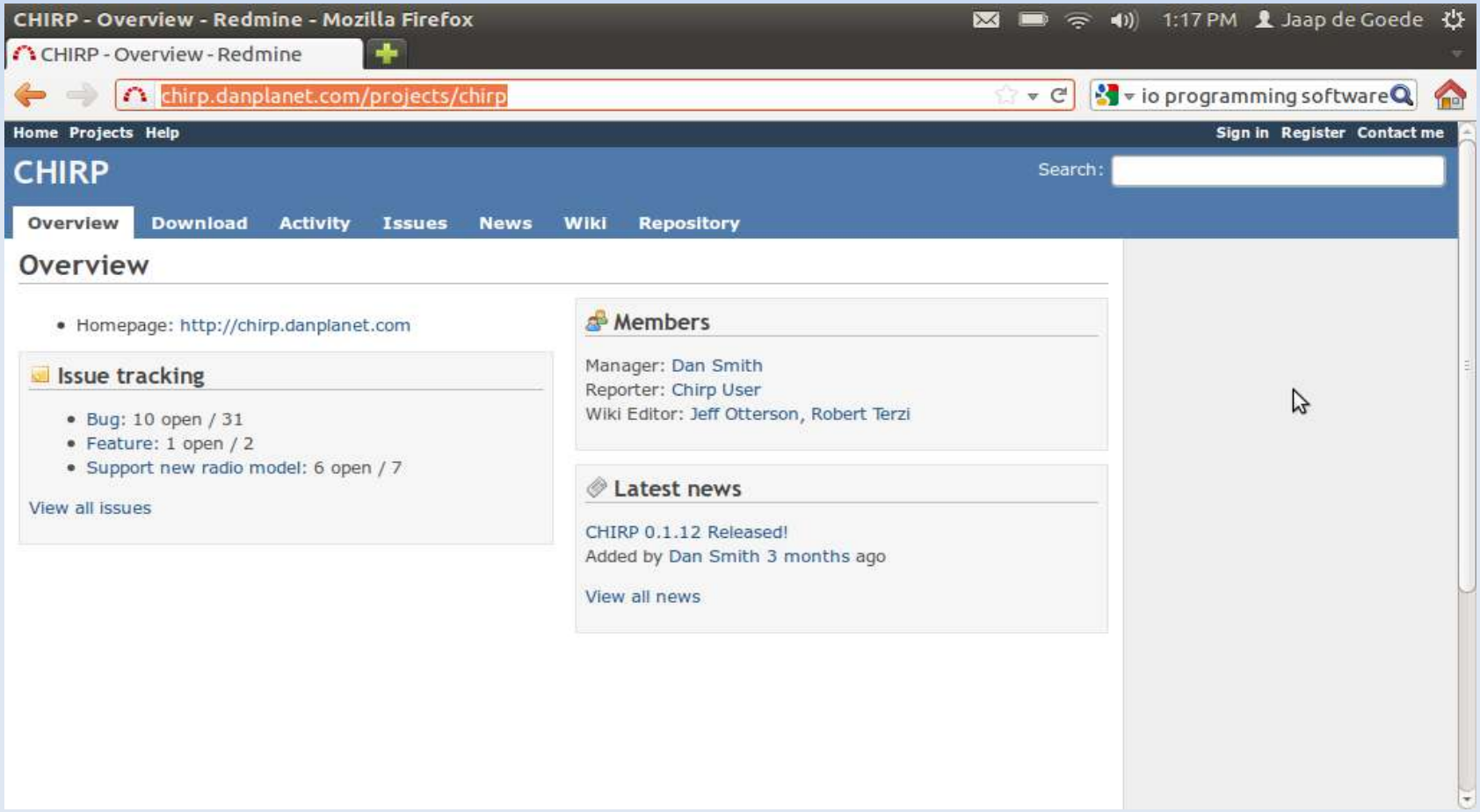


Generic program



CHIRP on the Internet

- http://chirp.danplanet.com/projects/chirp



CHIRP v0.2.2: radios

Alinco
- DR-03T, 06T
- DR135T, 235T
- DR435T
- DJ596T

Baofeng
- UV-3R
- UV-5R

DAILY BUILD

Jetstream
- JT220M

Puxing
- PX-2R (UHF)
- PX-777

- Icom
- IC-2820H
- ID-800H, 880H
- IC-2200H
- IC-91/92AD
- IC-V/U82
- IC-2100H, 2720H
- IC-T70
- IC-Q7A
- IC-W32A
- IC-7000, 7200
- ID-32A
- ID-RP2000V/RP4000V/RP2V/RP2D

