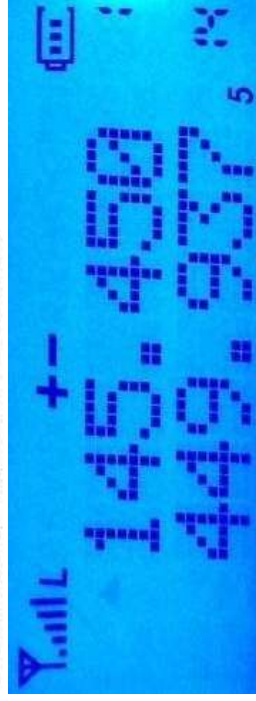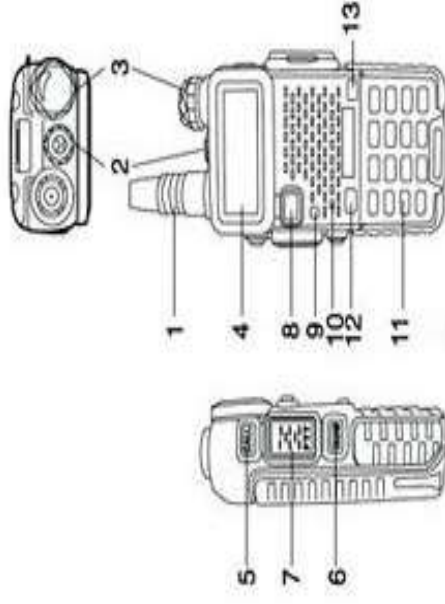# HT Class March 12, 2020

Agenda

- BaoFeng UV5R Layout
- BaoFeng Operation & Tips
- Simplex & Repeater Operating Practices
- Nets
- Programming Memory Channels (keypad)
- Using CHIRP Software
- Useful Links

BaoFeng UV5R Layout

1. Antenna
2. LED Flashlight
3. Knob (ON / OFF / volume)
4. LCD
5. Side Key 1 / CALL   (radio / alarm)
6. Side Key 2 / MONI   (flashlight / monitor)
7. PTT Key   (push-to-talk)
8. VFO / MR (frequency mode / channel mode)
9. LED   (transmit / receive indicator)
10. Microphone
11. Keypad
12. A / B Key (frequency display switch)
13. Band Key (switches band)

LCD: HT in Channel Mode (see #s on right)

BaoFeng Operation

- HT has been programmed and battery has been fully charged (Recharge after use. Charger LED is Red when charging, Green when fully charged).

- Turn radio ON with knob (3) and adjust volume ¼ turn.

- Use [VFO/MR] (8) button to select "Channel Mode"

- Press [A/B] button (12) until arrow is on top half of screen

- Select desired Repeater using ∧ ∨ keys (W1SYE is "001")

- Adjust squelch if needed [Menu] + 0 + [Menu]. Use the ∧ ∨ key to adjust level, then [MENU] + [EXIT] to confirm

- Use PTT button (7) to transmit. Back of radio will get warm if you are long-winded on High Power.

Some Suggestions

- Speak close to radio and in normal voice
- Remember Rubber Duck antenna doesn't work well inside cars. Consider a Mag Mount
- Consider buying a larger antenna
- Try moving around a bit to maximize signal
- Indoors: Mag Mount on Fridge or J-Pole
- Don't forget to ID with your callsign!

Simplex Operation

Use repeaters freely, but If close to the other station, switch to simplex for long conversations

- National 2-meter Calling Frequency 146.52 (010)
- National 70-cm Calling Frequency 446.00 (013)
- Switch to another simplex channel after establishing contact on 146.52 (like .55 or .58)

Before you operate a repeater…

- Need to know THREE things:
  - Your Receive Frequency (ex: W1SYE 145.450)
  - Your Transmit Frequency (ex: W1SYE 144.850 '-')
  - Any required CTSS Transmit Tone (ex: W1SYE 100.0)

- Repeater Directories
  - http://www.nerepeaters.com/ ONLINE
  - ARRL Repeater Directory (printed -- 2018 sold out)
  - http://www.rfinder.net/blog/ App (paid)

Basic Repeater Practices

- Select your desired repeater from channels

- Listen before you talk!!!

- Don't transmit too quickly (over top of "beep")

- Avoid CB lingo ("10-4", "Good Buddy", etc.)

- To speak with anyone, don't call "CQ". Say "Kilo Charlie One Mike Kilo Papa, KC1MKP"

- To speak with someone specific say: "WB4SON This Is Kilo Charlie One Mike Kilo Papa" (other person's call first)

- Don't forget to ID (every 10 min and at the end)

Basic Repeater Practices

- At a loss for something to say?
  Basic info:
  - First Name
  - Where you are
  - How well you hear the other station
  - Explain if you are a new ham or new to the area
    (They will most likely bombard you with questions!)

- Short isn't bad as the repeater is a shared resource, but it can be frustrating if you only speak in "yes", "no" single word answers.

