

# DuraFon UHF Programming Instructions



# Items Needed

- Cable: USB 2.0 A-Male to Micro B.
- Programming Software:
  - Must be version 1.06 or higher.
  - Download it here:  
[https://www.dropbox.com/sh/tjir96p44hy6j3m/AAC\\_0BbLGdL5mQ-oAsWLGOfa?dl=0](https://www.dropbox.com/sh/tjir96p44hy6j3m/AAC_0BbLGdL5mQ-oAsWLGOfa?dl=0)
  - Handset Firmware:
    - Must be v1.03 or higher!
    - To check firmware, press Menu, star, star, pound, (00 for base), then 1 (SW VER). HS-MCU: 1.03 or higher.
    - If firmware is older, upgrade the handset by downloading this program and file:  
<https://www.dropbox.com/sh/kqn0agv4bgkwk3z/AAA-YwGv2WjyppfDivEM0-mKfa?dl=0>



# Upgrading the DuraFon-UHF Handset Firmware

Required to bring to version 1.03 or later



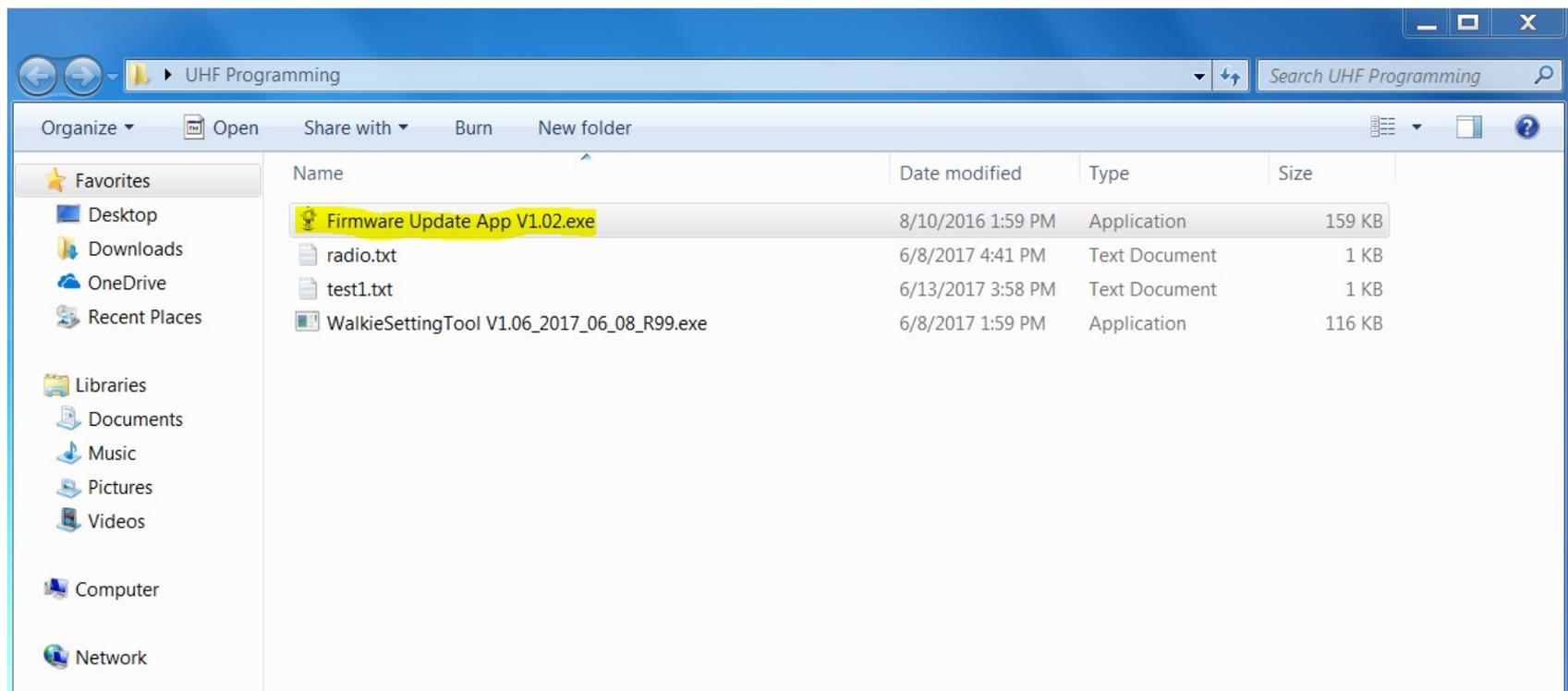
## Upgrading the DuraFon UHF Firmware

- Step 1 – Connect USB cable from the DuraFon-UHF handset to the PC and turn on handset.



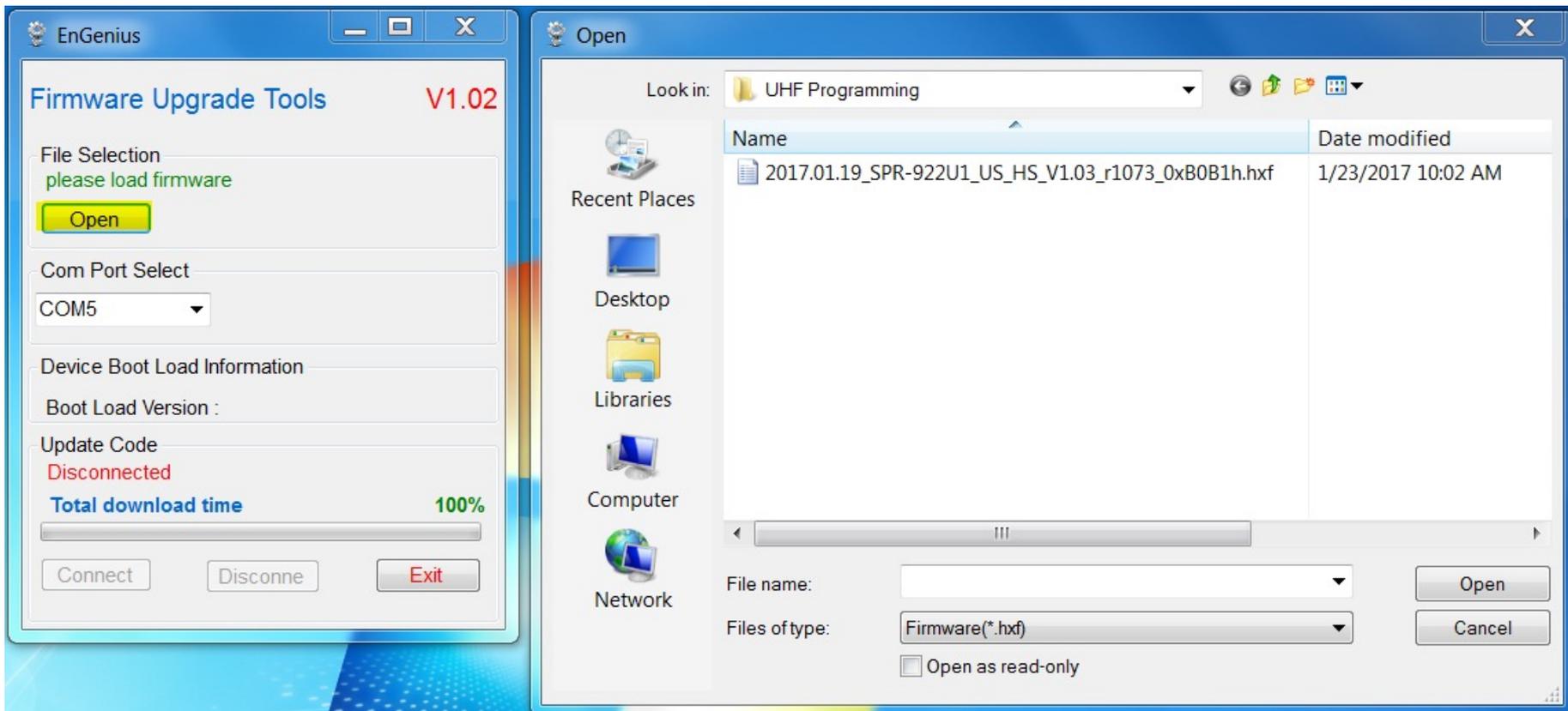
# Upgrading the DuraFon-UHF Firmware

- Step 2 – Start the Firmware upgrade program (use version 1.02 or higher).



