



Contest Logging Software

Free Software for Phone, CW, and Digital Modes

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2.2 Supported Radios

old-edit

XXXMost of this is probably version-independent, but should be reviewedXXX

XXXThere may have been some changes, old radios deleted and new radios added between Classic and PlusXXX

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Note: Known settings for specific transceivers, as well as program features that they do not support are mentioned below as far as we know them. Please advise us of any corrections or needed changes.

1. General Information

- When using a home-brew self-powered interface set the handshaking to:
 - DTR - Always On
 - RTS - Always On
 - Like when using ICOM clone cables
- All radios: Band change is not allowed while transmitting
- All radios: Timeout for all radios is default set to 10 seconds (user settable). Users generally increase this value to 13 - 15 seconds.
 - Some radios require initialization commands for configuration. These are sent to the radio when the program starts. Users should have the radio and interface powered prior to starting the program so this can occur. If the radio needs to be power cycled after the program has initialized, right click in the Bandmap and select Reset Radio to perform this initialization again.
 - A warning message will be displayed when no response received from the radio and the radio will be changed to a manual radio by the program.
 - To restart the radio radio interface polling select in the right-click menu from the bandmap "Reset radios"
 - When the radio control gives a warning 10 seconds after you start the logger, then you never had radio control at all, and you should check your hardware, and serial port settings. Consult the manual from your radio and also read below. Some radios require initialization commands for configuration. These are sent to the radio when the program starts. Users should have the radio and interface powered prior to starting the program so this can occur. If the radio needs to be power cycled after the program has initialized, right click in the Bandmap and select Reset Radio

to perform this initialization again

- Polling of radios while sending CW is supported for all radio except for FT-1000.
- It may appear that the Up Arrow, Down Arrow, Page Up or Page Down are not working when incrementing or decrementing the current frequency with these keys.
 - The VFO frequency will not change if the incremented/decremented amount is smaller than the frequency deltas supported by your rig. This is not always well documented by the manufacturer. Icom 751 rigs for example do support 10 Hz steps but only show 100 Hz steps on the display.
 - The keys mentioned above have to be set higher than the minimum step size supported by the radio.
 - It's easy to test if it is the keys are working. Check the frequency while pressing the keys mentioned above. If the frequency moves nothing has to be changed.
 - The default increment/decrement for CW is 10 Hz. If this doesn't work, try changing it to 100 Hz, under the Configurer, Other tab.
 - This only applies to the keys that increment/decrement the current frequency.
- Memory mode - most modern radios have a kind of memory mode. In this mode, the radio will not provide the correct polling data to the program. VFO mode is required.
- When SO1V mode is selected, VFOB is not defined for receiving. The second Bandmap and Entry window are automatically closed.
- Sending CW characters via radio command (CAT) is not supported due to the limitations and contesting requirements. A COM, LPT, WinKey, or similar interface built into the radio (Elecraft K3) is required to send CW.
- USB and USB to COM interfaces:
 - Do not turn off radios while the program is running if the radio is connected via USB port. Exit the program first.
 - Do not unplug a USB to COM converter while the program is running. Exit the program first.
 - The device driver will remove the COM port from the hardware table and the program will hang then eventually timeout. Programs written in Visual Basic and use MSCOMM control can not detect a COM port that is removed from the hardware device table. This is a Microsoft bug.

2. Manual Mode - No Radio Selected

In manual mode no radio is selected and attached to the program. If possible always connect a radio using the CAT interface or serial port. Older radios (or very new not supported radios) can still be used with the program by selecting Manual but many functions in the program will not work as easy as they could or will not work at all. When a radio is not configured, it is the user's responsibility to make sure the mode and band are correct when logging contacts. When no radios are selected in Configurer, the program will attempt to set the initial operating mode and frequency in single mode contests when the program starts or a new contest is opened. The program uses information from the contest selection and the mode tab settings in Configurer.

3. Digital Mode Mapping

Below information by Rick, N2AMG and John, K3CT regarding supported Digital configurations by N1MM logger.

Radio Modes Corresponding to N1MM Logger Digital Mode Designations

Column Headings = Mode names used in N1MM Logger

Radio	RTTY	RTTY-R	AFSK	AFSK-R	PSK	PSK-R
Flex			DIGL	DIGU		
FT990/1000/1000MP	RTTY-L	RTTY-U	PKT-LSB	(4)		

FT100							Dig(3)
FT950/2000/3000/5000/9000	FSK(RTTY-LSB)	FSK-R(RTTY-USB)	PKT-LSB	PKT-USB			
FT450	RTTY-L	RTTY-U	User-L	User-U			
FT817/857/897							Dig(3)
FT920	Data-LSB(2)	Data-USB(2)					
IC7600/7700/7800	RTTY	RTTY-R	LSB-D1	USB-D1	PSK	PSK-R	
IC746Pro/756Pro/7200/7410/9100	RTTY	RTTY-R	LSB-D	USB-D			
Other Icom	RTTY	RTTY-R					
Orion/OmniVI/OmniVII	FSK						
K2			RTTY	RTTY-R			
K3	FSK D	FSK D-R	AFSK A	AFSK A-R	DATA A	DATA A-R	
TS2000	FSK	(1)					
TS480/590/Other Kenwood	FSK	FSK-R					

(1) = radio menu selection

(2) = FSK/AFSK selected by a rear panel switch

(3) = Radio menu programmable for RTTY, RTTY-R, PKT-L, PKT-U

(4) = FT990/1000/1000MP selection does not support PKT-USB

If your radio does not have an entry under AFSK or PSK, use LSB or USB (e.g. Argonaut/Jupiter/FT840/847/890/900/757GXII). If there is an entry under AFSK-R but not under PSK, try using AFSK-R for PSK31 and other digital modes.

4. Alinco

- DX-77 - supported

5. Elecraft

- Elecraft USB-serial converter issues and N1MM logger
 - Situation: Setting up Elecraft K3 to work with N1MM logger and simply key CW with DTR line of CAT port.
 - Results: CAT works fine, but every time I try to send CW there appears an error window "CommPortDev_OnComm 4 - 2147417856"
 - N1MM is totally blocked and has to be killed using task manager.
 - Solution: Early Elecraft USB-serial converters used a Prolific chip, and the (Win2K) Prolific driver doesn't work correctly for CAT and DTR-CW-keying using the same port. Elecraft has since that time switched to an FTDI USB-serial converter, and newer Elecraft USB-to-serial adapters don't have this problem
 - A USB-serial converter using a FTDI-chip and the FTDI drive is working fine, CAT ok, fast CW keying, ESC immediatly interrupts message ...

- All ufb now :- Tnx Thomas DK3DUA

5.1. K2

- Uses Kenwood-style commands but has its own radio selection. Only the KY command which is Elecraft specific is not supported.
- Use default Kenwood parameters but sometimes one (1) stopbit only works (contrary to the K2 KPA100 manual saying that 2 stop bits should also work).
- N1MM Logger does not support the K2 "virtual keying" feature using commands sent to the K2 serial port.
- Setting the "Wide" and "Narrow" filter codes.
 - Remember to set the filter codes for both VFOs. Get the appropriate N1MM Logger screen menu prompt by left clicking when your cursor is over the active VFO window.
 - Substitute this code for the complete Kenwood "FL" code that comes up by default: `K22;FW99991;K0;` (no spaces, all caps, include the ";"s) This will set the filter to "FL1" on the K2. If you put this code in the SSB "Wide" section for the filter code, it will give you FL1 for SSB - if you put this in the CW "Wide" section, it will give you FL1 for CW. Remember that the actual bandwidth of the filter will depend on how you have set FL1 on your K2. The same is true when you substitute this string for the "Narrow" settings. If you want a filter other than FL1 in either mode, just change the "1" after the 9999 to the number of the filter you want to invoke ie: 1,2,3 or 4. As an example, `K22;FW99993;K0;` placed in the code section for CW "Narrow" would invoke FL3 when the switch is set to "Narrow" and you are on CW.
 - Briefly, "K22" tells the K2 that this is an "extended command mode" - the ";" tells the K2 that this command is finished - the "FW" tells the K2 that this is a command to set the filter width - the 9999 number is ignored in the string but is necessary to include (it can be any set of four numbers between 0 and 9999 - I just picked 9999) - the "1" is the number of the filter to invoke (1 - 4) - the "K0" (that is "K" zero) tells the K2 to go back to the "normal command mode."
 - Use the same technique to set the RTTY filters as well. Have fun es 73, Don N4HH
- Please check out the feature which works great with the K2 and TS850 etc that don't have RIT clear IF you are Running (doesn't work for S&P). Put the rig into split, and use VFO B as your "RIT". Then go into Config, and turn on "Reset RX Freq when Running Split". Using VFO B for RIT, tune in a caller off freq, work him, and at the end of the QSO VFO B will be set to VFO A freq. Neat feature, and specifically designed for this situation.