Kenwood
- TH-D7A
- TM-D700, D710
- TM-V7A, V71A
- TH-F6A
- TH-D72
- TH-K2
- TM-271A

Yaesu
- FT-2800M
- FT-7800R
- FT-7900R
- FT-8800R
- FT-8900R
- VX-3R, 5R, 6R, 7R, 8R
- FT-60R
- FT-817/857/897

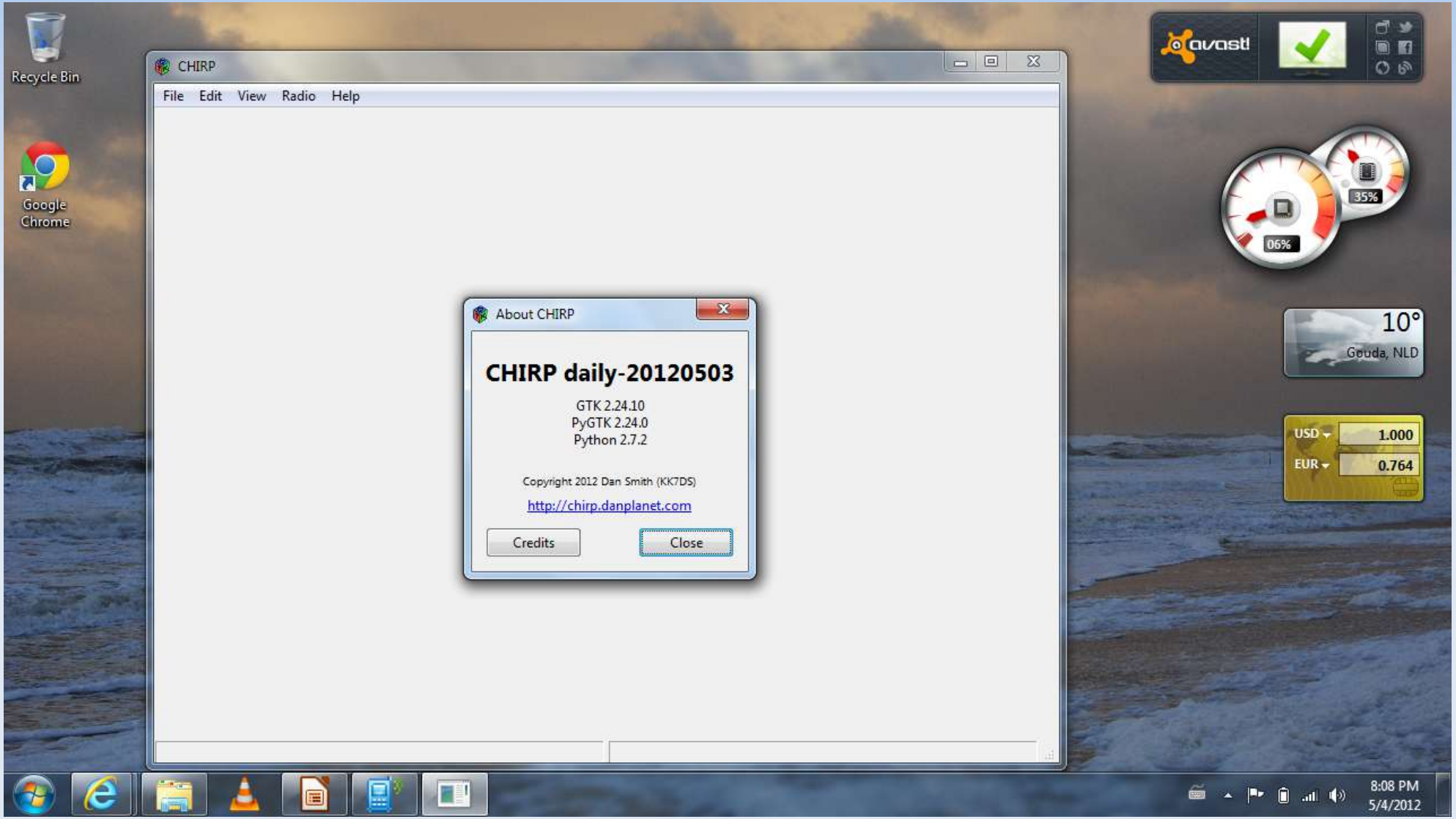
Wouxun
- KG-UVD1P/UV2D/UV3D

CHIRP, system requirements

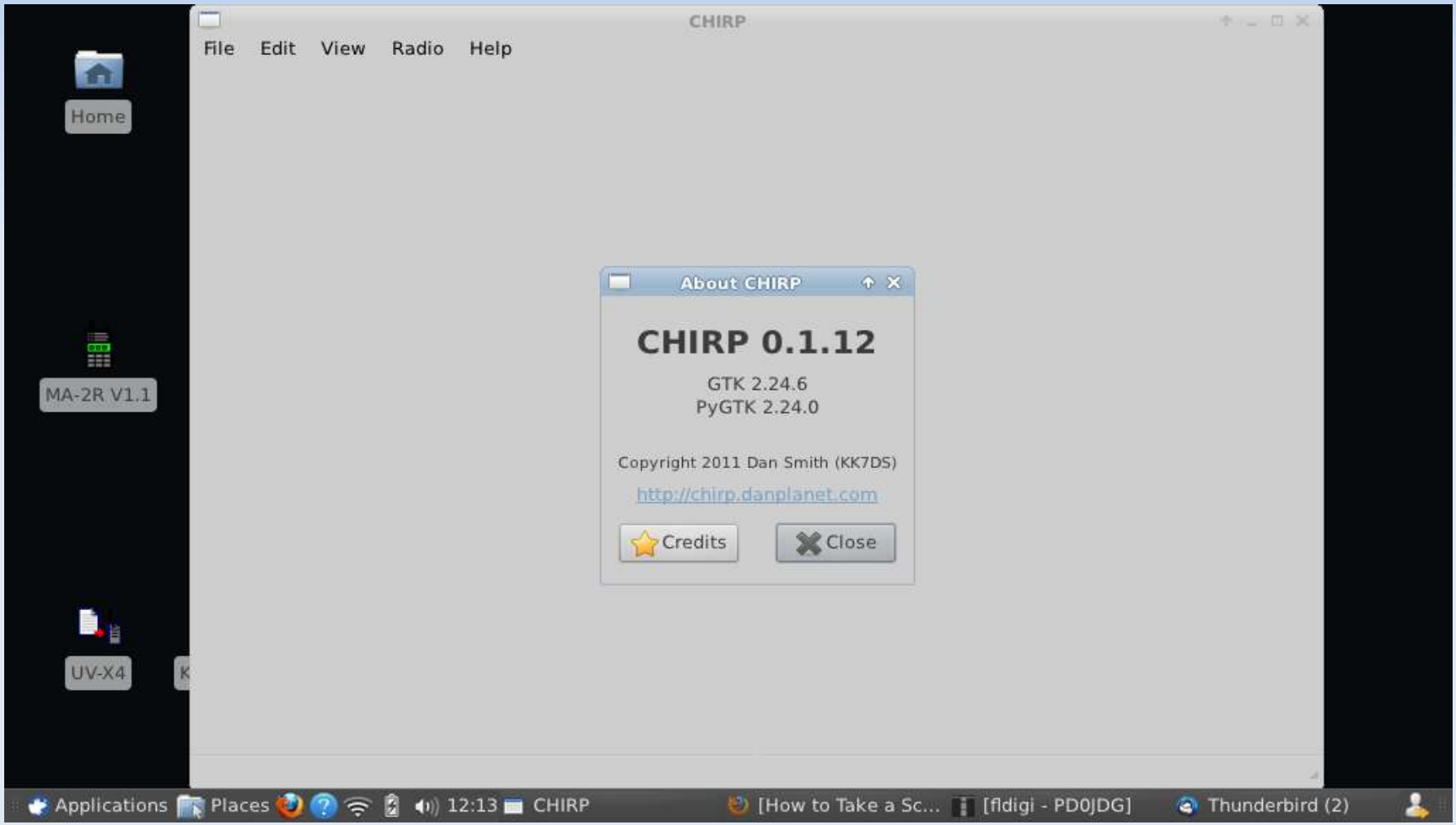
- CHIRP
  - Microsoft Windows 2000/XP/Vista/7
  - Apple Mac OS
  - Linux: Fedora, Ubuntu, ..
- USB- of Serial specific cable
  - Windows: USB-driver
  - Linux: USB to serial is standard

CHIRP runs fine with Linux.
Even with a Pentium class CPU and 512 Megabyte memory!