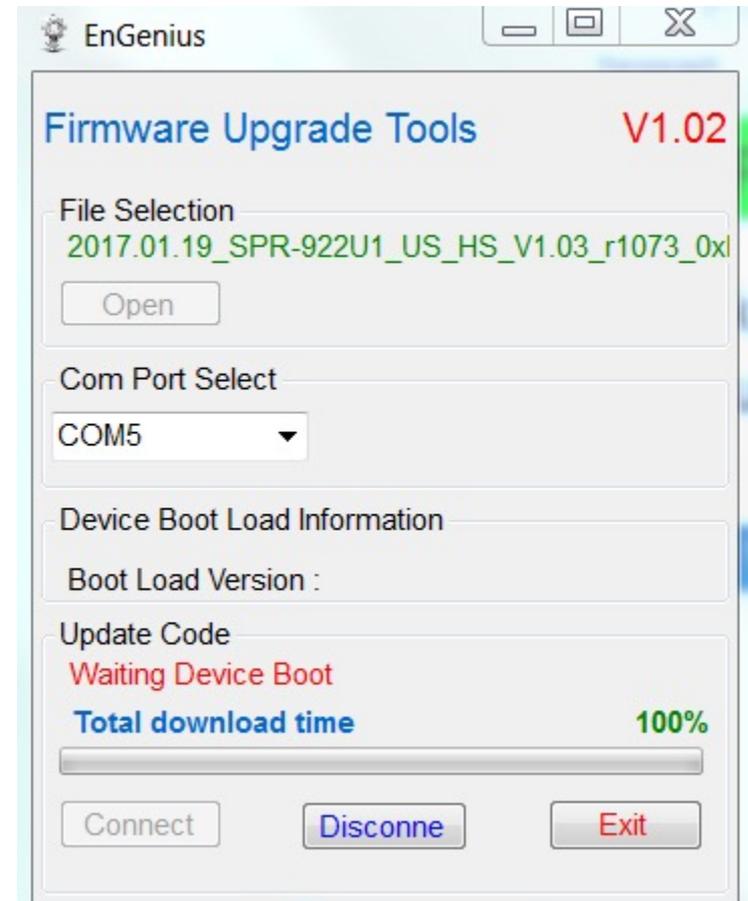
# Upgrading the DuraFon-UHF Firmware

- Step 3 – Click “Open” to select the firmware file (.hxf file)



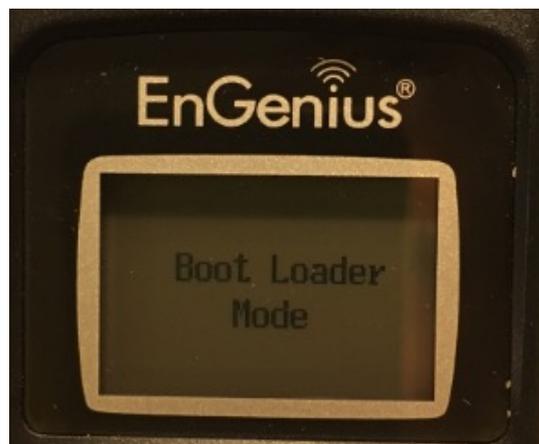
# Upgrading the DuraFon-UHF Firmware

- Step 4 – Click “Connect” and the “Waiting Device Boot” will appear. Now using the volume knob on the radio, turn the radio off and back on.



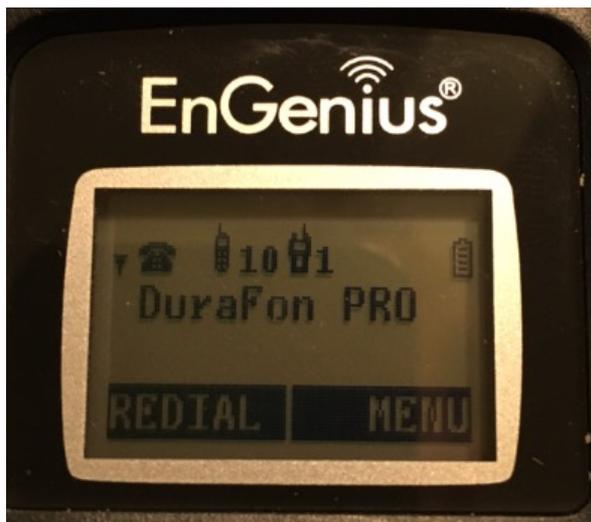
# Upgrading the DuraFon-UHF Firmware

- Step 5 – Using the volume knob on the handset, turn the handset off and back on. The firmware upgrade process should start.



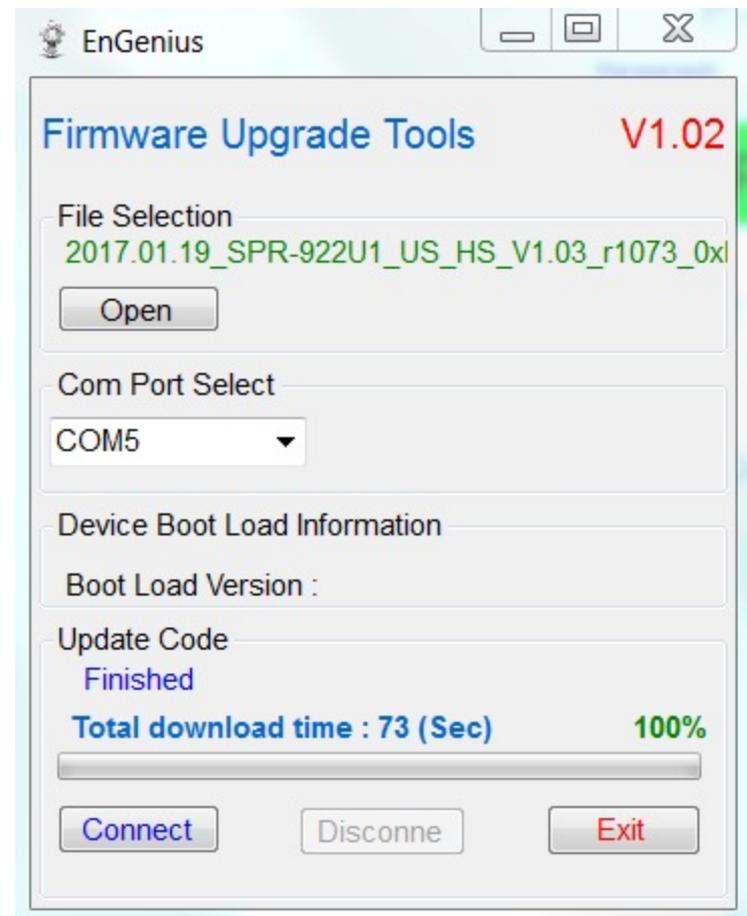
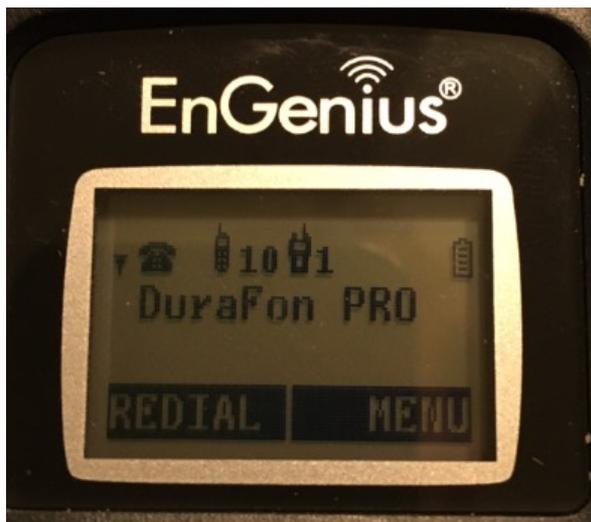
# Upgrading the DuraFon-UHF Firmware

- When complete, the handset will automatically restart and go back to the normal screen.