Basic Repeater Practices

- When you are all done…

  "Well, Bob, thanks very much for the QSO. I need to QRT now. I've enjoyed chatting with you. 73. WB4SON this is KC1MKQ Clear."

- Do I log my QSO? No formal requirement to do so. Don't if mobile (unsafe).

- Remember to not talk over the repeater courtesy Beep (which may cause the repeater to time out!)

Nets

Not comfortable on the air? Check into a Net

NCRC VHF Net is on W1SYE repeater (Channel 001) M-F at 7 PM local time, and 8:15 AM Sunday morning (You might need an external antenna from NW RI)

Programming a Memory Channel

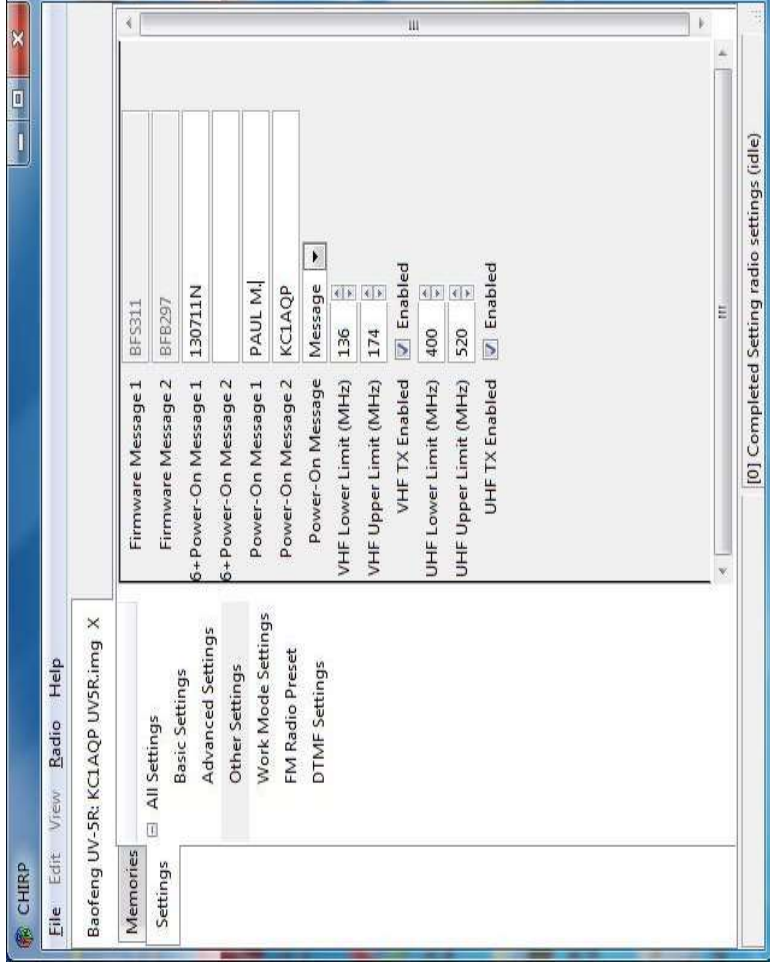Program repeater 145.450, minus offset, 100 Hz tone, high power, channel 010

MUST Start with a empty channel. If not empty do this (**all steps must be done QUICKLY or will timeout**): [MENU] + 2 + 8 + [Menu] Enter Channel 010. Press [MENU] + [Exit] to accept and exit (Menu + Exit)

- Switch to VFO Mode [VFO/MR] Radio Says "Frequency Mode"
- Enter 145.450 The receive frequency
- Press [MENU] + 2 + [MENU] Use ∧ ∨ keys to pick High or Low Power. (Menu + Exit). Note: "L" shows on screen if Low Power, nothing shows for high power
- Press [MENU] + 5 + [MENU] Use ∧ ∨ keys to pick Wide Bandwidth Press (Menu + Exit)
- Press [MENU] + 1 + 3 + [MENU] Use ∧ ∨ keys to pick 100 Hz Transmit Tone (T-CTCS) (Menu + Exit)
- Press [MENU] + 2 + 7 + [MENU] Enter 010 or Use ∧ ∨ keys to select 10 (Menu + Exit). This stores the Receive Frequency, and the Radio prompts that REC FREQ has been stored
- Enter 144.850 The transmit frequency (600 KHz down)
- Press [MENU] + 2 + 7 + [MENU] + [MENU] + [EXIT] Radio prompts that TX FREQ has been stored
- Return to Memory Mode (VFO/MR) Radio Says "Channel Mode"

Using CHIRP Software

- Will need a programming cable & latest software (www.danplanet.com/projects/chirp/wiki/Home)
- Need to download contents of radio first:
  1. Start CHIRP, Click on Radio menu, then pick Download From Radio
  2. The Clone window opens
  3. Select the serial port you intend to use from the drop down menu
  4. Select the correct Vendor and (if necessary) the appropriate Model
  5. Click OK to start the download process.
- Make needed changes using the memory or settings editor.
- Upload changes back to the radio.