CHIRP, Windows 7



CHIRP, XUBUNTU (linux)

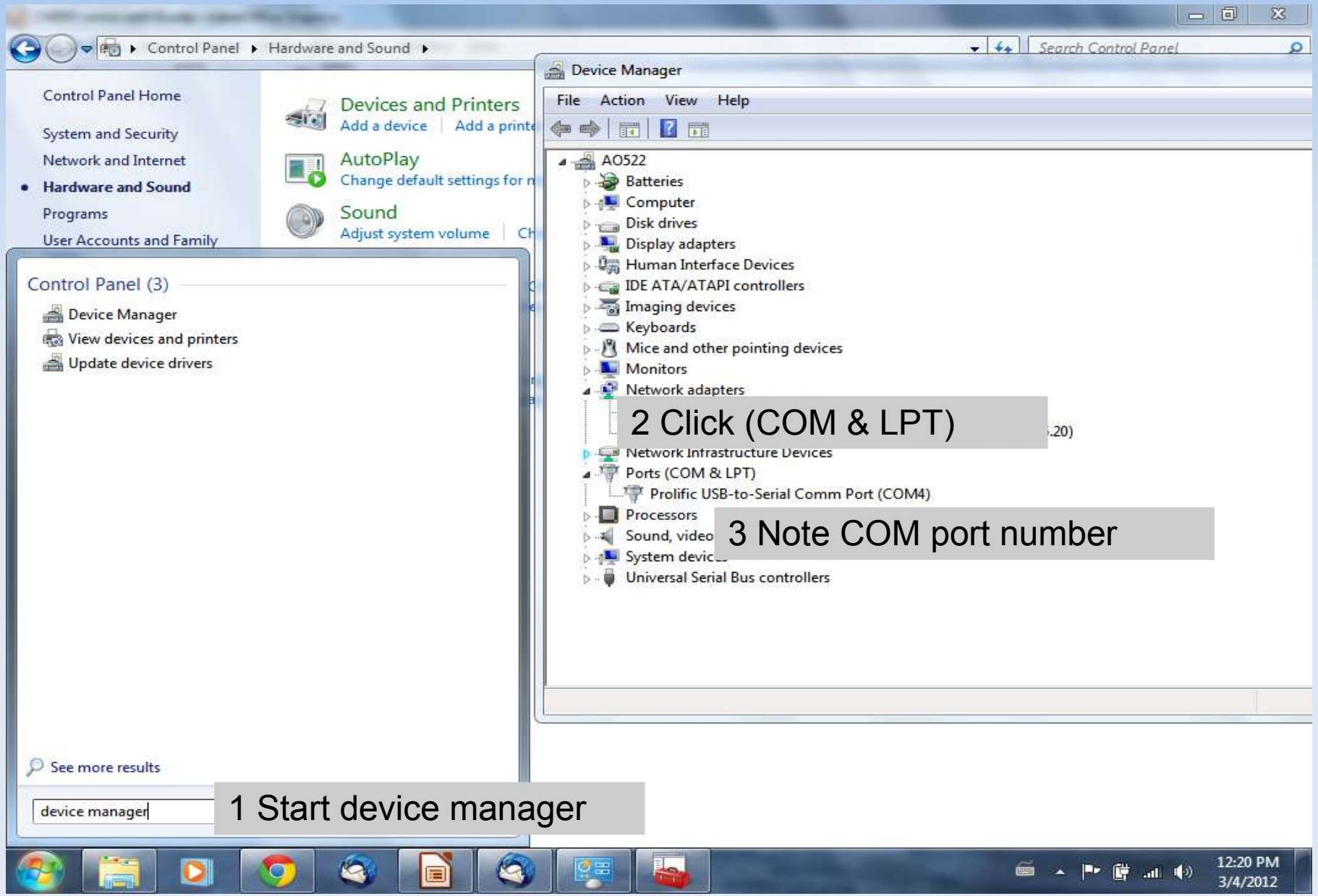


CHIRP, tips

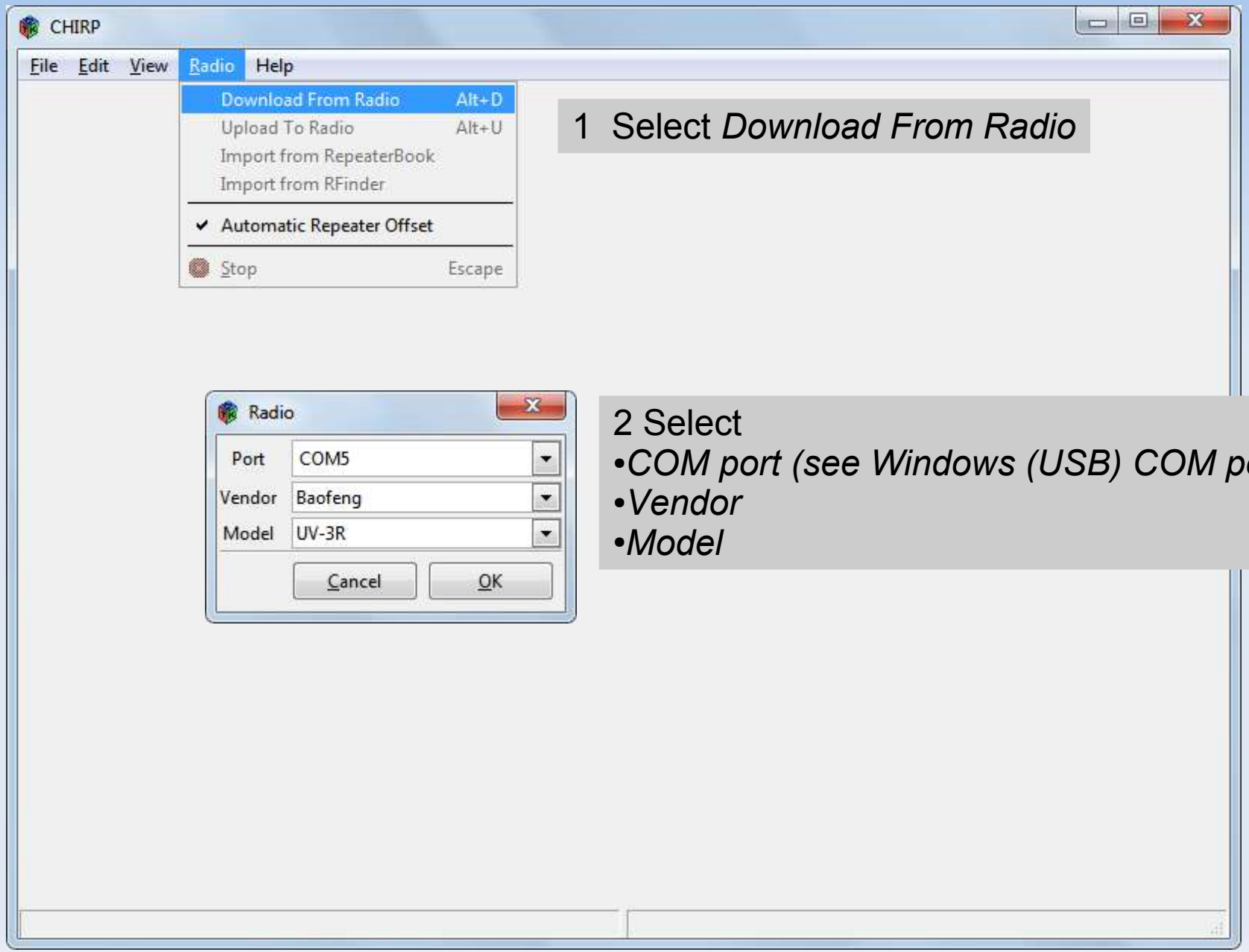
- WINE (Linux WINdows Emulator)
  - USBtoserial cable = /dev/ttyUSB0
  - Associate WINE COM1 with Linux /dev/ttyUSB0
    - ln -s /dev/ttyUSB0 ~/.wine/dosdevices/com1