# Upgrading the DuraFon-UHF Firmware

- When complete, the handset will automatically restart and go back to the normal screen.



# Programming Custom Frequencies in the DuraFon-UHF Handset



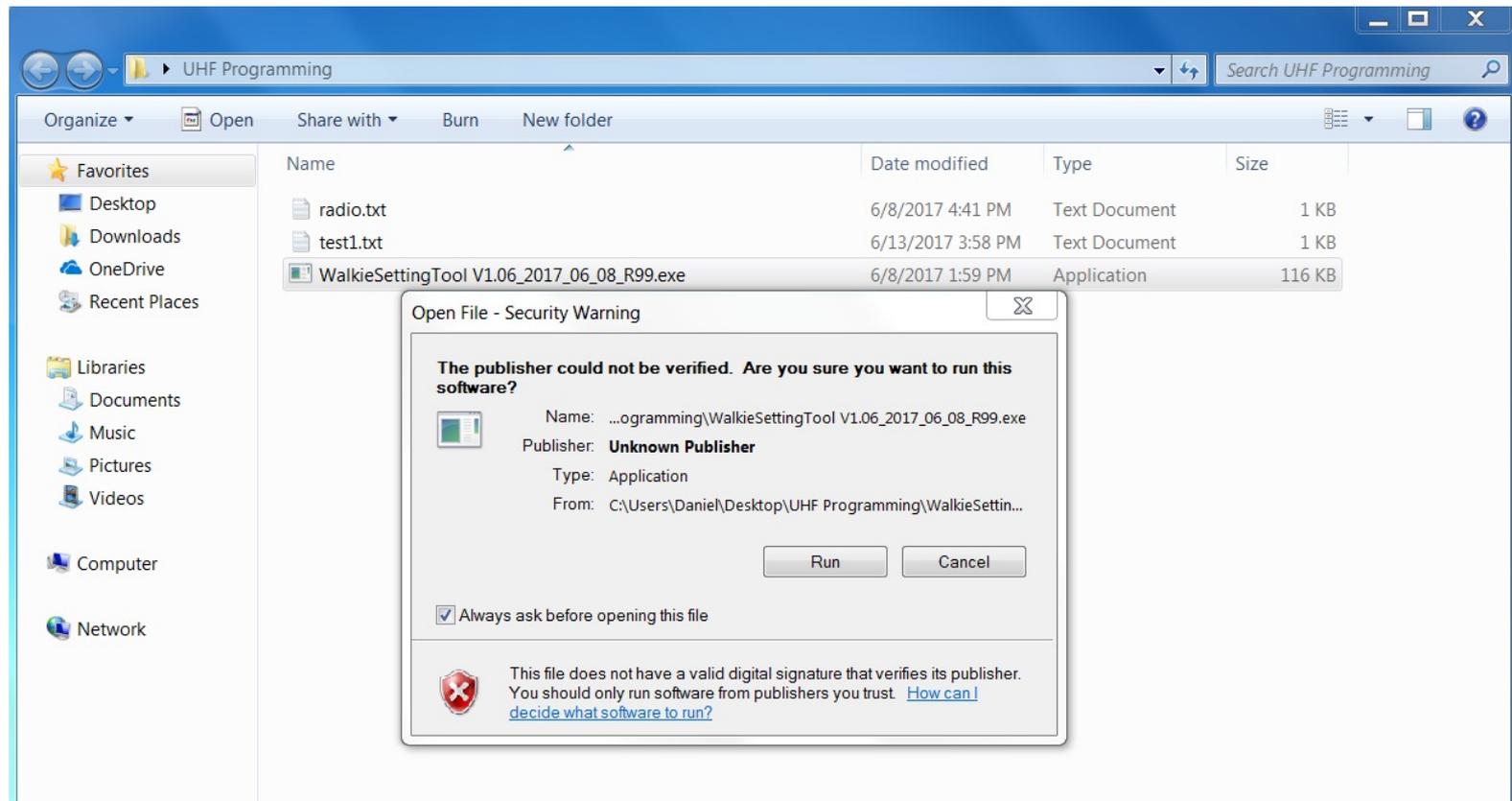
# Programming Custom UHF Frequencies

- Step 1 – Connect USB cable from the DuraFon-UHF handset to the PC and turn on handset.



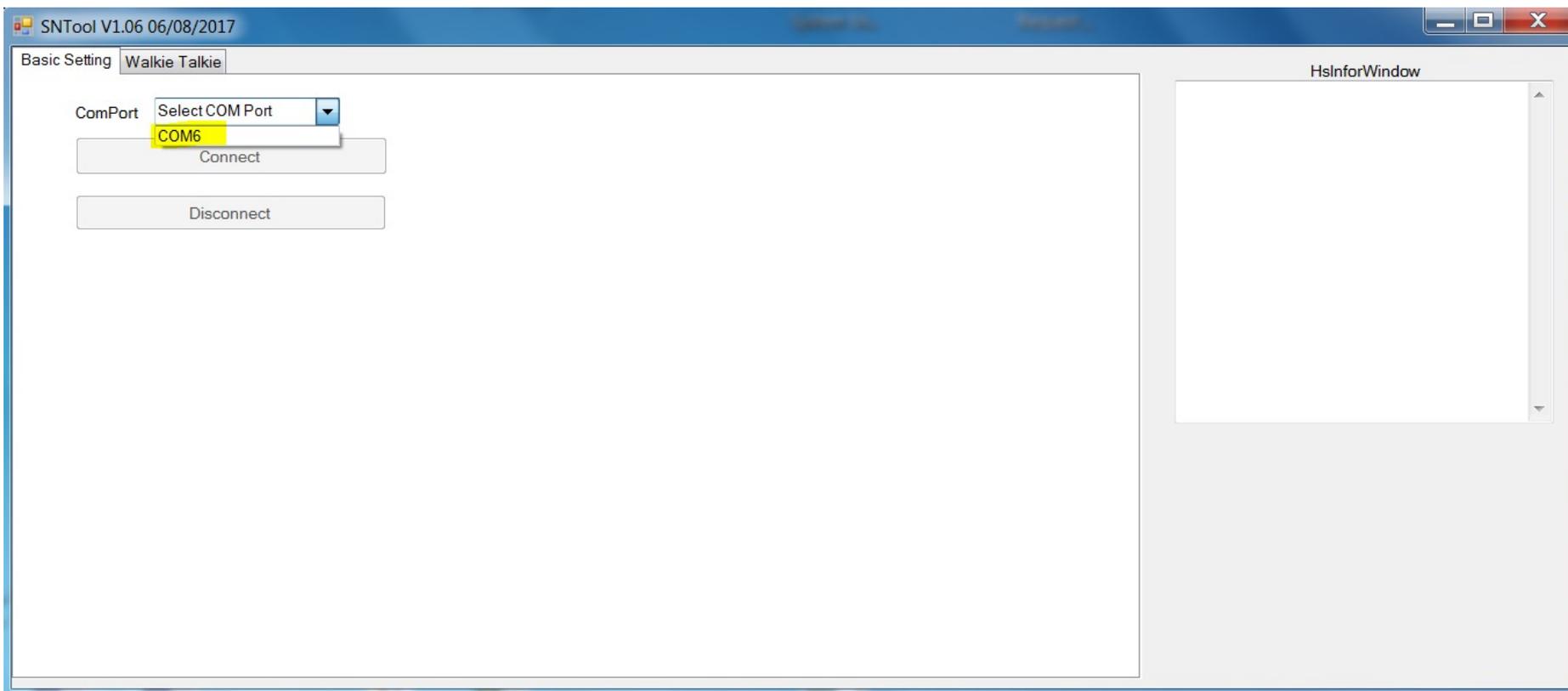
# Programming Custom UHF Frequencies

- Step 2 – Start the Programming Tool program (v 1.06 or higher)