5.2. K3

- The K3 contains a firmware bug that was reported several times and never been fixed which affects users that would like to use PTT via radio command. If the Esc key is pressed when a CW transmission begins and you are using PTT via radio command, the radio may not return to RX. The radio RX issue doesn't occur if the owner disconnects the CW jack from the rear of the K3 radio and doesn't change any N1MM Logger setting. Similar issues have been reported on other modes. Delay has been added to the N1MM Logger program when Esc is pressed but the problem still occurs intermittently. The problem seems to be worse with the very early K3 radios. Until this firmware issue is corrected, users may notice that the radio does not return to RX intermittently when using PTT via radio command. When this occurs, make another transmission and end it with the ESC key.
- Radio control issues have been reported when running other K3 utility software (such as LP-Bridge) in conjunction with N1MM Logger. Please test with only N1MM Logger+ running without

the other software before reporting a radio control issue, in order to eliminate the other software as a possible source of the problem.

- Note also that when using LP-Bridge, changes of band, mode and VFO may take longer than without LP-Bridge. During the process, it is possible for the radio and the program to be temporarily out of sync, and you may see some apparent instability in the band panel in the entry window and/or brief flashing of the Split indicator in the entry window. This is normal and should clear within a fraction of a second.
- A single receiver K3 can be used in SO1V or SO2R mode. A dual receiver K3 can be used in all program modes, including SO2V. In order to transmit from VFO B in SO2V or split mode, both VFOs must be on the same band (the K3 does not support cross-band split operation, although it is possible to receive on two separate bands simultaneously).
- In a dual receiver K3, the radio's front panel Split indicator can be misleading. What it actually means is that the transmitter is using VFO B. In SO2V, if you use a function key while the keyboard/RX focus is in the VFO B entry window or if you click on a function key button in the VFO B entry window, the radio's Split indicator will be displayed even though you are not actually operating split. This is because you are transmitting from VFO B. To determine whether you are logging in split mode or not, look for the Split indicator in the Logger's entry window and not the indicator on the radio's front panel.
- You can operate split from either entry window, but in order to transmit from the correct VFO and have the transmit and receive frequencies logged correctly, you must enter Split mode from the program (using Ctrl+S or Ctrl+Alt+S) and **not** by pressing the K3's Split button. If you are using "reverse split" (i.e. logging the contact in the VFO B entry window, listening to the subreceiver on VFO B and transmitting from VFO A) the Split indicator in the entry window will be displayed, but the K3's front panel Split indicator will not be displayed because the transmitter is using VFO A.
- When you change transmit focus between entry windows, the Logger may display a Split indication temporarily in the entry window(s) while the program and radio status are temporarily out of sync in the process of changing. This condition is most likely to be seen when using LP-Bridge. It should only last for a fraction of a second. If the condition persists, check to see whether you are trying to operate in a mode the radio does not support (e.g. transmitting from VFO B with the two VFOs on different bands is not supported by the radio).
- The stereo (grave accent - ` key, at the left end of the number keys row on many keyboards) toggles Sub on and off. It is identical to pressing the SUB radio button. To leave SUB on all the time, select **Config > Sub Receiver Always On**
 - If you have selected Diversity mode on the radio, toggling Sub off and on via ` or Alt+F12 will turn Diversity mode off
 - Logger preserves diversity reception on the K3 unless RX Focus changes to vfoB at which time the subrx will switch to vfoB (note that in diversity reception mode, both receivers are using VFO A, so full SO2V functionality is not available without leaving diversity mode)
- K3 Subrx ON/OFF control by Logger
 - Independent of the state of Sub Receiver Always On:
 - changing RX Focus to vfoB turns the subrx ON
 - Ctrl+Shift+Up/Dn does not change the state of the subrx
 - Alt+F12 or ` toggles subrx ON/OFF if RX Focus is on vfoA (action disabled if RX Focus on vfoB)
 - Sub Receiver Always On checked:
 - clicking any vfo bandmap/avail. window spot or Ctrl+Up/Dn turns the subrx ON
 - changing RX Focus turns the subrx ON
 - if Sub Receiver Always On was unchecked and the user checks it, subrx is turned ON

- Sub Receiver Always On unchecked:
 - If the TX & RX Focus is on VFOB and the RX Focus changes to VFOA (\ keystroke), the subrx stays ON
 - If the TX & RX Focus is initially on VFOB and then RX & TX Focus is on VFOA (PAUSE, CTRL+Left or vfoA Bandmap/Available window spot click), the subrx is turned OFF
 - if Sub Receiver Always On was checked and the user unchecks it, subrx is turned OFF
- Ctrl+Alt+D command action:
 - If "Sub Receiver Always On" is ON and the Sub RX is ON, turn "Sub Receiver Always On" to OFF and leave the Sub RX ON
 - If "Sub Receiver Always On" is ON and the Sub RX is OFF, turn "Sub Receiver Always On" to OFF and leave the Sub RX OFF
 - If "Sub Receiver Always On" is OFF and the Sub RX is ON, turn "Sub Receiver Always On" to ON and leave the Sub RX ON
 - If "Sub Receiver Always On" is OFF and the Sub RX is OFF, turn both ON
- Alt+F12 command action:
 - If the subrx is OFF - check "Sub Receiver Always On" and turn the subrx ON
 - If the subrx is ON - uncheck "Sub Receiver Always On" and turn the subrx OFF unless RX Focus is on vfoB
- Digital radio modes FSK D, AFSK A and DATA A are supported
 - FSK D, AFSK A and DATA A are displayed in N1MM as RTTY, AFSK and PSK respectively
 - If the current contest allows digital modes, typing RTTY into the Entry window will put the radio into either RTTY (FSK D) or AFSK (AFSK A) mode depending on the selection in the Configurer's Digital Modes tab for the current digital engine
 - If the current contest allows digital modes, typing PSK into the Entry window will put the radio into PSK (DATA A) mode
 - PSK D is not supported by N1MM; the digital engines in N1MM cannot transmit PSK using the PSK D sub-mode
 - The K3's data sub-mode is stored in the firmware on a per-band basis
 - If VFO B and VFO A are on the same band, the data sub-mode will be the same in both VFOs
 - If VFO B and VFO A are on different bands, their data sub-modes can be different, but the firmware does not provide a way to poll the K3 for the VFO B data sub-mode. N1MM Logger will assume that the VFO B sub-mode is the same as in VFO A when the two VFOs are on different bands
 - Adjust audio levels in AFSK A and DATA A to give 4-5 bars on the K3's ALC meter. This allows the K3's firmware ALC to control power without clipping peaks and causing IMD. In PSK31 and other digital modes requiring high linearity, keep the requested power setting below 60 watts (AFSK RTTY can be safely used at 100 watts)
- RIT control - When in RUN mode, the Up/Dn arrow keys change the RIT frequency (if the K3's RIT is turned on). When in S&P mode the radio frequency is changed
- Using the program as a voice keyer with a K3 on SSB:
 - Option 1
 - Connect your microphone to the mic input of the sound card and the Line Out of the sound card to the Line In on the back of the K3
 - Set soundcard program to drive Line In
 - Select LINE IN with MENU:MIC SEL
 - Command Tx (or PTT or...) and adjust the MIC GAIN (which is now LINE IN gain) for proper audio level