- Windows Profilic Driver
  - Latest driver does not support counterfeit
  - Windows 7 use v3.2.0.0 or below
- UBUNTU HAM programs
  - https://launchpad.net/~ubuntu-hams-updates/+archive/ppa

CHIRP, Windows (USB) COM port



Get data from radio

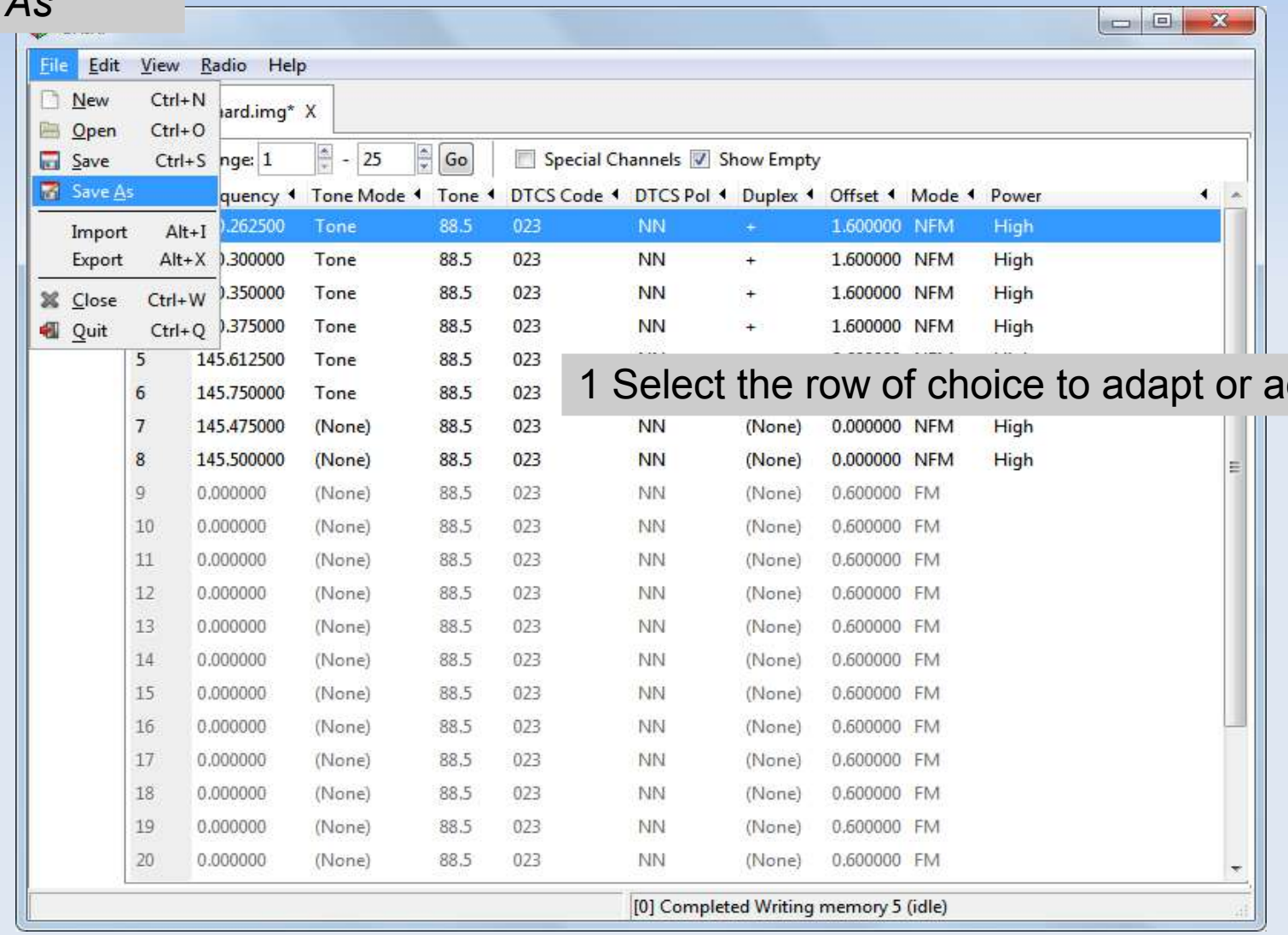


1 Select *Download From Radio*

2 Select
- *COM port (see Windows (USB) COM port)*
- *Vendor*
- *Model*

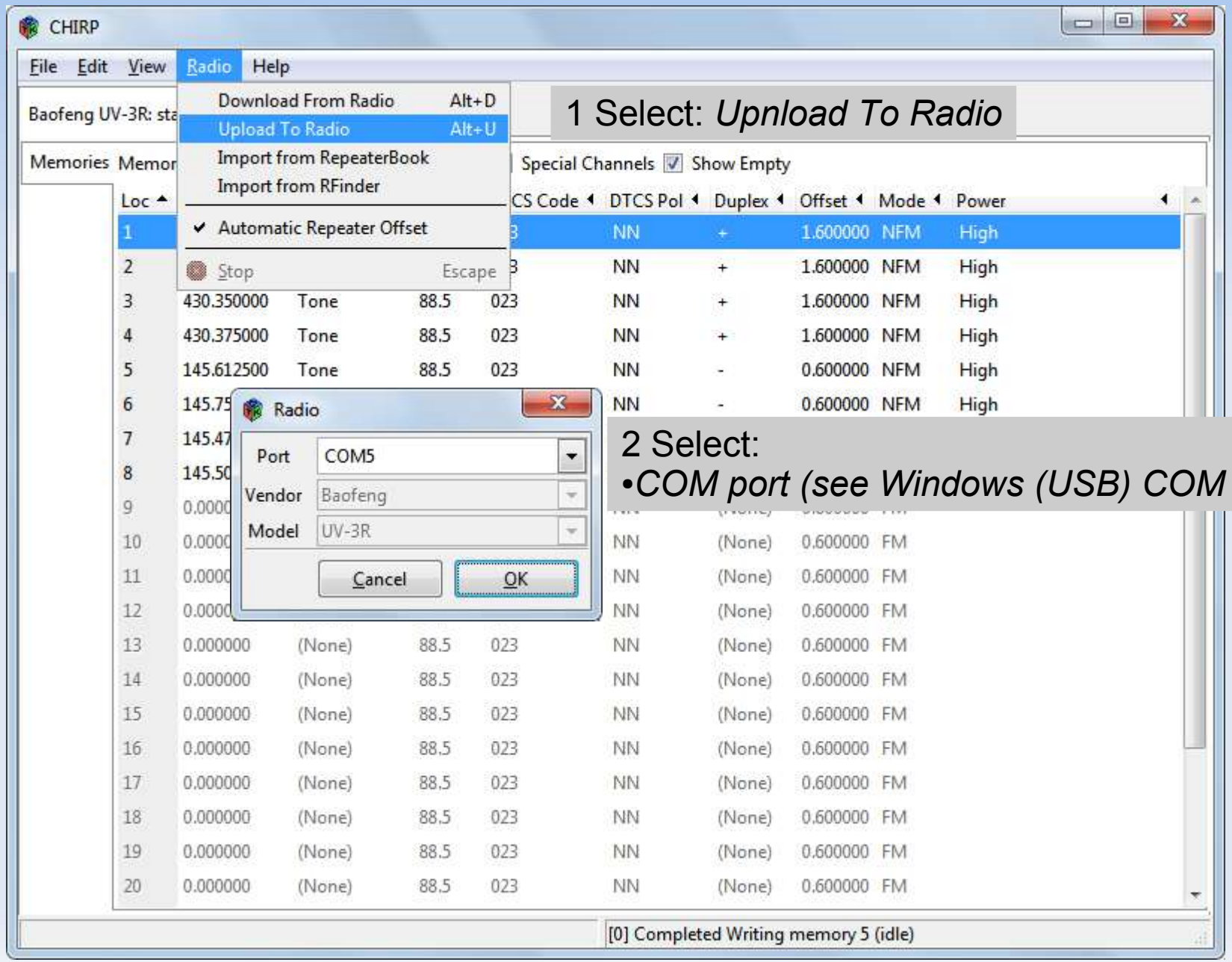
Adapt and save data

2 Select
- *File*
- *Save As*



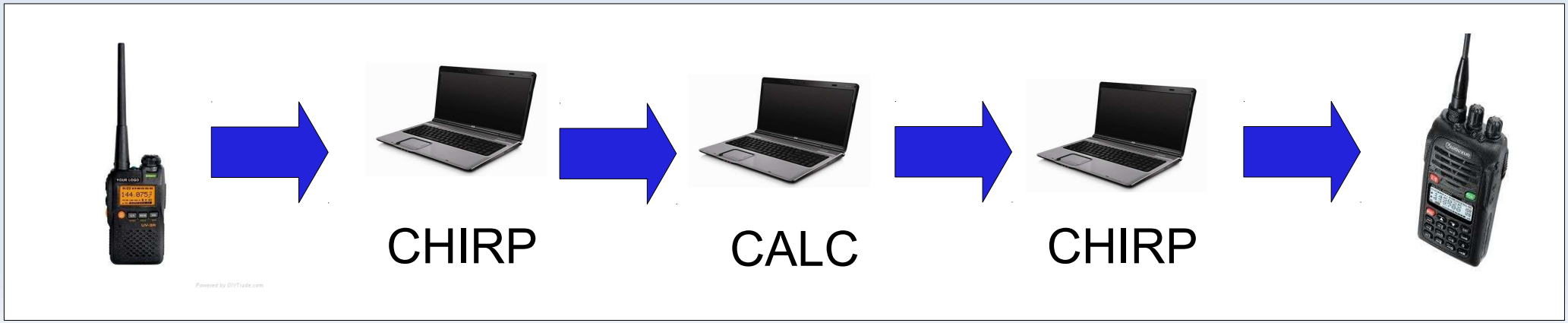
1 Select the row of choice to adapt or add data