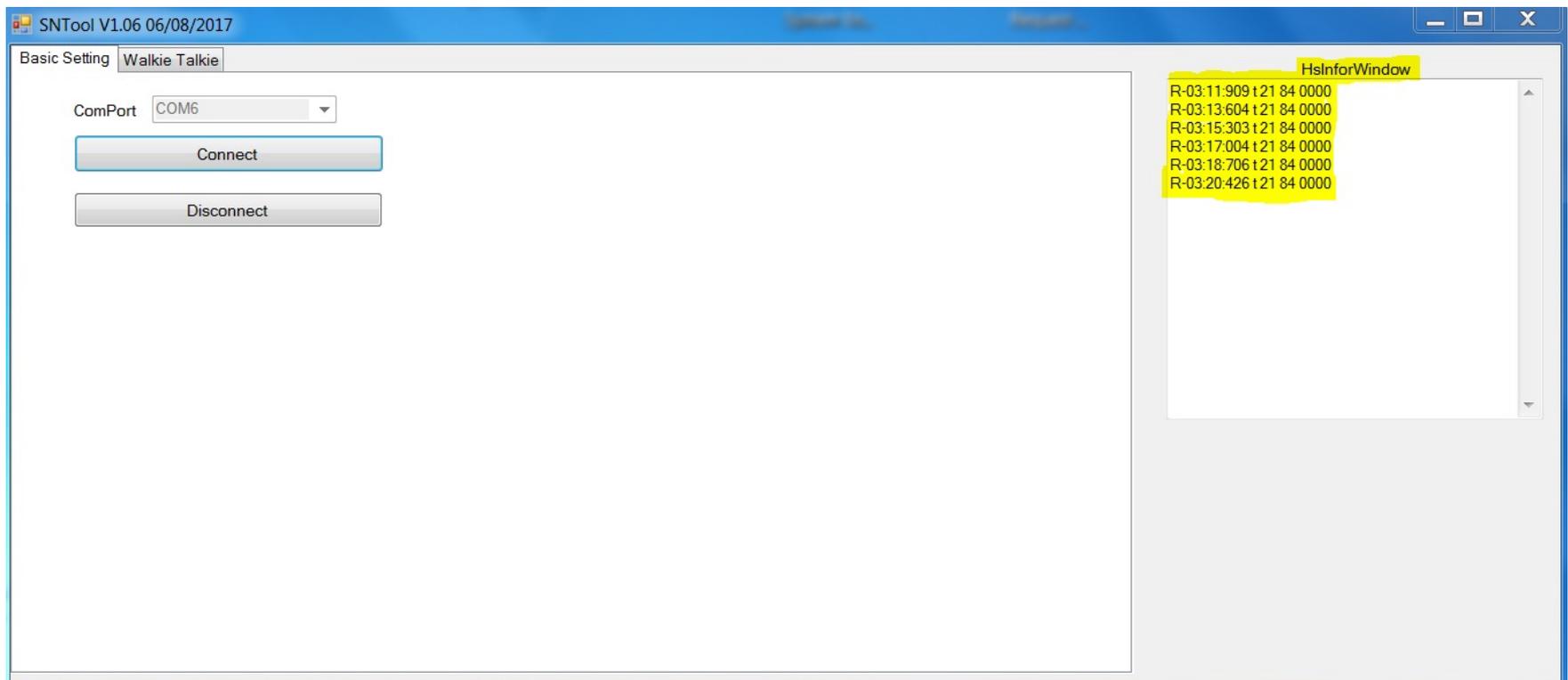
# Programming Custom UHF Frequencies

- Step 3 – In “Basic Setting” Select COM Port and Click “Connect”



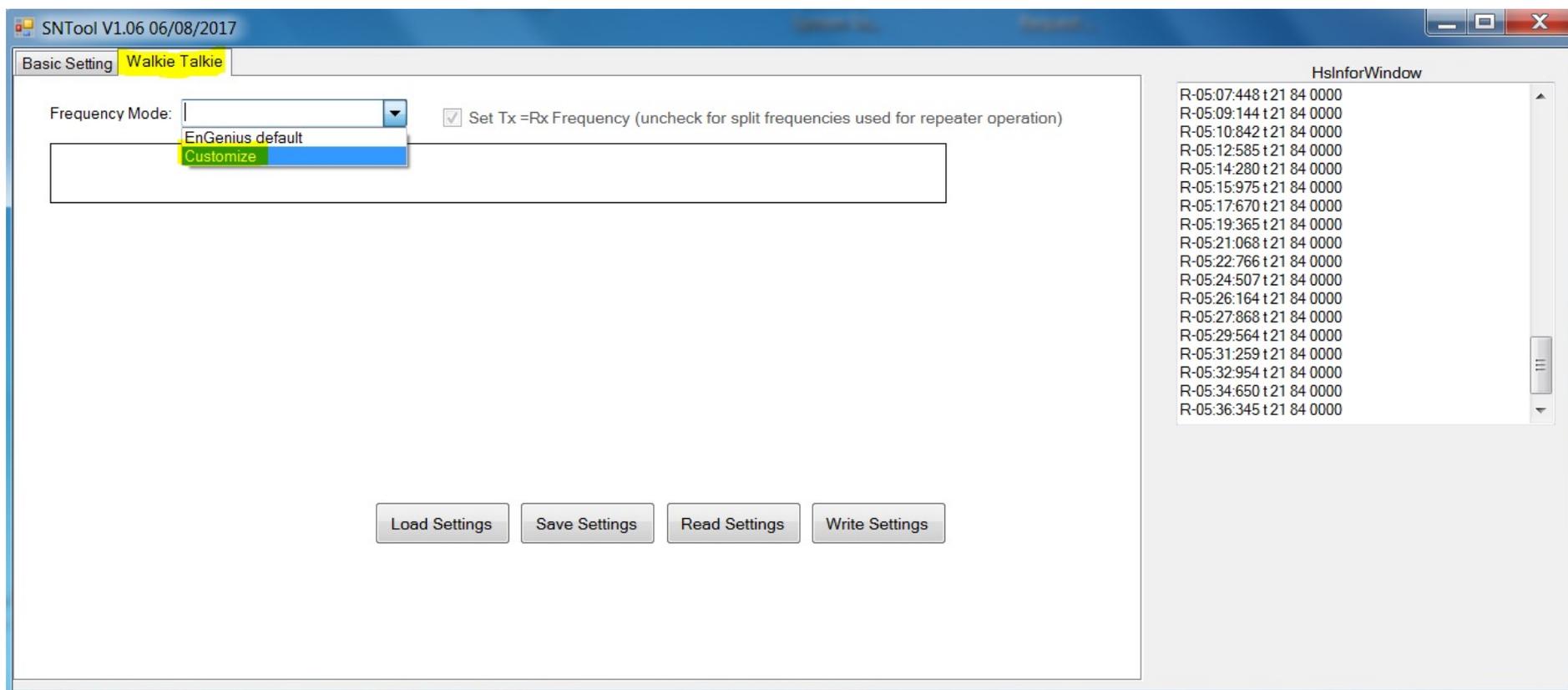
# Programming Custom UHF Frequencies

- Step 4 – After Clicking “Connect” data should start showing on the right, denoting successful communication between handset and PC.