- Option 2
 - Connect microphone to desired microphone connection on the K3
 - Select MIC with MENU:MIC SEL
 - PTT and set Mic Gain
 - Connect sound card as described under Option 1
 - Now, if you set MIC+LINE ON then both audio sources will drive the K3. The MIC GAIN control will control the MIC GAIN only. LINE IN GAIN must be set when LINE IN is the selected source via MENU:MIC SEL
- The K3 can accept PTT switching from several sources, including: a keying circuit from a serial or parallel port to the K3's PTT IN; PTT from a Winkeyer; RTS (pin 7) on the radio control port; or using "Radio PTT via command"
 - Do NOT use multiple methods of PTT control in parallel; in some cases doing so can leave the K3 stuck in transmit at the end of function-key messages. In particular, do NOT check "Radio PTT via command" if you are using RTS on the radio control port, or any other hardware PTT connection, to control PTT. **Using "Radio PTT via command" together with hardware PTT control can cause the K3 to get hung up in transmit, so don't do it!**
 - Procedure for configuring RTS on the radio control port: Start with the K3's CONFIG:PTT-KEY set to OFF-OFF; configure N1MM to control PTT from RTS on the radio control port (Port setup); set the K3's CONFIG:PTT-KEY to RTS-OFF
 - Warning: leaving RTS set to Always on with the K3's CONFIG:PTT-KEY set to RTS-OFF or RTS-DTR will cause the K3 to be permanently in transmit
- The K3 accepts CW keying on DTR (pin 4) of the same COM port you're using to control the K3. This method can be used when other methods (e.g. Winkeyer or a keying circuit on a separate COM or LPT port) are not available
 - CW and radio control on the same COM port do NOT work in SO2R mode
 - CW on DTR does NOT work with some USB-to-serial adapters (e.g. Prolific chipset)
 - CW on DTR may be missing some capabilities and may have other undesired side effects - use at your own risk
 - Procedure: Start with the K3's CONFIG:PTT-KEY set to OFF-OFF; check the CW/Other box beside the radio control port in the Configurer and configure N1MM to use DTR for CW on that port; set the K3's CONFIG:PTT-KEY to OFF-DTR
 - Warning: leaving DTR set to Always on with the K3's CONFIG:PTT-KEY set to OFF-DTR or RTS-DTR will cause a permanent "key-down" condition
- Cat Macro strings used to play back Radio # 1 internal K3 CW/data messages or DVR voice keyer messages
 - M1 = {CAT1ASC SWT21;}
 - M2 = {CAT1ASC SWT31;}
 - M3 = {CAT1ASC SWT35;}
 - M4 = {CAT1ASC SWT39;}
- It is not necessary to program a function key to send RX; to the radio for a DVK stop. The program code sends RX; to the radio when the Esc key is pressed.
- It is not necessary to include the K31; command in any K3 Cat Macro. The radio is in K31 mode all the time and sending this command just adds delay.

5.3. KX3

- Radio control issues have been reported when running other K3 utility software (such as LP-Bridge) in conjunction with N1MM Logger. Please test with only N1MM Logger running before reporting a radio control issue, in order to eliminate other software as a possible source of the problem

- The KX3 can be used in SO2V mode, within the limitations of the KX3's Dual Watch feature (e.g. VFO B must be within 15 kHz of VFO A). See the description of subreceiver control for the K3 above
- The KX3 does not have an FSK keying input, so the digital engines (e.g. MMTTY) cannot transmit in FSK. To do RTTY, put the KX3 into AFSK A mode and configure the Logger and the digital engine for AFSK
- The digital engines (MMVARI and Fldigi) cannot transmit in PSK D. To do PSK, put the KX3 into DATA A mode and configure the Logger and the digital engine for PSK
- Cat Macro strings used to playback Radio # 1 internal KX3 DVK voice keyer
 - M1 = {CAT1ASC SWT11;SWT19;}
 - M2 = {CAT1ASC SWT11;SWT27;}
- Cat Macro strings for other functions are listed below as examples
 - To tune the ATU {CAT1ASC SWT44;}
 - To enable VOX {CAT1ASC SWH29;}

6. FlexRadio

- Flex VAC is required for digital or to send/record audio files to the radio without cables. The radio's VOX does not function when VAC is enabled. See the setup at: <http://kc.flexradio.com/KnowledgebaseArticle50230.aspx>
- Radio control
 - Third party COM port mapping software is required to create a virtual COM port for radio control. See the Flex documentation for computer and radio configuration.
 - Software was tested with COM port settings: 38400, N, 8, 1, DTR=Always Off, RTS=Always Off
- CW sending
 - Depending on your computer hardware and system DPC latency, users may find that CW generated by the N1MM Logger program or with external devices like WinKey may not be acceptable. Contact Flex Radio for CW sending issues.
- Glitches or pops in audio
 - Users experiencing intermittent glitches or popping sounds in the receiver audio while radio polling is enabled should contact Flex Radio.
- PowerSDR
 - The code was tested with public version PowerSDR 2.0.22.
 - There may be some interaction between the PowerSDR radio "model" and the requirements for SO2V operation. Generally, controlling split, RX2 On/Off, or MultiRx (Non-RX2 models) from the N1MM program is recommended.
- Digital Modes
 - Both Flex digital modes are supported. They are mapped to the N1MM Logger program selections of AFSK and AFSK-R. Open Config, Mode Control tab, and set Mode Sent to Radio for RTTY and PSK. Most users will likely select RTTY to AFSK and PSK to AFSK-R.
 - VAC does not allow the RX2 to be used with multiple Digital Interfaces. This is not a program limitation.
- The Flex5000 RX2 radio selection is intended for use with the Flex 5000 with the optional RX2 receiver. The Flex radio selection is intended for use with the Flex 1500, 3000, and the 5000 without the RX2. The Flex5000 RX2 option implements SO2V using the RX2 for VFOB and the Flex selection implements SO2V using the MultiRx feature. There are limitations to the tuning range of the MultiRx and how the radio reacts when it's instructed to change to a frequency outside of this operating range.

6.1. Flex-5000A with RX2

- Program Feature Set
 - The Flex5000 RX2 radio selection supports all of the standard program features including Reverse CW, Mute Mic, Audio Muting Macros, Antenna Macros, and Advanced SO2V. The three program options SO1V, SO2V, and SO2R are supported.
- SO2V
 - The RX2 option is required for SO2V operation.
 - Users are able to have a repeating CQ running on VFOA and tune the band with VFOB. Start the repeating CQ then press the \ key to switch RX focus to the VFOB Entry window. If a station is called using the Function keys, the TX focus will switch, the message will be sent, and the repeating CQ will not restart. Shift-F# can be used to send a message on VFOA (example: Shift F1 to restart the CQ again). PAUSE or CTRL+Right/LeftArrow keys can be used to switch both RX and TX focus together.
 - Users can program VFOB with the next Bandmap spot without changing focus using Ctrl+Shift+Up/Dn. The state of the RX2 is unchanged. This allows users to program the VFOB frequency and toggle the RX2 On/Off with various keyboard commands when the VFOA frequency is not busy.
 - The RX2 can be programmed to be On all the time. See the Config option Dual RX Always On.
 - The RX2 state can be toggled with the stereo key (`) and the VFO frequencies swapped with ALT+F10. See other features below.
 - If Diversity mode is enabled on the radio, toggling Sub off and on via ` or Alt+F12 will turn Diversity mode off.
 - Logger preserves diversity reception unless RX Focus changes to VFOB at which time the RX2 will switch to VFOB.
 - Subrx ON/OFF control by N1MM Logger is independent of the state of Config>Dual RX Always On.
 - Changing RX Focus to VFOB turns the RX2 ON.
 - Ctrl+Shift+Up/Dn does not change the state of the RX2.
 - Alt+F12 or the stereo key (`) toggles RX2 ON/OFF if RX Focus is on VFOA (action disabled if RX Focus on VFOB).
 - Dual RX Always On checked:
 - Single clicking in any VFO Bandmap, on an Available window spot, or Ctrl+Up/Dn turns the RX2 ON.
 - Changing the RX Focus turns the RX2 ON.
 - If Dual Receive Always On is unchecked and the user checks it, the RX2 is turned ON.
 - Dual RX Always On unchecked:
 - If the TX & RX Focus is on VFOB and the RX focus changes to VFOA (\ keystroke), the RX2 stays ON.
 - If the TX & RX Focus is initially on VFOB and then RX & TX Focus is switched to VFOA (PAUSE, CTRL+Left or VFOA Bandmap/Available window spot click), the RX2 is turned OFF.
 - If Dual Receive Always On is checked and the user unchecks it, the RX2 is turned OFF.
 - Ctrl+Alt+D command action:
 - If "Dual RX Always On" is ON and the RX2 is ON, change "Dual RX Always On" to OFF and leave the RX2 ON.
 - If "Dual RX Always On" is ON and the RX2 is OFF, turn "Dual RX Always On" to OFF

- and leave the RX2 OFF.
- If "Dual RX Always On" is OFF and the RX2 is ON, turn "Dual RX Always On" to ON and leave the RX2 ON.
- If "Dual RX Always On" is OFF and the Sub RX is OFF, turn both ON.
- Alt+F12 action is similar to the stereo (`) key, but also affects "Dual RX Always On" state:
 - If the RX2 is OFF - check "Dual RX Always On" and turn the RX2 ON.
 - If the RX2 is ON - uncheck "Dual RX Always On" and turn the RX2 OFF unless RX focus is on VFOB.