Send data to radio



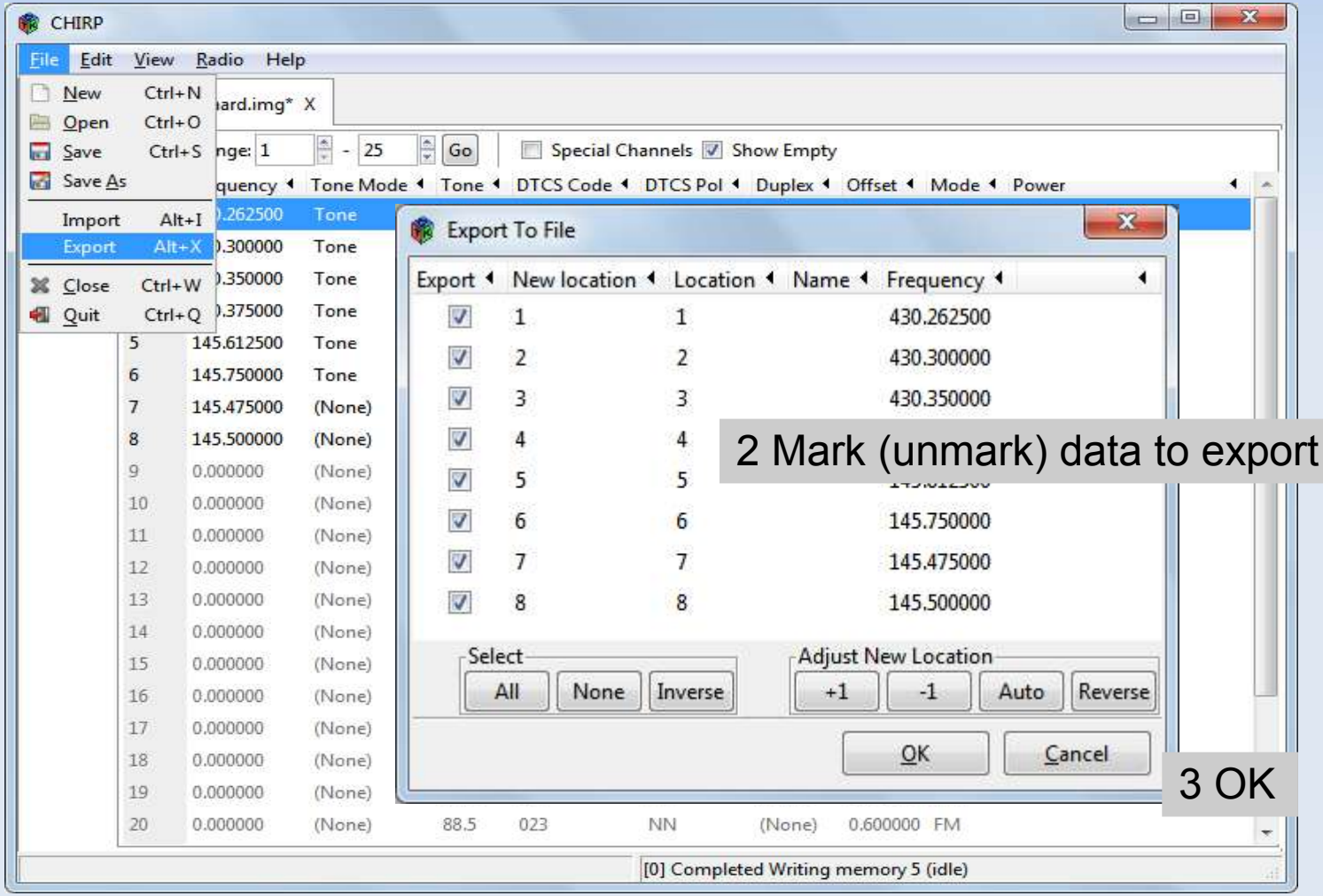
Exchanging data

- Comma Separatd Value (CSV)
  - Example
    - 145.475,PI4GAZ, low,88.5
  - File name ends in ”.CSV”
    - Microsoft Excel
    - LibreOffice Calc
    - CHIRP