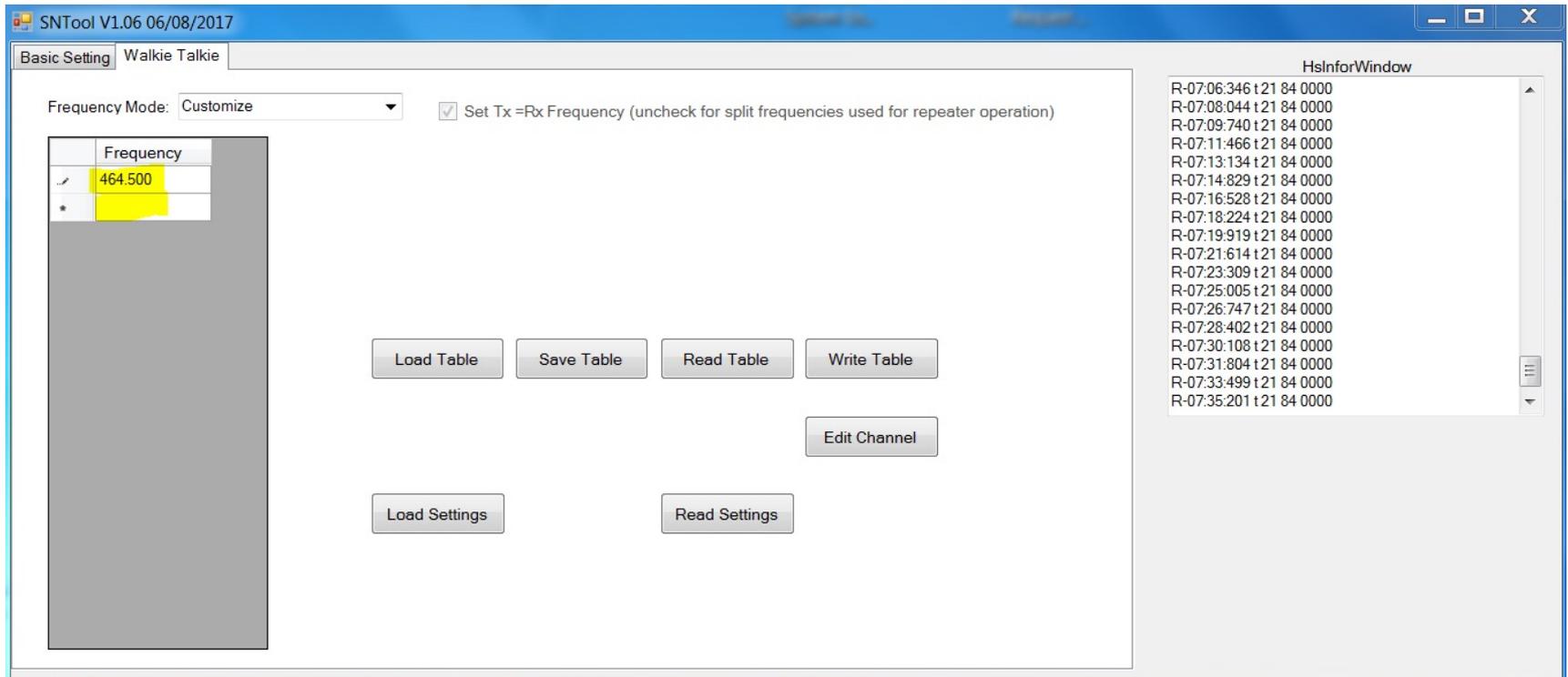
# Programming Custom UHF Frequencies

- Step 5 – Click “Walkie Talkie” and then Select “Customize”



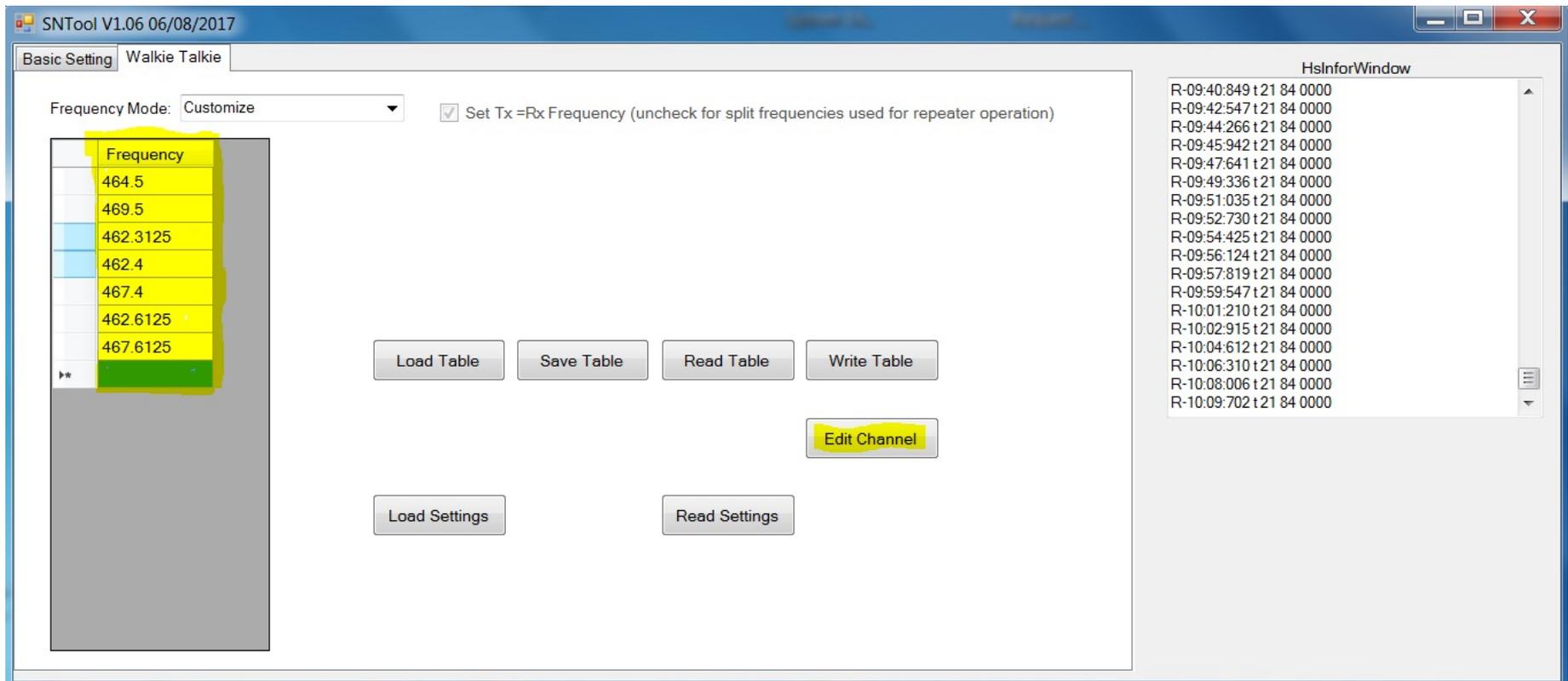
# Programming Custom UHF Frequencies

- Step 6 – Build the frequency table by entering in all possible frequencies you want to use in the highlighted section.



# Programming Custom UHF Frequencies

- Step 7 – Now with all frequencies entered, click “Edit Channel”



# Programming Custom UHF Frequencies

- Step 8 - Now program the 5 channels w/the available frequencies previously entered. Select “Disable” if not all channels are used.

The screenshot displays the SNTool V1.06 software interface. The main window is titled "Basic Setting" and "Walkie Talkie". The "Frequency Mode" is set to "Customize". A checkbox labeled "Set Tx =Rx Frequency (uncheck for split frequencies used for repeater operation)" is checked. Below this, a table lists 5 channels with their respective frequencies, code modes, code numbers, and scan settings. The frequencies are: 464.5, 464.5, 469.5, 462.3125, 462.4, 467.4, 462.6125, and 467.6125. The code mode for all is CTCSS, and the code number is [1] 67.0. The scan setting is Off. To the right, a list box titled "HslnforWindow" shows a list of frequencies with their corresponding code numbers and scan settings. At the bottom, there are buttons for "Edit FreqTable", "Load Settings", "Save Settings", "Read Settings", and "Write Settings".