6.2. Flex-1500, Flex-3000, Flex-5000A without RX2

- Program Feature Set
 - The Flex radio selection supports all of the standard program features including Reverse CW, Mute Mic, Audio Muting Macros, Antenna Macros, and SO2V. The three program options SO1V, SO2V, and SO2R are supported.
- SO2V
 - The MultiRx is used for VFOB. Frequency and mode limitations of VFOB and how the radio responds to frequencies outside this range are controlled by the radio.
 - Given this, users are able to have a repeating CQ running on VFOA and tune the band with VFOB. Start the repeating CQ then press the \ key to switch RX focus to the VFOB Entry window. If a station is called using the Function keys, the TX focus will switch, the message will be sent, and the repeating CQ will not restart. Shift-F# can be used to send a message on VFOA (example: Shift F1 to restart the CQ again). PAUSE or CTRL+Right/LeftArrow keys can be used to switch both RX and TX focus together.
 - Users can program VFOB with the next Bandmap spot without changing focus using Ctrl+Shift+Up/Dn. This allows users to program the VFOB frequency and toggle MultiRx On/Off with various keyboard commands when the VFOA frequency is not busy.
 - The MultiRx can be programmed to be On all the time. See the Config option Dual RX Always On.
 - The MultiRx state can be toggled with the stereo key (`) and the VFO frequencies swapped with ALT+F10. See other features below.
 - MultiRx ON/OFF control by N1MM Logger is independent of the state of Config>Dual RX Always On.
 - Changing RX Focus to VFOB turns the MultiRx ON.
 - Ctrl+Shift+Up/Dn does not change the state of the MultiRx.
 - The stereo key (`) or Alt+F12 toggles MultiRx ON/OFF if RX Focus is on VFOA (action disabled if RX Focus on VFOB).
 - Dual RX Always On checked:
 - Single clicking in any VFO Bandmap, on an Available window spot, or Ctrl+Up/Dn turns MultiRx ON.
 - Changing the RX Focus turns MultiRx ON.
 - If Dual Receive Always On is unchecked and the user checks it, MultiRx is turned ON.
 - Dual RX Always On unchecked:
 - If the TX & RX Focus is on VFOB and the RX focus changes to VFOA (\ keystroke), MultiRx stays ON.
 - If the TX & RX Focus is initially on VFOB and then RX & TX Focus is switched to VFOA (PAUSE, CTRL+Left or VFOA Bandmap/Available window spot click), MultiRx is turned OFF.
 - If Dual Receive Always On is checked and the user unchecks it, MultiRx is turned OFF.

- Ctrl+Alt+D command action:
 - If "Dual RX Always On" is ON and MultiRx is ON, change "Dual RX Always On" to OFF and leave MultiRx ON.
 - If "Dual RX Always On" is ON and MultiRx is OFF, turn "Dual RX Always On" to OFF and leave MultiRx OFF.
 - If "Dual RX Always On" is OFF and MultiRx is ON, turn "Dual RX Always On" to ON and leave MultiRx ON.
 - If "Dual RX Always On" is OFF and MultiRx is OFF, turn both ON.
- Alt+F12 action is similar to the stereo (`) key, but also affects "Dual RX Always On" state:
 - If MultiRx is OFF - check "Dual RX Always On" and turn MultiRx ON.
 - If MultiRx is ON - uncheck "Dual RX Always On" and turn MultiRx OFF unless RX focus is on VFOB.

6.3. SDR-1000 and SDR-5000A (using Kenwood settings)

- By: Rob AB7CF
- Some setup details are not really needed but are included for completeness. One thing I notice different is in PowerSDR Cat setup I use ID as: "PowerSDR" though it shouldn't make a difference. Probably the most common Vcom mistake is a failure to click Update Driver and following the procedure after making a change in Vcom configuration..
- Example: using VCom configurator using ports 4-5 defines and VAC
- Check your VCom configurator to make sure you have a check box in the COM4 - COM5 pair and you have clicked Save Configuration. MAKE SURE you click the Update Driver and follow the instructions. Close VCom configurator. Click on Window's Start Button, Click on ControlPanel, Click System, Click on the Hardware Tab, Click on Device manager.
- In Device manager make sure there ISN'T a yellow question mark on the entry labeled "Multi-port serial adapters." If there is no yellow question mark your Vcom virtual cable should be working properly. If there is an yellow question mark there is a problem with your Vcom installation which needs attention. Assuming no problem, Close ControlPanel.
- Now check PowerSDR. Open PowerSDR Setup and click on the CAT Control tab. In CAT Control make sure Enable CAT is checked. Under PTT make sure Port 4 is selected and RTS and DTR are unchecked. Select ID as: PowerSDR. Click Apply. Close PowerSDR Setup.
- Now check N1MM. Click Config. Select "Configure Ports, Telnet Address,Other" Under Com-5 select Kenwood. Make sure CW/PTT is unchecked. Now click Set. In the popup box the settings should be: Speed 4800, Parity: N DataBits: 8, Stop Bits: 1 DTR (pin 4) = Handshake. RTS (pin 7) =Handshake, 1 selected in Radio/VFO. Leave the "Radio PTT via command" check box UNCHECKED. Check the "Allow external interrupts" check box. Click Okay (twice) to back out.
- Now you should be communicating with your SDR. Check that clicking a new frequency in the Panadapter changes frequency in N1MM. With the focus in N1MM check that the keyboard up and down arrows change the PowerSDR frequency.

7. Icom

7.1. General Icom Information (all Icom owners please read)

- Almost every Icom rig requires an ICOM CT-17 CI-V interface or compatible. If your Icom radio has a USB computer interface (IC-7200, IC-7600, etc), install the latest driver for the virtual COM port and audio codec.
- Icom rigs use software handshaking. That means they do not use DTR and RTS. However, interfaces that get their power from the RS232 port require you to set DTR and/or RTS to "Always On" to supply power to the interface. Check your interface manual to see how DTR and RTS must

be set.

- Set N1MM Logger and the rig to:
 - Address - see specific rig information below
 - Baud Rate - 9600 or 19200 (see specific rig maximum rates below). When a slower baud rate is selected, the program will disable CI-V acceleration features added for radio programming and keyboard tuning.
 - Data Bits - 8 bits
 - Parity - None
 - Stop Bits - 1 bit
- On your rig, set:
 - "CI-V Transceive" to OFF - If CI-V is set to ON, the Bandmaps will not update as the VFO is turned.
 - "Some Icom rigs have a "4 or 5 Byte Data" or "Frequency Data Length" interface option. Set the radio to use 5 data bytes for the frequency.
- Due to the limited Icom radio control, the user needs to control the radio from the keyboard. This means that the user can not press these buttons on the radio: SPLIT (most radios), DUALWATCH, CHANGE, VFO/MEMO, A=B, A<>B, or MAIN/SUB. Icom radios only report the VFO frequency of the active VFO. Because of this, the program will select each VFO to read the frequency during initialization. During 2011, Icom added a firmware command to poll the radio split to the latest firmware updatable and new radios. Those radios that are capable of reading the split have been updated in program versions 12.03.01 or newer. See the specific radio text for the firmware revision. When using these radios with the proper firmware and program version 12.03.01 or newer, users can change the radio split by pressing the radio button and the program will track.
- To set and clear split under program control, use ALT+F7 or one of the other keyboard commands. Split is correctly set/cleared when clicking in the Bandmap or Available windows. To select VFOB (SO2V mode only), use the PAUSE, "\", or CTRL+Right/Left Arrow keys. In SO2V mode, the VFO is also selected with a Right or Left click on the band buttons in the Available window.
- Frequencies > 2 GHz are ignored and not sent to the radio.
- For CW sending, a separate CW interface cable is needed between the radio and the computer. This interface maybe serial or parallel port or a WinKey. The CI-V cable or serial cable to the radio alone is not enough to do CW.
- The ALT+F10 swap VFO frequency command is disabled during SO2R for Icom radios that lack a swap VFO CAT command. This is because the program is unaware of Icom VFO B frequency in SO2R mode.
- The Icom command set (CW via CAT control) is not supported. A COM, LPT, or WinKey is required to send CW.