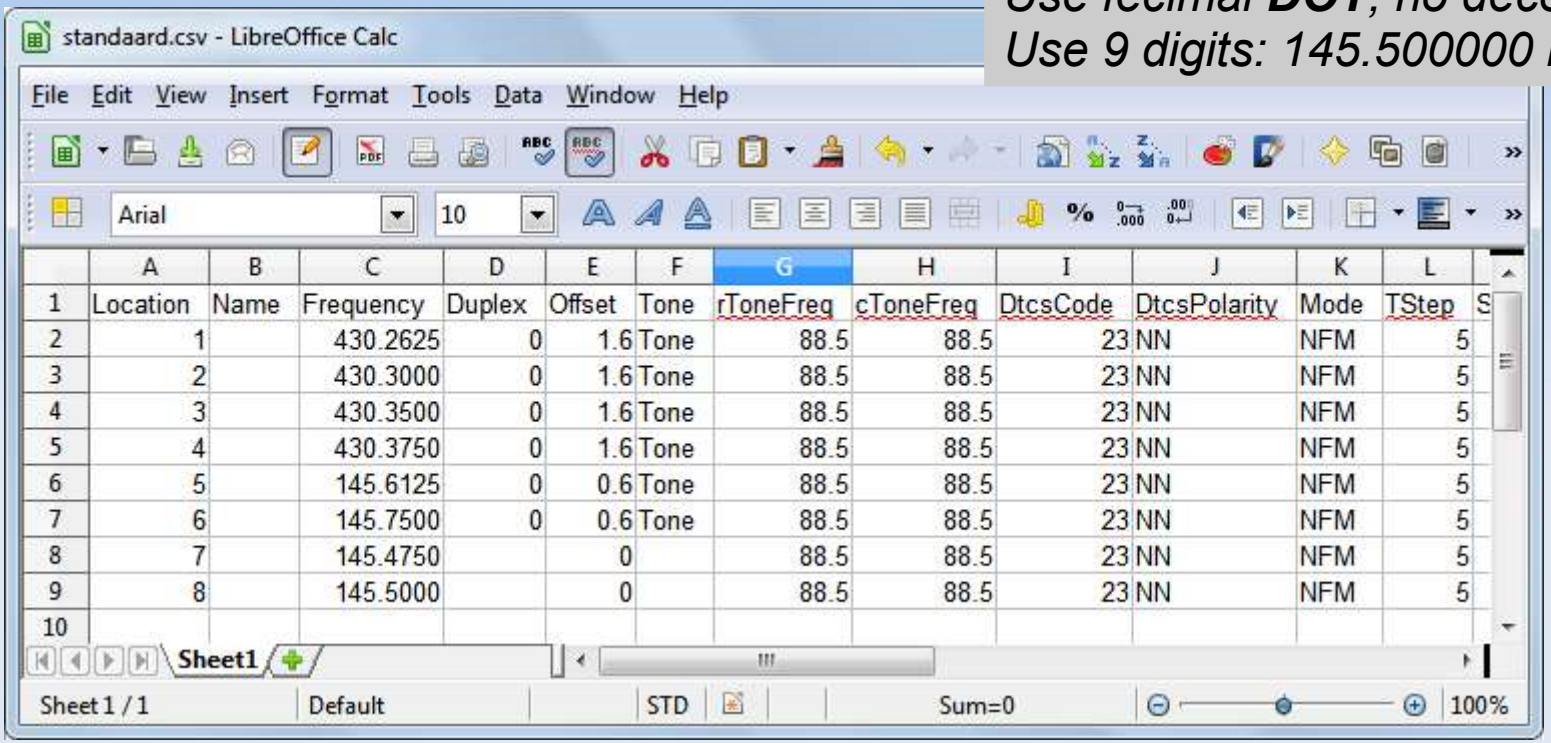
Eport data to CSV

1 Select:
- *File*
- *Export*

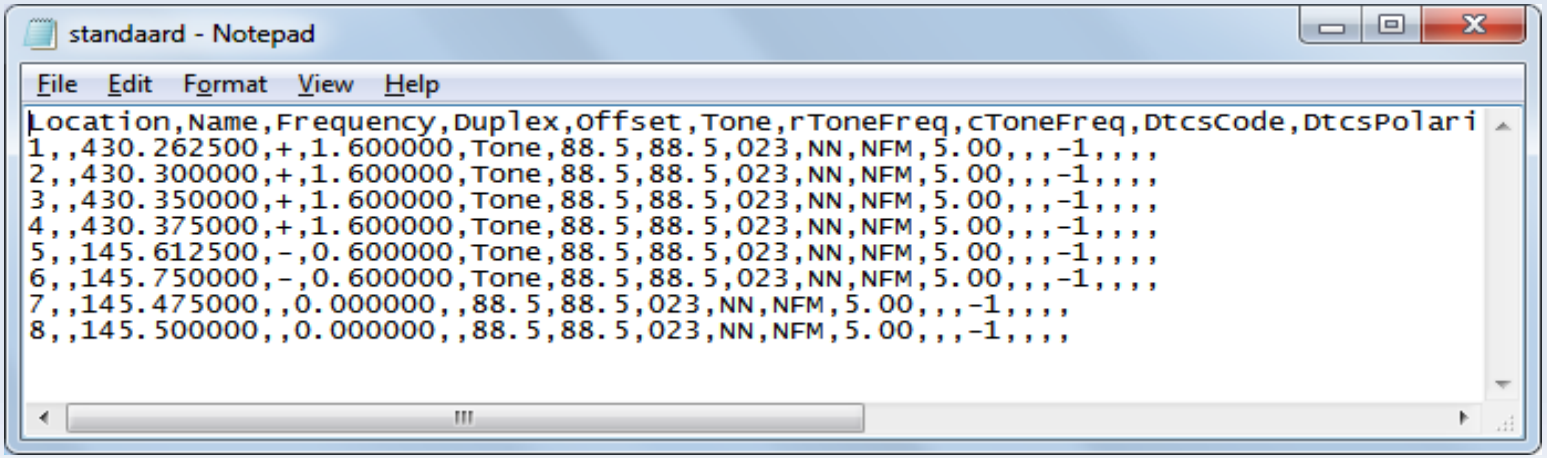


CSV examples

Attention:
*Use fecimal **DOT**, no decomal comma*
*Use 9 digits: 145.500000 is **NOT** 145.5*



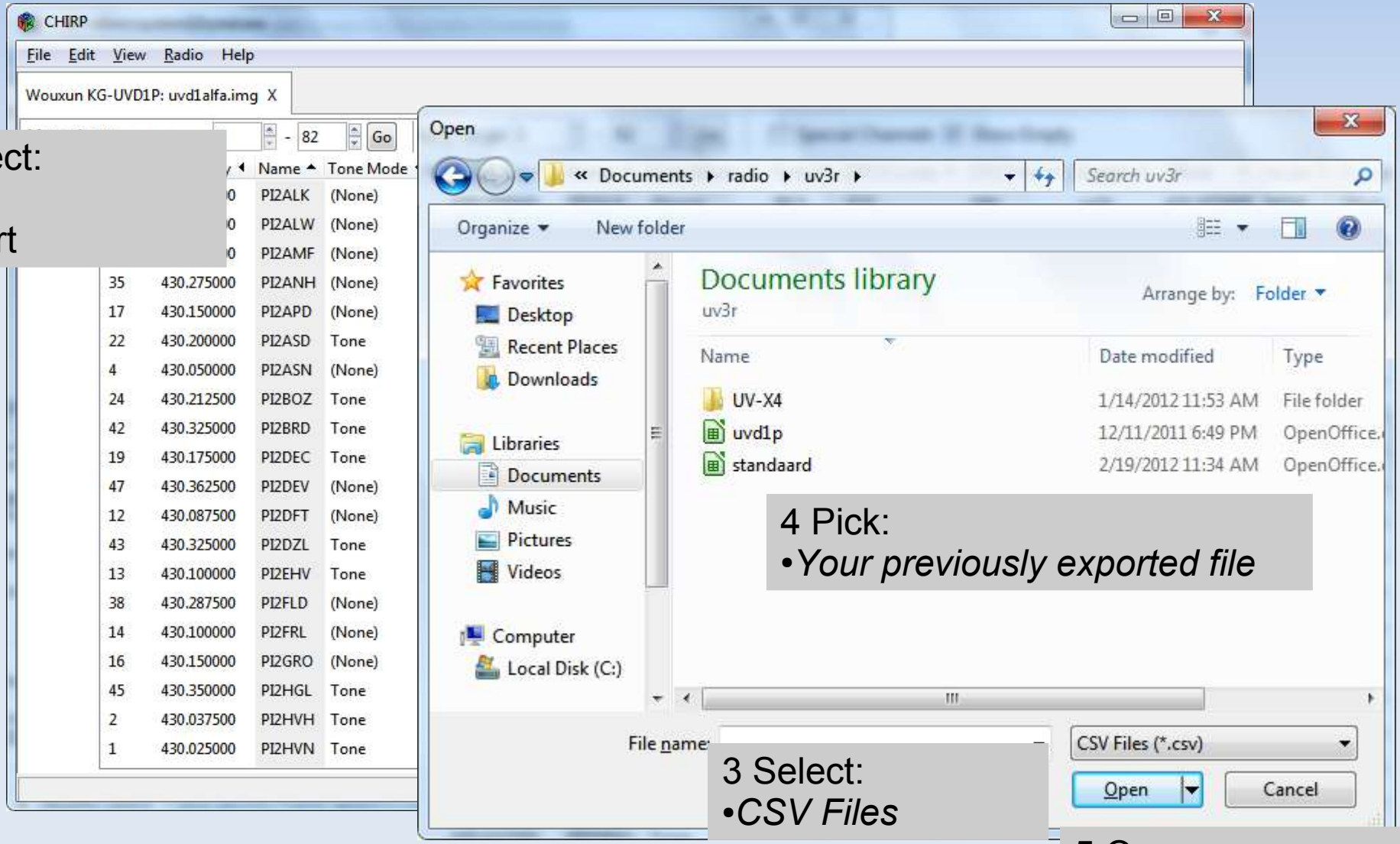
	A	B	C	D	E	F	G	H	I	J	K	L
1	Location	Name	Frequency	Duplex	Offset	Tone	rToneFreq	cToneFreq	DtcsCode	DtcsPolarity	Mode	TStep
2	1		430.2625	0	1.6	Tone	88.5	88.5	23	NN	NFM	5
3	2		430.3000	0	1.6	Tone	88.5	88.5	23	NN	NFM	5
4	3		430.3500	0	1.6	Tone	88.5	88.5	23	NN	NFM	5
5	4		430.3750	0	1.6	Tone	88.5	88.5	23	NN	NFM	5
6	5		145.6125	0	0.6	Tone	88.5	88.5	23	NN	NFM	5
7	6		145.7500	0	0.6	Tone	88.5	88.5	23	NN	NFM	5
8	7		145.4750		0		88.5	88.5	23	NN	NFM	5
9	8		145.5000		0		88.5	88.5	23	NN	NFM	5
10												




```
Location,Name,Frequency,Duplex,Offset,Tone,rToneFreq,cToneFreq,DtcsCode,DtcsPolari
1,,430.262500,+,1.600000,Tone,88.5,88.5,023,NN,NFM,5.00,,,-1,,,,
2,,430.300000,+,1.600000,Tone,88.5,88.5,023,NN,NFM,5.00,,,-1,,,,
3,,430.350000,+,1.600000,Tone,88.5,88.5,023,NN,NFM,5.00,,,-1,,,,
4,,430.375000,+,1.600000,Tone,88.5,88.5,023,NN,NFM,5.00,,,-1,,,,
5,,145.612500,-,0.600000,Tone,88.5,88.5,023,NN,NFM,5.00,,,-1,,,,
6,,145.750000,-,0.600000,Tone,88.5,88.5,023,NN,NFM,5.00,,,-1,,,,
7,,145.475000,,0.000000,,88.5,88.5,023,NN,NFM,5.00,,,-1,,,,
8,,145.500000,,0.000000,,88.5,88.5,023,NN,NFM,5.00,,,-1,,,,
```