	Frequency	Code Mode	Code Number	Scan
1	[1] 464.5	CTCSS	[1] 67.0 ...	Off
2	[1] 464.5	CTCSS	[1] 67.0 ...	Off
3	[2] 469.5	CTCSS	[1] 67.0 ...	Off
3	[3] 462.3125	CTCSS	[1] 67.0 ...	Off
4	[4] 462.4	CTCSS	[1] 67.0 ...	Off
4	[5] 467.4	CTCSS	[1] 67.0 ...	Off
5	[6] 462.6125	CTCSS	[1] 67.0 ...	Off
5	[7] 467.6125	CTCSS	[1] 67.0 ...	Off

HslnforWindow

- R-11:56:657 t21 84 0000
- R-11:58:352 t21 84 0000
- R-12:00:048 t21 84 0000
- R-12:01:787 t21 84 0000
- R-12:03:446 t21 84 0000
- R-12:05:148 t21 84 0000
- R-12:06:850 t21 84 0000
- R-12:08:546 t21 84 0000
- R-12:10:245 t21 84 0000
- R-12:11:943 t21 84 0000
- R-12:13:642 t21 84 0000
- R-12:15:337 t21 84 0000
- R-12:17:067 t21 84 0000
- R-12:18:732 t21 84 0000
- R-12:20:428 t21 84 0000
- R-12:22:124 t21 84 0000
- R-12:23:823 t21 84 0000
- R-12:25:518 t21 84 0000

Edit FreqTable

Load Settings Save Settings Read Settings Write Settings

# Programming Custom UHF Frequencies

- Step 9 – If you need split frequencies for repeater operation, uncheck the “Set Tx=Rx Frequency” box.

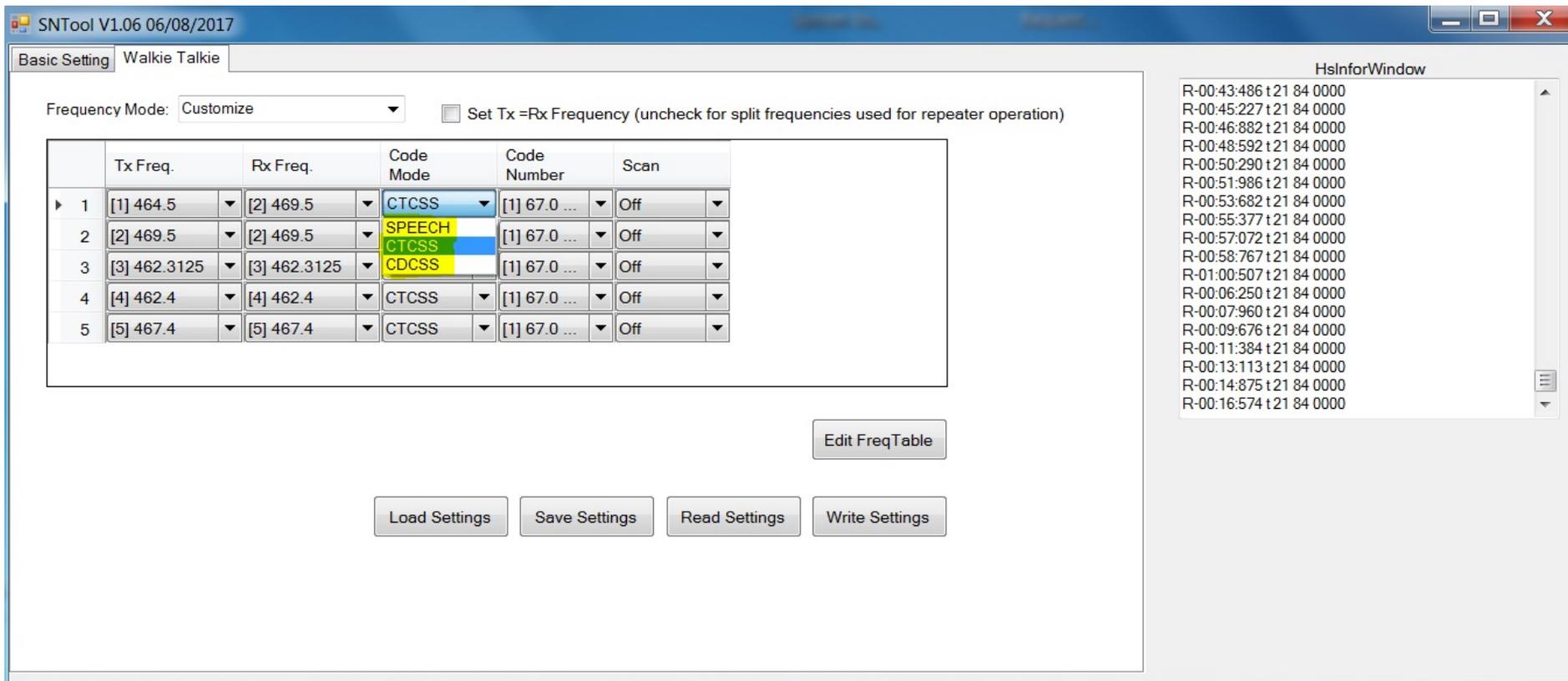
The screenshot displays the SNTTool V1.06 software interface. The main window is titled "Basic Setting" and "Walkie Talkie". The "Frequency Mode" is set to "Customize". A checkbox labeled "Set Tx=Rx Frequency (uncheck for split frequencies used for repeater operation)" is checked. Below this, a table lists five frequency channels with their respective Tx and Rx frequencies, Code Modes, Code Numbers, and Scan settings.

	Tx Freq.	Rx Freq.	Code Mode	Code Number	Scan
1	[1] 464.5	[1] 464.5	CTCSS	[1] 67.0 ...	Off
2	[2] 469.5	[2] 469.5	CTCSS	[1] 67.0 ...	Off
3	[3] 462.3125	[3] 462.3125	CTCSS	[1] 67.0 ...	Off
4	[4] 462.4	[4] 462.4	CTCSS	[1] 67.0 ...	Off
5	[5] 467.4	[5] 467.4	CTCSS	[1] 67.0 ...	Off

Below the table are buttons for "Edit FreqTable", "Load Settings", "Save Settings", "Read Settings", and "Write Settings". On the right side, a window titled "HslInforWindow" displays a list of radio IDs and their corresponding frequencies, such as "R-14:19:399 t21 84 0000".

# Programming Custom UHF Frequencies

- Step 10 – Set the privacy code type for the channels.



SNTTool V1.06 06/08/2017

Basic Setting Walkie Talkie

Frequency Mode: Customize  Set Tx =Rx Frequency (unchecked for split frequencies used for repeater operation)

	Tx Freq.	Rx Freq.	Code Mode	Code Number	Scan
▶ 1	[1] 464.5	[2] 469.5	CTCSS	[1] 67.0 ...	Off
2	[2] 469.5	[2] 469.5	SPEECH	[1] 67.0 ...	Off
3	[3] 462.3125	[3] 462.3125	CTCSS	[1] 67.0 ...	Off
4	[4] 462.4	[4] 462.4	CTCSS	[1] 67.0 ...	Off
5	[5] 467.4	[5] 467.4	CTCSS	[1] 67.0 ...	Off

Edit FreqTable

Load Settings Save Settings Read Settings Write Settings

HslnforWindow

```
R-00:43:486 t21 84 0000
R-00:45:227 t21 84 0000
R-00:46:882 t21 84 0000
R-00:48:592 t21 84 0000
R-00:50:290 t21 84 0000
R-00:51:986 t21 84 0000
R-00:53:682 t21 84 0000
R-00:55:377 t21 84 0000
R-00:57:072 t21 84 0000
R-00:58:767 t21 84 0000
R-01:00:507 t21 84 0000
R-00:06:250 t21 84 0000
R-00:07:960 t21 84 0000
R-00:09:676 t21 84 0000
R-00:11:384 t21 84 0000
R-00:13:113 t21 84 0000
R-00:14:875 t21 84 0000
R-00:16:574 t21 84 0000
```

# Programming Custom UHF Frequencies

- Step 11 – Set the CTCSS (PL) tone or CDCSS (DCS) tone desired for the channels.