- The models below are supported:

7.2. IC-271 / IC-471 / IC-1271

- Select IC-706 and set the radio address to hex 48 or program the default radio address in the program setup window. Please report on program functionality.
- There are several limitations caused by the lack of several CI-V commands. VFO select and split commands are not supported. This will prevent the program from controlling the radio split and reading or programming VFOB frequency. SO2V mode should not be attempted and VFOB's Bandmap and Entry windows can be closed.

7.3. IC-275A/E/H using address 10 hex

- The CI-V command set lacks split ON/OFF commands. This prevents the program from

controlling the radio split.

7.4. IC-375 / IC-575 (all versions)

- Select IC-706 and set the radio address to hex 48 or program the default radio address in the program setup window. Please report on program functionality.
- The CI-V command set lacks split ON/OFF commands. This prevents the program from controlling the radio split.

7.5. IC-475A/E/H using address 14 hex

- The CI-V command set lacks split ON/OFF commands. This prevents the program from controlling the radio split.

7.6. IC-703 using address 68 hex

7.7. IC-706 using address 48 hex

- This radio firmware does not include a CAT command to key the radio. This causes the radio command PTT options to be non-functional.

7.8. IC-706MKII using address 4E hex

- This radio firmware does not include a CAT command to key the radio. This causes the radio command PTT options to be non-functional.

7.9. IC-706MKIIG using address 58 hex

- This radio firmware does not include a CAT command to key the radio. This causes the radio command PTT options to be non-functional.

7.10. IC-718 using address 5E hex

- Set N1MM Logger to 19200 bps and the radio to "AT" (AuTo).

7.11. IC-725 using address 28 hex

7.12. IC-728 using address 38 hex

7.13. IC-729 using address 3A hex

7.14. IC-735 using address 04 hex

- The CI-V command set lacks split ON/OFF commands. This prevents the program from controlling the radio split.
- When the IC-735 is used with factory settings (1200 baud, transceive ON), the bandmap response of N1MM is extremely slow. Jumpers J22 located on the PL-unit board (upper side under PA unit) allow baud-rate, address and CI-V transceive to be changed. But.. the jumpers are not labeled and not in the order as stated in the Service manual. In fact transceive ON/OFF is the last one (front panel toward you, starting from left) this one should be removed to turn transceive OFF. The 2 first ones set the baud-rate (move the second one to the first position to switch from 1200 to 9600 baud) the 3 remaining ones are the CI-V

address - default 04; is with last the last one of this group of 3 - ON.

Jumper J22 settings for 9600 baud, transceive OFF and default address 04 - from left to right with front panel toward you...

1	2	3	4	5	6
ON	OFF	OFF	OFF	ON	OFF
Baud rate	Baud Rate	Address	Address	Address	CI-V transceive

These settings make the 735 operable with N1MM (trx IC735 / baud rate 9600 / 8 data bits / no parity / 1 stop bit). DTR and/or RTS are not used by the Icom CI-V (no handshake) so does not matter. However, they should be turned to "always ON" if using an interface powered though those pins. Alternatively, they can be used for CW and PTT, for example if you are limited by the number of COM-ports on your machine. 73' Patrick F6IRF

7.15. IC-736 using address 40 hex

7.16. IC-737/737A using address 3C hex

- The CI-V command set lacks split ON/OFF commands. This prevents the program from controlling the radio split.

7.17. IC-738 using address 44 hex

7.18. IC-746 using address 56 hex

- VFO-B is a virtual VFO as long it isn't activated. The scale is not controlled by the VFO-B of the transceiver. It becomes an active VFO when it is activated. The IC-746 is switched to VFO-B and set to the frequency shown in the VFO-B bandmap.

7.19. IC-746 PRO using address 66 hex

- USB-D / LSB-D digital modes supported.

7.20. IC-751/751A using address 1C hex

- There are several limitations caused by the lack of some CI-V commands. VFO select and split commands are not supported. This will prevent the program from controlling the radio split and reading or programming VFOB frequency. SO2V mode should not be attempted and VFOB's Bandmap and Entry windows can be closed.

To communicate with the radio, the baud rate, CI-V Transceive, and number of bytes of frequency data must be set correctly. This is set via a DIP switch on the Icom UX-14 interface board. Using the DIP switch S1 location in the beginning of the manual (page 11 has the DIP switch positions reversed) set S1 to the following:

1-----6

On - Off - Off - Off - Off - On

This will set the baud rate to 9600, the length of the frequency information to 5 bytes, and turn CI-V Transceive OFF.

If the radio contains the Piexx UX-14 CI-V board, set the DIP switches per the Piexx manual for the same configuration

7.21. IC-756 using address 50 hex

- Please see also Key Assignments (Alt+F12) and the setting 'Dual Rx always on' in the Config menu.

7.22. IC-756 PRO using address 5C hex

- Please see also Key Assignments (Alt+F12) and the setting 'Dual Rx always on' in the Config menu.

7.23. IC-756 PRO II using address 64 hex

- Please see also Key Assignments (Alt+F12) and the setting 'Dual Rx always on' in the Config menu.
- USB-D / LSB-D digital modes supported.

7.24. IC-756 PRO III using address 6E hex

- Please see also Key Assignments (Alt+F12) and the setting 'Dual Rx always on' in the Config menu.
- USB-D / LSB-D digital modes supported.

7.25. IC-761 using address 1E hex

- There are several limitations caused by the lack of some CI-V commands. VFO select and split commands are not supported. This will prevent the program from controlling the radio split and reading or programming VFOB frequency. SO2V mode should not be attempted and VFOB's Bandmap and Entry windows can be closed.

To communicate with the radio, the baud rate, CI-V Transceive, and number of bytes of frequency data must be set correctly. This is set via a DIP switch inside the radio. Set the baud rate to 9600, the length of the frequency information to 5 bytes, and turn CI-V Transceive OFF.

The manual lacks the details but it is suspected that DIP S1 should be set to the following:

1-----6

On - Off - Off - Off - Off - On

If the radio contains the Piexx UX-14 CI-V board, set the DIP switches per the Piexx manual for the same configuration.

7.26. IC-765 using address 2C hex

7.27. IC-775/775DSP using address 46 hex

- The IC-775 firmware is limited and lacks commands to select Main or Sub. It is also not possible to read the frequency of the Sub VFO without moving it into the Main VFO and polling. This is done at program start, Configurer exit, and Reset Radios. Because of this radio limitation, the SO2V functionality is limited. This radio is better suited for SO1V or SO2R use.
- The radio firmware lacks the ability to poll the VFOB frequency. Frequency changes to the SUB made by tuning the SUB VFO knob will not be sensed and tracked by the program in SO2V mode.
- Please see also Key Assignments (Alt+F12) and the setting 'Dual Rx always on' in the Config menu.

7.28. IC-781 using address 26 hex

- Please see also Key Assignments (Alt+F12) and the setting 'Dual Rx always on' in the Config menu.

7.29. IC-821H using address 4C hex

- The ALT+F12 radio specific command swaps MAIN and SUB using the CAT radio command.
- The ALT+F10 command swaps the VFOA/B frequency and mode only in SO1V and SO2V program modes.

7.30. IC-910H using address 60 hex

- The ALT+F12 radio specific command swaps MAIN and SUB using the CAT radio command.
- The ALT+F10 command swaps the VFOA/B frequency and mode only in SO1V and SO2V program modes.

7.31. IC-1275A/E using address 18 hex

- The CI-V command set lacks split ON/OFF commands. This prevents the program from setting or clearing the radio split.

7.32. IC-7000 using address 70 hex

7.33. IC-7200 using address 76 hex

- Radio control via USB with Icom driver or CI-V interface.
- The IC-7200 USB codec is supported. IC-7200 users can use the USB cable with the Icom drivers for radio control, AFSK RTTY, PSK, voice message playback, and recording QSOs. IC-7200 users can not record messages on the fly. In CW, only the received portion of the QSO is recorded. This is a radio limitation.
- Detailed instructions for setting up USB communications with this radio may be found under >Files >[Supplementary Information](#).

7.34. IC-7400 using address 66 hex

- Select the IC-746 PRO as radio.
- USB-D / LSB-D digital modes supported.

7.35. IC-7410 using address 80 hex

- Program releases 12.03.01 and later support polling the radio for split status
- Radio control via USB with Icom driver or CI-V interface.
- USB-D / LSB-D digital modes supported.
- The audio codec is supported. Users with the Icom drivers can use the USB cable for radio control, AFSK RTTY, PSK, recording voice messages on the fly, voice message playback, and recording QSOs. In CW, only the received portion of the QSO is recorded. This is a radio limitation.
- Detailed instructions for setting up USB communications with these radios may be found under >Files >[Supplementary Information](#).