CHIRP Settings Menu

CHIRP Memories Menu

CHIRP

File Edit View Radio Help

Baofeng UV-5R: KC1AQP UV5R.img X

Memories Memory range: [0] - 127 Go   ☐ Special Channels ☐ Show Empty

Settings

Loc	Frequency	Name	Tone Mode	Tone	ToneSql	DTCS Code	DTCS Rx Code	DTCS Pol	Cross Mode	Duplex	Offset	Mode	Power	Skip
1	145.450000	NEWPORT	Tone	100.0	88.5	023	023	NN	Tone->Tone	-	0.600000	FM	High	
2	162.400000	WX	Tone	100.0	88.5	023	023	NN	Tone->Tone	off	0.000000	FM	Low	
3	146.520000	SIMPLEX	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	
4	446.000000	SIMPLEX	(None)	88.5	88.5	023	023	NN	Tone->Tone	(None)	0.000000	FM	High	
20	442.150000	WOONSOC	Tone	88.5	88.5	023	023	NN	Tone->Tone	+	5.000000	FM	High	
21	146.940000	LINCOLN	(None)	88.5	88.5	023	023	NN	Tone->Tone	-	0.600000	FM	High	
22	146.460000	LINCOLN	Tone	67.0	88.5	023	023	NN	Tone->Tone	+	1.000000	FM	High	
23	447.775000	LINCOLN	(None)	88.5	88.5	023	023	NN	Tone->Tone	-	5.000000	FM	High	
24	444.500000	LINCOLN	(None)	88.5	88.5	023	023	NN	Tone->Tone	+	5.000000	FM	High	
25	145.170000	LINCOLN	Tone	67.0	88.5	023	023	NN	Tone->Tone	-	0.600000	FM	High	
26	146.805000	C FALLS	Tone	67.0	88.5	023	023	NN	Tone->Tone	-	0.600000	FM	High	
27	449.225000	N PROV	Tone	141.3	88.5	023	023	NN	Tone->Tone	-	5.000000	FM	High	
28	146.760000	N SCITU	(None)	88.5	88.5	023	023	NN	Tone->Tone	-	0.600000	FM	High	
29	146.910000	FOSTER	Tone	67.0	88.5	023	023	NN	Tone->Tone	-	0.600000	FM	High	
30	441.350000	PROV	Tone	103.5	88.5	023	023	NN	Tone->Tone	+	5.000000	FM	High	
31	441.750000	E PROV	Tone	192.8	88.5	023	023	NN	Tone->Tone	+	5.000000	FM	High	
32	146.625000	E PROV	Tone	141.3	88.5	023	023	NN	Tone->Tone	-	0.600000	FM	High	
33	146.835000	JOHNSON	Tone	192.8	88.5	023	023	NN	Tone->Tone	-	0.600000	FM	High	
34	145.190000	JOHNSON	Tone	67.0	88.5	023	023	NN	Tone->Tone	-	0.600000	FM	High	
35	449.325000	JOHNSON	Tone	127.3	88.5	023	023	NN	Tone->Tone	-	5.000000	FM	High	

[0] Completed Setting radio settings (idle)

Useful BaoFeng Links

- http://radiodoc.github.io/ This is **THE BaoFeng Bible** and is open source. Get this NOW!

- http://chirp.danplanet.com/projects/chirp/wiki/Home This is the home of CHIRP programming software. MAC/PC/Linux

- Yahoo BaoFeng UV5R Group: https://groups.yahoo.com/neo/groups/baofeng_uv5r

- http://www.amazon.com/gp/product/B0097E2I2S/ref=ox_sc_act_title_1?ie=UTF8&psc=1&smid=A1UZH0Q8MMO1YX This is the programming cable I've used on MACs, PCs XP to Win10 – it is FTDI based and works well.

- http://www.hamradio.com/detail.cfm?pid=H0-011332 This is a top quality dual band 14" Antenna

NATO Phonetic Alphabet

A	–	Alfa		N	–	November
B	–	Bravo		O	–	Oscar
C	–	Charlie		P	–	Papa
D	–	Delta		Q	–	Quebec
E	–	Echo		R	–	Romeo
F	–	Foxtrot		S	–	Sierra
G	–	Golf		T	–	Tango
H	–	Hotel		U	–	Uniform
I	–	India		V	–	Victor
J	–	Juliet		W	–	Whiskey
K	–	Kilo		X	–	X-Ray
L	–	Lima		Y	–	Yankee
M	–	Mike		Z	–	Zulu

Your BaoFeng Programming

- Personal Area Channel 001-009
  - Channel 1 is W1SYE (NCRC Repeater) great coverage
  - Channel 2 is WX station
- Simplex Channel 010-019
- Northern RI Channel 020-039
- Central RI Channel 040-049
- Southern RI Channel 050-059
- East Bay Channel 060-069
- SE Mass Channel 070-079
- KA1RCI Network Channel 090-099 (sadly no longer linked)
- FRS/GMRS Channel 100-119 (Receive Only)
- MURS Channel 120-127 (Receive Only)