SNTTool V1.06 06/08/2017

Basic Setting Walkie Talkie

Frequency Mode: Customize  Set Tx =Rx Frequency (unchecked for split frequencies used for repeater)

	Tx Freq.	Rx Freq.	Code Mode	Code Number	Scan
▶ 1	[1] 464.5	[2] 469.5	CTCSS	[1] 67.0 Hz	Off
2	[2] 469.5	[2] 469.5	CTCSS	[1] 67.0 Hz	Off
3	[3] 462.3125	[3] 462.3125	CTCSS	[3] 74.4 Hz	Off
4	[4] 462.4	[4] 462.4	CTCSS	[5] 79.7 Hz	Off
5	[5] 467.4	[5] 467.4	CTCSS	[6] 82.5 Hz	Off

Code Number list: [1] 67.0 Hz, [2] 71.9 Hz, [3] 74.4 Hz, [4] 77.0 Hz, [5] 79.7 Hz, [6] 82.5 Hz, [7] 85.4 Hz, [8] 88.5 Hz, [9] 91.5 Hz, [10] 94.8 Hz

SNTTool V1.06 06/08/2017

Basic Setting Walkie Talkie

Frequency Mode: Customize  Set Tx =Rx Frequency (unchecked for split frequencies used for repeater)

	Tx Freq.	Rx Freq.	Code Mode	Code Number	Scan
▶ 1	[1] 464.5	[2] 469.5	CDCSS	[1] 023	Off
2	[2] 469.5	[2] 469.5	CTCSS	[1] 023	Off
3	[3] 462.3125	[3] 462.3125	CTCSS	[2] 025	Off
4	[4] 462.4	[4] 462.4	CTCSS	[3] 026	Off
5	[5] 467.4	[5] 467.4	CTCSS	[4] 031	Off

Code Number list: [1] 023, [2] 025, [3] 026, [4] 031, [5] 032, [6] 036, [7] 043, [8] 047, [9] 051, [10] 053

# Programming Custom UHF Frequencies

- Step 12 – If the radio is on a channel with scan enabled, it will scan between all channels. If the radio is set to a channel that has scanning off, it will not scan (i.e. stays on that channel)

SNTool V1.06 06/08/2017

Basic Setting Walkie Talkie

Frequency Mode: Customize  Set Tx =Rx Frequency (unchecked for split frequencies used for repeater operation)

	Tx Freq.	Rx Freq.	Code Mode	Code Number	Scan
▶ 1	[1] 464.5	[2] 469.5	CDCSS	[8] 047	Off
2	[2] 469.5	[2] 469.5	CTCSS	[1] 67.0 ...	On
3	[3] 462.3125	[3] 462.3125	CTCSS	[1] 67.0 ...	Off
4	[4] 462.4	[4] 462.4	CTCSS	[1] 67.0 ...	Off
5	[5] 467.4	[5] 467.4	CTCSS	[1] 67.0 ...	Off

Edit FreqTable

Load Settings Save Settings Read Settings Write Settings

HsInforWindow

```
R-03:28:420 t21 84 0000
R-03:30:157 t21 84 0000
R-03:31:810 t21 84 0000
R-03:33:518 t21 84 0000
R-03:35:213 t21 84 0000
R-03:36:908 t21 84 0000
R-03:38:607 t21 84 0000
R-03:40:302 t21 84 0000
R-03:41:997 t21 84 0000
R-03:43:696 t21 84 0000
R-03:45:437 t21 84 0000
R-03:47:087 t21 84 0000
R-03:48:797 t21 84 0000
R-03:50:496 t21 84 0000
R-03:52:198 t21 84 0000
R-03:53:894 t21 84 0000
R-03:55:592 t21 84 0000
R-03:57:288 t21 84 0000
```

# Programming Custom UHF Frequencies

- Step 13 – Use the “Read Settings” button to pull existing programming configuration from any DuraFon-UHF handset.

The screenshot displays the SNTool V1.06 software interface. The main window is titled "Basic Setting" and "Walkie Talkie". The "Frequency Mode" is set to "Customize". A checkbox labeled "Set Tx =Rx Frequency (unchecked for split frequencies used for repeater operation)" is present. Below this is a table with 5 rows and 6 columns: Tx Freq., Rx Freq., Code Mode, Code Number, and Scan. The "Read Settings" button is highlighted in yellow. To the right, a window titled "HslnforWindow" displays a list of radio status messages.

	Tx Freq.	Rx Freq.	Code Mode	Code Number	Scan
1	[1] 464.5	[2] 469.5	CDCSS	[8] 047	Off
2	[2] 469.5	[2] 469.5	CTCSS	[1] 67.0 ...	Off
3	[3] 462.3125	[3] 462.3125	CTCSS	[1] 67.0 ...	Off
4	[4] 462.4	[4] 462.4	CTCSS	[1] 67.0 ...	Off
5	[5] 467.4	[5] 467.4	CTCSS	[1] 67.0 ...	Off

Buttons: Load Settings, Save Settings, **Read Settings**, Write Settings, Edit FreqTable

HslnforWindow:

```
R-00:00:515 !Buffer full,F102
R-00:00:515 !Buffer full,F101
R-00:00:525 !Buffer full,F101
R-00:00:535 !Buffer full,F101
R-00:00:545 !Buffer full,F101
R-00:00:555 !Buffer full,F101
R-00:00:565 !Buffer full,F102
R-00:01:159 e922rpoStart
R-00:01:200 t 21 84 0000
R-00:01:207 t 21 84 0000
R-00:01:248 r 22 CA 0001
R-00:01:352 t 21 84 0000
R-00:02:958 t 21 84 0000
R-00:04:657 t 21 84 0000
R-00:06:353 t 21 84 0000
R-00:08:051 t 21 84 0000
R-00:09:770 t 21 84 0000
R-00:11:446 t 21 84 0000
```

# Programming Custom UHF Frequencies

- Step 14a – Once all info is entered you can “Save Settings” as a .txt file that you can refer to at a later time.

The screenshot shows the SNTool V1.06 software interface. The title bar indicates the version and date: SNTool V1.06 06/08/2017. The main window is titled "Basic Setting" and "Walkie Talkie".

Frequency Mode: Customize  Set Tx =Rx Frequency (unchecked for split frequencies used for repeater operation)

	Tx Freq.	Rx Freq.	Code Mode	Code Number	Scan
▶ 1	[1] 464.5	[2] 469.5	CDCSS	[8] 047	Off
2	[2] 469.5	[2] 469.5	CTCSS	[1] 67.0 ...	Off
3	[3] 462.3125	[3] 462.3125	CTCSS	[1] 67.0 ...	Off
4	[4] 462.4	[4] 462.4	CTCSS	[1] 67.0 ...	Off
5	[5] 467.4	[5] 467.4	CTCSS	[1] 67.0 ...	Off