7.36. IC-7600 using address 7A hex

- Program releases 12.03.00 or newer require radio firmware that contains the get split command (firmware 1.11 or newer).
- Radio control via USB with Icom driver or CI-V interface.
- USB-D / LSB-D digital modes supported.
- The IC-7600 and IC-9100 audio codecs are supported. Users with the Icom drivers can use the USB cable for radio control, AFSK RTTY, PSK, recording voice messages on the fly, voice message playback, and recording QSOs. In CW, only the received portion of the QSO is recorded. This is a radio limitation.
- Detailed instructions for setting up USB communications with these radios may be found under >Files >[Supplementary Information](#). The file is titled "IcomUSBCodecInstructions 2011-10-2.pdf"

7.37. IC-7700 using address 74 hex

- Program releases 12.03.00 or newer require radio firmware that contains the get split command (firmware 1.20 or newer).
- USB-D / LSB-D digital modes supported.

7.38. IC-7800 using address 6A hex

- Program releases 12.03.00 or newer require radio firmware that contains the get split command (firmware 2.30 or newer).
- Please see also Key Assignments (Alt+F12) and the setting 'Dual Rx always on' in the Config menu.
- USB-D / LSB-D digital modes supported.

7.39. IC-9100 using address 56 hex

- Program releases 12.03.01 or newer require radio firmware that contains the get split command (firmware E1 or newer).
- USB radio control and audio CODECS are supported. Detailed instructions for setting up USB communications may be found under >Files >[Supplementary Information](#). The file is titled "IcomUSBCodecInstructions 2011-10-2.pdf"

8. Kenwood

8.1. General Kenwood information

- All models are supported
 - Newer models connect directly via a serial port cable or USB port. The use of the USB port requires a Kenwood driver be installed.
 - Older models need the Kenwood IF-10 and/or the IF-232C interface (or compatible). Please check the radio's manual.
 - Almost any of the earlier generation Kenwood radios need some sort of level conversion, and at least some also come without the necessary chip set. Radios like the TS-940S, TS-440S, TS-811, TS-711 need both a chip and a level converter.
 - PIEXX (www.piexx.com) makes a combined level converter and chip set replacement for the TS-940, as well as a complete replacement microprocessor for the TS-930 to provide communications.

- Hardware handshaking is mostly being used. This means that DTR= Always on or handshake and RTS = Always on or handshake.
 - Unless you make up a special loop back cable for it so you can use DTR and RTS for CW and PTT.
- The stock Kenwood interfaces (IF-232 for the older -x40 and -x50 series transceivers) and a bare RS-232 cable for the more recent TS-480/570/870/2000 require handshake. Except for the TS-570. the solution is to install a jumper between CTS/RTS pins at the RS-232 input of the Kenwood interface (in the case of the -40 and -50 transceivers) or transceiver (TS-480/870/2000). The TS-570 can lock-up if RTS is connected to CTS and requires RTS=always high to be reliable.
- Using the jumper ("over-ride hardware handshaking") will free RTS for PTT in addition to DTR for CW. The alternative to over-riding the hardware flow control is to set RTS=Always On and use DTR for PTT or CW as necessary (DTR is not connected in the radio/interface).
- RX/TX information from the radio is ignored while sending is in progress to avoid glitches in sending.
- Typical Kenwood radio defaults:
 - Speed: 9600 Baud; Parity: N ;Databits: 8; **Stopbits: 2** and "hardware handshaking" (RTS and DTR set to "Handshake"). It is recommended by the developers to use a baud rate above 9600 baud if possible. The radio menu and the program setup must be changed together.
- When setting split both VFOs are forced in the same mode.
- Assigning these basic example macros to Function Keys will allow you to play and stop the internal DVK (voice keyer) on radio #1. Other macro strings can be inserted to playback on radio #2 or both radios. See the Macros section of the manual.
 - Message1 = {CAT1ASC PB1;}
 - Message2 = {CAT1ASC PB2;}
 - Message3 = {CAT1ASC PB3;}
 - Stop Playback = {CAT1ASC PB0;}
 - The TS-590 DVK stop command is sent to the radio when the ESC key is pressed.
- The Kenwood KY command set (CW via CAT control) is not support due to the limitations. A COM, LPT, or WinKey is required to send CW.

8.2. TS-480

- Select: Kenwood. Note that handshaking options may vary - check your manual
- "AFSK" via the data jack with software PTT is supported. Check the "Digital Modes Acc Jack Radio Command PTT" and the "Software PTT Via Radio Command - Digital" in the radio COM port setup window.

8.3. TS-570

- Select: Kenwood
- When using the ACC2 port on the back, you must send both the audio signal and the PTT signal to the ACC jack.
- You can't use the normal PTT connection from the MIC jack if you are inputting audio into the ACC jack.
- SO2V: 9600,N,8,1,handshake,handshake,radio/VFO=1

8.4. TS-590

- Select: Kenwood
- Follow the Owners Manual for port speed, parity, number of databits, and stopbits
- Make sure the COM port speed set in N1MM Logger is the same as the speed in TS-590 menu item 62. 57600 bps is recommended. After changing the speed in menu item 62, you must power off the TS-590 AND the 12 volt supply powering the 590. Make sure the power supply has completely discharged before turning the power supply and 590 back on.
- When using the TS-590S radio codec as a sound card for a DVK, the live microphone has priority over the codec. This means that if live audio is being sent from the microphone, a .wav file cannot be sent over the codec at the same time. Starting of the .wav file will be blocked, even if the microphone VOX drops shortly thereafter. So, if you're running, and using the microphone to say callsigns, but F2 to send the exchange, you have to wait until the VOX drops before pressing F2.
- When using the ACC2 radio jack, there are three PTT options. PTT for digital modes (pin 9), PTT for none digital modes (pin 11), and software PTT (PTT via radio command by mode). The ACC2 pin 13 PTT is exactly the same as the Remote connector pin 3 PTT. If you use Remote connector pin 3 PTT while using the internal radio codec, there will be no RF output. To use the ACC2 for digital modes with software PTT, check "Digital Modes Acc Jack Radio Command PTT" and the "Software PTT Via Radio Command - Digital" in the setup window of the COM port used for radio control.
- ARCP-590 or ARUA-10 are not needed when using N1MM Logger with the TS-590.
- Detailed instructions for setting up USB communications with this radio may be found under >Files >[Supplementary Information](#). The file is titled "KenwoodTS-590SCodec 2011-04-02.pdf".

8.5. TS-850

- Select: Kenwood
- Turn off AI on init
- Speed: 4800 Baud; Parity: N ;Databits: 8; Stopbits: 2 (!)
- Check out the possible communications issue below with this radio.

8.6. TS-870

- Reportedly works well; further information on setup would be welcome

8.7. TS-950sdx

- Select: Kenwood
- Some (older) TS-950sdx radios drop power when polled by a logging program. It's pretty obvious on either CW or SSB.
 - The problem is not the program but the ROM firmware chip. The big one on the digital board of the 950sdx.
 - Just replace the chip, the problem should go away. Costs about \$27.00 - and very easy to install (about 10 minutes)
 - Order a battery if you haven't replaced it already - it's right next to the chip on the same board....

- Speed: 4800 Baud; Parity: N ;Databits: 8; Stopbits: 2 (!)
- Check out the possible communications issue below with this radio.

8.8. TS-50, TS-140, TS-440, TS-680,TS-711,TS-790,TS-811,TS-940

- The radio firmware revision of some of these radios may require the use of Kenwood-Slow rather than Kenwood.

8.9. TS-2000

- Use the radio selection TS-2000. It was added to allow control of RX antenna input.
- Use the highest baud rate possible, something above 9600 baud. The window selections should be No Parity, 8 Databits, **2** Stopbits, DTR = Handshake, and RTS = Handshake. The radio default baud rate can be changed with radio menu 56. Since hardware hand shaking is used by the TS-2000, the serial cable needs to contain wires for the hardware flow control pins.
- Do not use the radio function called "auto-mode". This function automatically changes the radio mode and changes the radio mode set by N1MM logger.
- Radio NB: This may produce AFSK RTTY (LSB) problems when changing between the higher (USB) and lower (LSB) bands.
- Do not use the radio in memory mode, use VFO mode. The program will not function when in memory mode with the program.
- The radio control works for frequencies above 6 meters.

