Ham 27 – Icom CS-5100 Programming

Dr. Marc & Rosemary © 220404

1. VHF/UHF ham radios, which operate on a repeater, have numerous channels, that are a complex arrangement of receive frequency, offset, transmit frequency, squelch tones, and myriad specific capabilities of manufacturers and radios. To accommodate the diversity, radios typically store from 128 to over one-thousand channels. Chirp is the most used freeware (See article Ham 13). However, their site says the 5100 digital radio is so complex, they have not made a version after seven-years, which forces the spending-impaired back to Icom's CS-5100 in-house software.
2. When using multiple radios by different vendors, translating the CSV file from one radio to another can be tedious, because of the simple lack of information about what CS-5100 expects. Their instruction of loading the file from the radio does nothing to help simplex or alternative options. After enough rejects, I installed a Dutch database then went through the process of converting only to get a rejection about versions and out of date. So that I would remember the tedious process next time, this article sprang forth. It should have been this simple. Seldom are things as easy as they should be.
3. ***Acquire a programming cable***. I started with the 'Big Name Vendor' used for an earlier version Icom. It would not work with the 5100. I contacted the vendor, talked to two tech support, which ultimately said 'We don't know. You will have to buy a new cable'. So, I did. BlueMax49ers FTDI USB works for all my Icoms. The problem was two-fold, the connector with adapters and the drivers. BlueMax49ers needed no adapter, plus their FTDI chip is fully Windows compatible and automatically loads. The cable is simply a serial port connection, so there should have been no magic, but unfortunately there was. Problem solved.
4. ***Install*** *CS-5100*. https://www.icomjapan.com/lineup/options/CS-5100/?open=4#detail_content. A clever option to clone is an SD card, but skip through that process for a conventional FTDI USB cable to a 3.5mm stereo jack.
5. ***Prepare radio*** to communicate with PC.
   Turn radio OFF. Plug FTDI cable in PC USB-port. Plug cable into radio. Turn radio ON.
6. ***Set-up software***. Select language, follow install wizard. Select Serial [*Port*] > [*OK*].
   If in doubt, use Windows [*Device Manager*] > [*Ports*] > see what's connected.
7. ***Set-up Radio to Clone.*** On the radio, Select [*MENU*] > [*Etc*] > [*Clone Mode*] > [*Yes*]. Screen displays Ready.
8. ***Transfer Radio to Computer.*** Click Icon [*→Computer*] or click menu [*Clone*] > [*Read←TR*].
   a. To save the ICF (Icom Configuration File) file: Click [*File*] > [*Save As*].
   b. To save an editable CSV (Comma Separated Variable) file: Click [*File*] > [*Export*].
   c. You must download a file from the radio to have proper credentials before uploading.
9. ***Edit*** the file in Excel.
   a. The Memory channels are 0-99 in 10 banks. They are imported and exported separately. If error, then click bank.
   b. Start Excel. Open .CSV file to modify.
   c. Do not change headings in any way or column location.
   d. Edit the columns for each channel number. Include location, receive frequency, direction, offset, tones.
   e. Save the edited file as CSV.
10. ***Import*** a file back to CS5100.
    a. In program drop down, Click [*ID5100*] > [*Memory CH*] > [*Bank*].
    b. Get CSV file: Click [*File*] > [*Import*]. Data will display on screen, but screen does NOT look like CSV.
    c. Save as ICF: Click [*File*] > [*Save As*].
11. ***Upload*** new image to radio.
    a. Click Icon [*→Handi*] or use menu [*Clone*] > [*Write→TR*].
    b. Progress bar shows state. Pop-up window shows succeeded.
    c. Turn radio OFF. Unplug cable. Turn radio ON.
12. ***File Format*** options. Frequency and Offset in MHz. Grayed is software forced value changed from 0 Hz.

CH No	*Frequency*	*Dup*	*Offset*	*TS*	*Mode*	*Name*	*SKIP*	*TONE*	*Repeater Tone*	*TSQL Frequency*	*DTCS Code*	*DTCS Polarity*	*DV SQL*	*DV CSQL Code*	*Your Call Sign*
0	146.52	OFF	0	10kHz	FM	Simpx	OFF	OFF	88.5Hz	88.5Hz	23	BOTH N	OFF	0	CQCQCQ
1	446	DUP-	0.6	10kHz	DV	UHF	Skip	TONE	88.5Hz	88.5Hz	23	BOTH N	OFF	0	CQCQCQ
2	146.88	DUP+	5.0	10kHz	DD	VHF	PSkip	TSQL	103.5Hz	103.5Hz	23	BOTH N	OFF	0	CQCQCQ

13. Life is good. Enjoy.