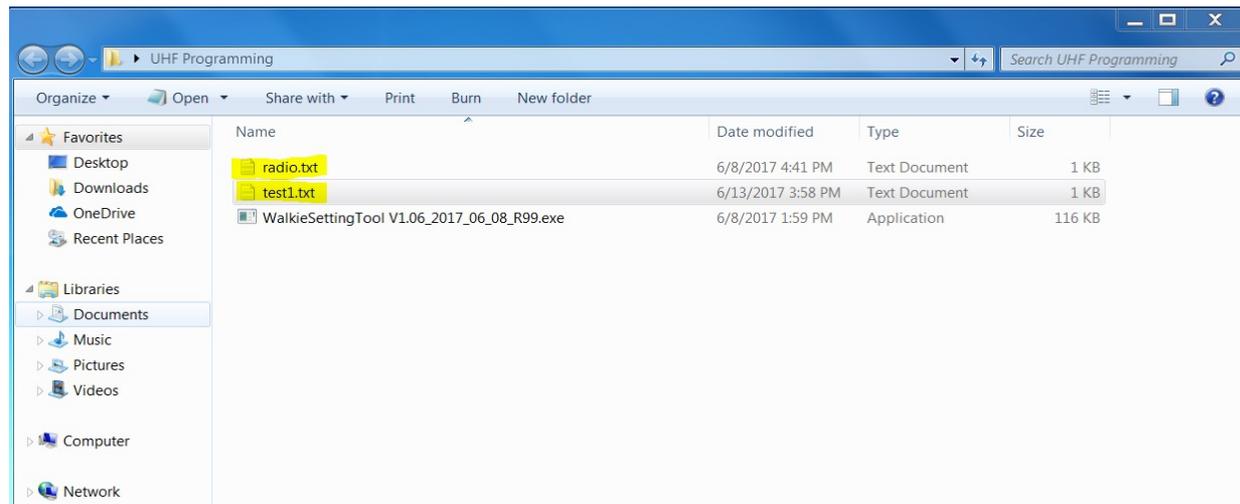
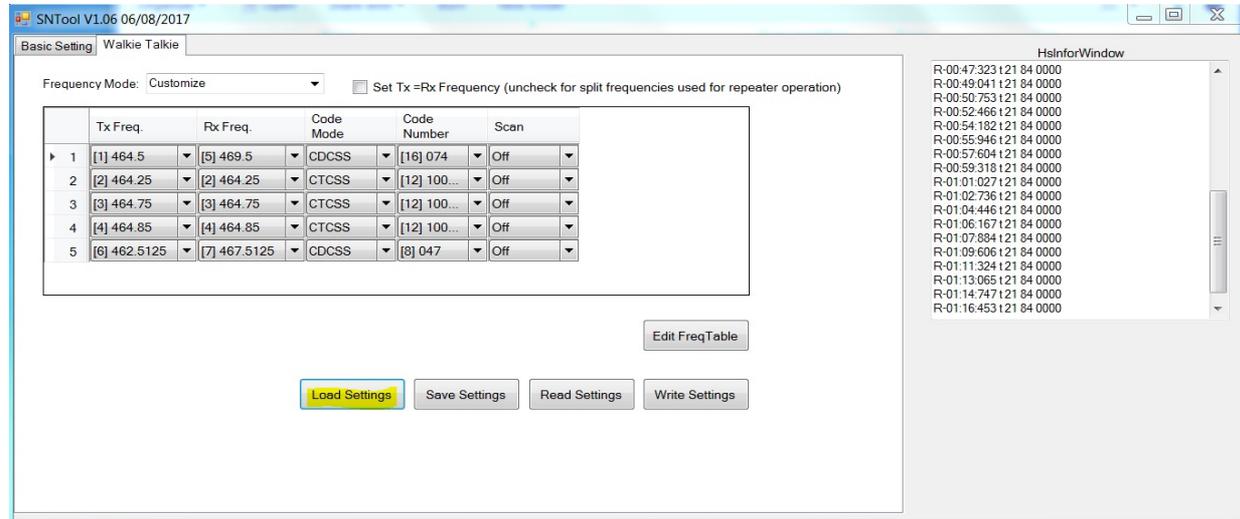
Buttons: Edit FreqTable, Load Settings, Save Settings, Read Settings, Write Settings

HslnforWindow

```
R-03:40:331 t21 84 0000
R-03:42:027 t21 84 0000
R-03:43:726 t21 84 0000
R-03:45:421 t21 84 0000
R-03:47:116 t21 84 0000
R-03:48:811 t21 84 0000
R-03:50:507 t21 84 0000
R-03:52:251 t21 84 0000
R-03:53:898 t21 84 0000
R-03:55:611 t21 84 0000
R-03:57:307 t21 84 0000
R-03:59:002 t21 84 0000
R-04:00:698 t21 84 0000
R-04:02:393 t21 84 0000
R-04:04:088 t21 84 0000
R-04:05:784 t21 84 0000
R-04:07:531 t21 84 0000
R-04:09:174 t21 84 0000
```

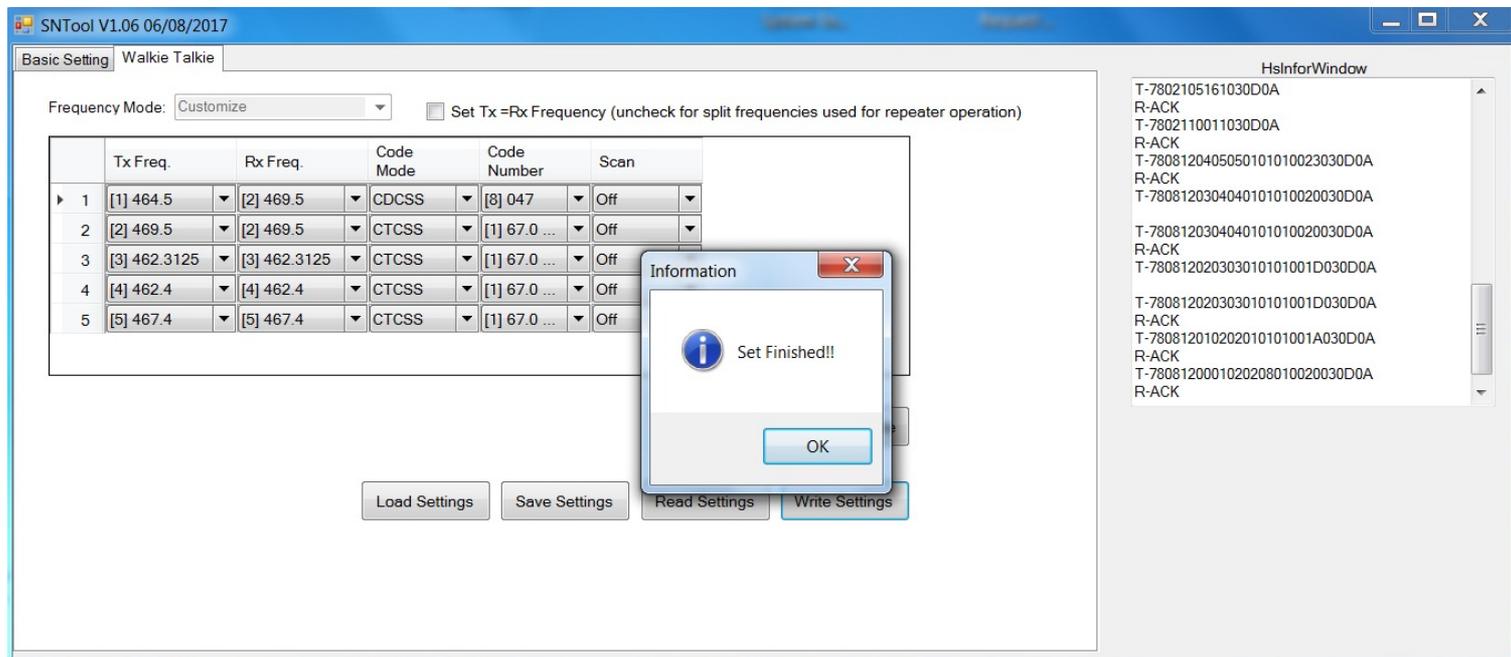
# Programming Custom UHF Frequencies

- Step 14b – To use a saved file, click “Load Settings” and click the .txt file you want to use.



# Programming Custom UHF Frequencies

- Step 15 – Send the configuration to the radio. When done setting parameters for all channels, click “Write Settings”. The “Set Finished!!” prompt will come up when complete. Click “OK”. The radio will then power cycle.



## Programming Custom UHF Frequencies

- Step 16 – Power cycle the handset to make changes active by using the volume knob to turn off and on the handset. Programming is now complete.

# Programming Custom UHF Frequencies

- Final Notes
  - It is recommended that you verify with either another radio or testing tool to confirm the settings you entered in the radio are correct.
  - For further support call 714-432-8668 or email [support@engeniustech.com](mailto:support@engeniustech.com)

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