Import data in other radio, part I

1 Get data form other radio



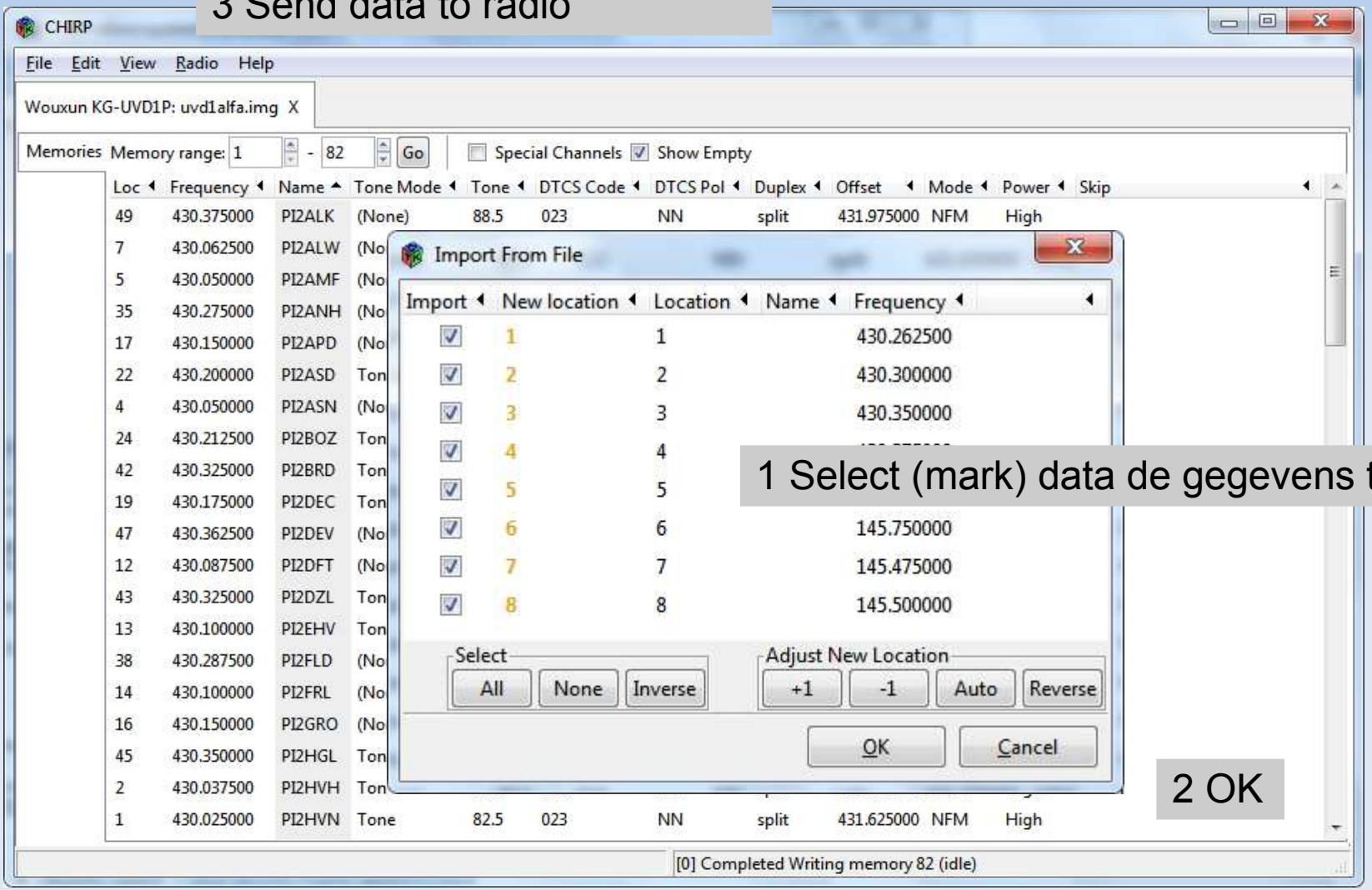
2 Select:
- *File*
- Import

4 Pick:
- *Your previously exported file*

3 Select:
- *CSV Files*

5 Open

Import data in other radio, part II



Conclusion

- Specific programs
  - Every radio a different program
  - All functions programmable
  - Only exchange between same radio
- Generic program
  - One program for any radio
  - Only radio channels programmable
  - Easy to exchange between different radios
- Not only Microsoft Windows
  - Linux and Apple work as well

Thank you!