8.10. N1MM logger loses communication with the radio (TS-850, TS-950 etc.)

- This problem is based in the radio's firmware. Some Kenwood radios are not capable of communicating with N1MM Logger while the VFO knob is being turned. If you turn the VFO knob smoothly and continuously, no matter how slowly, the radio will not respond to radio polls and the link will time out. For these radios there are two choices, pause when tuning the VFO so the radio will answer the program polling requests or increase the 'transceiver timeout time'. The transceiver timeout time is set by right-clicking in the Bandmap window. This is a radio firmware limitation, not a software issue. Using Kenwood-Slow will **not** solve this firmware limitation.

9. TenTec

9.1. General TenTec information

- The models below are supported, other models are not supported.

9.2. ARGONAUT V

- Use the Argonaut radio selection.

9.3. ARGONAUT VI

- Use the Eagle radio selection. The Argonaut V and Argonaut VI radio commands are different.
- This radio is NOT capable of SO2V operation. Select SO1V or SO2R program operation.
- The radio firmware requires a 200ms delay after every Set-type command. Users may notice this delay when the program is setting the frequency, mode, or split.

9.4. JUPITER

- Uses 1 stopbit and DTR and RTS 'Always on'. Do NOT check the CW check box on the port setup screen for this com port.

9.5. OMNI-VI

- The Omni VI+ the "Cde" item under menu 2 should be set to "off". Otherwise there will be collisions between the data sent from the rig when N1MM polls for data and the data that is being continuously sent by the radio which will cause erratic behavior.
- In the COM port setup window for the radio, the "Icom Code" box should be set to 4. This radio uses the Icom protocol for radio communications.

9.6. OMNI-VII

- The Omni-VII does not support antenna switching in "radio" mode. It is only possible in "remote" mode. So owners of the Omni-VII can not use the antenna switch macros.
- Alt+F10 (exchange VFO) and CW-Reverse operation supported
- The Omni-VII can not receive on VFOB.

9.7. Orion

- Uses default 56000 Baud and 1 stopbit and hardware handshaking; From Version 11.10.02 forward, handshaking requires that CTS is connected per the Orion manual.
- Firmware version 1.363 or greater needed.
- Note that the Orion does not support PTT on CW via computer command. This does work on SSB, but on CW, you need to set a parallel or serial port to assert PTT for that radio. Then use a cable from that adapter to pin three (PTT) of the aux port on the Orion. This is the black RCA Phono connector on the aux cable. By use of a Y connector, you can parallel your footswitch and this CW PTT cable.
- When using PTT and CW lines off a serial or parallel port. Be sure to go into the Orion CW menu and set "PTT in CW as" to the value "Mox".
- Defaults bandwidths: CW: 300/800; SSB: 2000/2800; RTTY 250/400
- CW on main receiver is LCW.
- Supports Digital Voice Keying (DVK) via the AUX port. Audio should be fed to the AUX port and NOT the microphone.
 - When no DVK is specified the front microphone gain will normally set to 0
 - Microkeyer users: check out the Supported Hardware chapter regarding muting of the ORION microphone audio input.
 - When a DVK is specified for that radio the microphone gain will not change (mostly fed to the front microphone).
- When up/down pressed, turn on RIT if in S&P, turn off RIT if in running mode.
- Clear RIT by setting to 1 Hz not 0. Avoids turning off RIT.
- Narrow SSB bandwidth set to 1990 Hz to force the use of 2.4 kHz filter in auto mode.
- RIT can be changed using the up/down keys if RIT on. Note that you must turn on RIT from within the program!
- Swap VFOs using Alt+F10. This will replace the contents of memories 199 and 200
- Example Setup FSK/CW/SSB
 - In FSK or SSB mode the program uses the PTT input to key the rig.
 - In CW mode the program uses the PTT as the CW key.
 - Digital setup and MMTTY.

- N1MM Config / Config Ports / Hardware Tab.
 - Set the CW menu choice for the interface com port to DTR (Pin 4).
 - MMTTY Setup / Setup MMTTY / TX Tab / Radio command button.
 - Checked the PTT button under DTR/RTS.
 - Interface information
 - LINE OUT (74) is fixed level output (RCA connector)
 - Should be fed to LINE IN on the soundcard.
 - Yellow phono plug on Pin 4 of the AUX I/O cable assembly
 - NB this is a combined output for both receivers, use the AUX I/O port for separated outputs (pin 4 and 6)
 - AUX I/O port (80): AUX IN (pin 1) for transmit audio from the soundcard
 - Should be fed to LINE OUT on the Soundcard.
 - The AUX gain can be set under the SSB menu
 - Set the AUX gain to 65 and use the computer audio setting to drive the rig to 100 watts for RTTY.
 - AUX port: PTT (pin 3)
 - A transistor switch is needed from a serial or parallel port.
 - Works fine for digital modes but also for recording and the voice keyer.
 - Switch between MIKE and AUX via the menu.

This is a summary of the SO2V features for the Orion.

- The stereo (grave accent - `) key toggles Sub audio On and Off. To leave SUB audio selected all the time, select **Configurer>Dual RX always on**
 - If you are using Diversity mode on the radio, toggling Sub off and on via ` or Alt+F12 will turn Diversity mode off
 - Logger preserves diversity reception unless RX Focus changes to vfoB at which time the subrx will switch to vfoB
- Subrx ON/OFF control by Logger
 - Independent of the state of Dual RX Always On:
 - changing RX Focus to vfoB turns the subrx ON
 - Ctrl+Shift+Up/Dn does not change the state of the subrx
 - Alt+F12 toggles subrx ON/OFF if RX Focus is on vfoA (action disabled if RX Focus on vfoB)
 - Dual RX Always On checked:
 - clicking any vfo bandmap/avail. window spot or Ctrl+Up/Dn turns the subrx ON
 - changing RX Focus turns the subrx ON
 - if dual rx always on was unchecked and the user checks it, subrx is turned ON
 - Dual RX Always On unchecked:
 - If the TX & RX Focus is on VFOB and the RX Focus changes to VFOA (\ keystroke), the subrx stays ON
 - If the TX & RX Focus is initially on VFOB and then RX & TX Focus is on VFOA (PAUSE, CTRL+Left or vfoA Bandmap/Available window spot click), the subrx is turned OFF
 - if dual rx always on was checked and the user unchecks it, subrx is turned OFF
- Ctrl+Alt+D command action:
 - If "Dual RX always on" is ON and the Sub RX is ON, turn "Dual RX Always On" to OFF and leave the Sub RX ON
 - If "Dual RX always on" is ON and the Sub RX is OFF, turn "Dual RX Always On" to OFF and leave the Sub RX OFF

- If "Dual RX always on" is OFF and the Sub RX is ON, turn "Dual RX Always On" to ON and leave the Sub RX ON
- If "Dual RX always on" is OFF and the Sub RX is OFF, turn both ON
- Alt+F12 command action:
 - If the subrx is OFF - check "Dual RX always on" and turn the subrx ON
 - If the subrx is ON - uncheck "Dual RX always on" and turn the subrx OFF unless RX Focus is on vfoB

9.8. Eagle

- This radio is NOT capable of SO2V operation. Select SO1V or SO2R program operation.
- The radio firmware requires a 200ms delay after every Set-type command. Users may notice this delay when the program is setting the frequency, mode, or split.

10. Yaesu

10.1. General Yaesu information

- The models below are supported, other models are not supported.
- Required interfaces
 - Newer models connect directly via a serial port cable.
 - Older models need the Yaesu FIF-232C CAT interface (or compatible).
- Software handshaking is being used for all models.
- Yaesu uses by default:
 - Speed: 4800 Baud Parity: N Databits: 8 Stopbits: 2

10.2. FT-80C

- It has been reported that this radio will not transmit key CW or MIC audio while it is sending the radio polling data to the computer. The radio polling string is fixed by the radio firmware and it requires over 800ms to send the data to the computer at 4800 baud. This radio should only be used without radio control. This operation just isn't practical for contesting.

10.3. FT-100(D)

- The FT-100D has an internal jumper for either CAT/TUNER or LINEAR. This should be set for CAT/TUNER.
- Configure the radio as FT-100, 4800, N, 8, 2, Handshake, Tx=1, DTR=Always on or off, RTS=Always on or off.
- Needs a standard FT-100 CAT cable (CT-62).

10.4. FT-736

- Not supported and probably never will be. It seems that once the radio is controlled by CAT it can't be controlled by hand anymore.

10.5. FT-450

- When using a 3 wire cable (TX, RX and ground) set CAT RTS=disable on radio (default is enable). This cable does not have DTR or RTS connected. The radio settings CAT TOT should be set to 1000 and CAT RATE must match the program configuration. A three wire cable should also work with USB serial

adapters.

- There are other forms of the CATMacros for SO2R use but a basic form to play the internal radio voice memory 1 & 2 and stop the message are:
 - {CAT1ASC PB1;}
 - {CAT1ASC PB2;}
 - {CAT1ASC PB0;}
 - The DVK stop command is sent to the radio when the ESC key is pressed.

10.6. FT-747GX

- It has been reported that this radio will not transmit key CW or MIC audio while it is sending the radio polling data to the computer. The radio polling string is fixed by the radio firmware and it requires over 800ms to send the data to the computer at 4800 baud. This radio should only be used without radio control. This operation just isn't practical for contesting.

10.7. FT-757

- Select FT-757GXII as radio and disable the radio communications timeout via the bandmap menu option (set it to 0).
- The FT-757GX does NOT send anything to the computer and the radio mode can not be set by the program so the radio control functionality will be limited.

10.8. FT-757GXII

- Supported

10.9. FT-767 / FT-767GX

- There are no plans to support this radio.

10.10. FT-817

- 19200, N, 8, 1, Handshake, Handshake. FT-817 CI-V Baud "Hi". When using a USB/Serial adapter set DTR to 'Always on' and RTS 'Always off'.
- There are some limitations in the radio control provided by Yaesu.
 - The best way to understand what is possible is to take few minutes and review the available CAT Commands on page 72 of your operating manual.
 - VFO A/B : It is only possible to switch from one VFO to the other but there is no way to know by the program if the radio is on VFO A or VFO B.
 - Narrow CW Filter : There is no CAT Command to set Filters on the radios.

10.11. FT-840

- Supported

10.12. FT-847

- Split operation via the program is not functional due to Yaesu radio control limitations. Split needs to be set/cleared manually by the operator.

10.13. FT-857, FT-857D

- There has been a confirmed change in the radio firmware in the newer model FT-857 radios. This operational change removed the radio control VFOA/B selection indicator which has broken SO2V operation. This is a radio limitation, not a program limitation. The newer model FT-857 radios can only be used in SO1V or SO2R program modes. If you own an older model radio, SO2V operation will function when selecting the FT-897 radio in the program menu.

10.14. FT-890

- Supported

10.15. FT-897

- The radio control provided by Yaesu is limited. All operating modes (SO1V, SO2V, SO2R) are supported.
- **The PTT line in the DATA jack on the rear of the radio cannot be used for CW, because when it is asserted, the radio sends a continuous key-down tone. To actuate PTT from the program using RTS or DTR, the interface must be wired to the front-panel microphone jack's PTT pin.**

10.16. FT-897D

- The radio control provided by Yaesu is limited.
- If you are having problems with the SO2V radio control with a newer model FT-897D radio, this is likely caused by a change made to the radio firmware. The solution is to select the FT-857 radio model and use the SO1V or SO2R program modes. See the comment in the FT-857 text about the confirmed operational change in the radio. This is a radio limitation not a program limitation.
- **The PTT line in the DATA jack on the rear of the radio cannot be used for CW, because when it is asserted, the radio sends a continuous key-down tone. To actuate PTT from the program using RTS or DTR, the interface must be wired to the front-panel microphone jack's PTT pin.**

10.17. FT-900

- Supported

10.18. FT-920

- The radio control provided by Yaesu does not include an indicator in the polling data to indicate which VFO is selected or active. If the user changes the VFO by pressing the radio buttons, the program can not detect this change. This is a radio limitation, not a program limitation. It is recommended to use this radio in SO1V or SO2R mode.

10.19. FT-950

- The radio menu CAT TOT should be set to 1000 or higher.
- The radio menu CAT RATE must match the program COM port baud rate. The suggested baud rate is 38400 (38400, N, 8, 2).
- When using a COM port cable that contains data and signaling wires, verify that the radio menu CAT RTS = ENABLE (default) and the program radio COM port RTS to Handshake or Always ON.
- When using a COM port cable with only three wires (TX, RX and ground) set CAT RTS = DISABLE on the radio menu and set the program radio COM port RTS to Always OFF.
- There are other forms of the CATMacros for SO2R use but a basic form to play the internal radio voice memories are:
 - {CAT1ASC PB0#;} (where # is a number 1 - 5 for message 1 - 5)

- {CAT1ASC PB00;} (stop)
 - The DVK stop command is sent to the radio when the ESC key is pressed.

10.20. FT-990

- FT-990 and early FT-1000 had a design problem in the CAT interface. It used an open emitter transistor on the serial out line. That worked fine for TTL HIGH (+5 V) but some TTL to RS232 interfaces did not have enough load to cause the output to go low ... the interface would "float" in the undefined logic state between .3 and 3.5 volts. The solution is to add a 1.5K Ohm resistor from "serial out" to ground. When using the ARRL handbook design the 1.5k resistor needs to be added between pin 1 of the 7417 (which is pin 2 of the DIN) to ground.
- The radio control provided by Yaesu does not include an indicator in the polling data to indicate which VFO is selected or active. If the user changes the VFO by pressing the radio buttons, the program can not detect this change. This is a radio limitation, not a program limitation. It is recommended to use this radio in SO1V or SO2R mode.

10.21. FT-1000(D)

- Cat control will not work with FT-1000D internal software version lower than v6....most older ft1000d's have version v5.8... you need an update!
- Older versions do have a CAT control problem. Check out the information with the FT-990 (above).
- If the bandmap/frequency is not updating, the radio probably is in Mem/Tune mode. Deselect using the VFO/MEM switch.
 - The program forces the radio at startup from Mem/Tune mode in VFO mode to avoid this problem.
 - For filter settings see below
- The stereo (grave accent - `) key toggles Sub on and off. It is identical to pressing the SUB radio button. To leave SUB on all the time, select **Configurer>Dual RX always on**
- Subrx ON/OFF control by Logger (SO2V mode)
 - Independent of the state of Dual RX Always On:
 - Changing RX Focus to VFOB turns the subrx ON
 - ` or Alt+F12 toggles subrx ON/OFF if RX Focus is on VFOA (action disabled if RX Focus on VFOB)
 - Dual RX Always On Checked:
 - Clicking any vfo bandmap/avail. window spot or Ctrl+Up/Dn turns the subrx ON
 - Changing RX Focus turns the subrx ON
 - If dual rx always on was unchecked and the user checks it, subrx is turned ON
 - Dual RX Always On Unchecked:
 - If the TX & RX Focus is on VFOB and the RX Focus changes to VFOA (` keystroke), the subrx stays ON
 - If the TX & RX Focus is initially on VFOB and then RX & TX Focus is on VFOA (PAUSE, CTRL+Left or VFOA Bandmap/Available window spot click), the subrx is turned OFF
 - If dual rx always on was checked and the user unchecks it, subrx is turned OFF
- Ctrl+Alt+D command action:
 - If "Dual RX always on" is ON and the Sub RX is ON, turn "Dual RX Always On" to OFF and leave the Sub RX ON
 - If "Dual RX always on" is ON and the Sub RX is OFF, turn "Dual RX Always On" to OFF and leave the Sub RX OFF
 - If "Dual RX always on" is OFF and the Sub RX is ON, turn "Dual RX Always On" to ON and leave the Sub RX ON

- If "Dual RX always on" is OFF and the Sub RX is OFF, turn both ON
- Alt+F12 action is similar to the stereo (`) key, but also affects "Dual RX Always On" state:
 - If the subrx is OFF - check "Dual RX always on" and turn the subrx ON
 - If the subrx is ON - uncheck "Dual RX always on" and turn the subrx OFF unless RX Focus is on VFOB

10.22. FT-1000MP (Mark-V)(Field) (Not for use with SteppIR antenna controller)

- The program can't send CW via the MP's serial cable. See the help for how to build a CW interface
- If the bandmap/frequency is not updating, the radio probably is in Mem/Tune mode. Deselect using the VFO/MEM switch.
 - The program forces the radio at startup from Mem/Tune mode in VFO mode to avoid this problem.
 - The indicator should show VFO.
- Use a straight serial cable
- 4800,N,8,2 and DTR and RTS set to "Always Off"
- A big issue with the FT-1000MP is that you cannot set the radio to split with VFO-B as the RX. Well, you can, but you cannot control whether you are listening dual, or just VFO-B from the computer. You can detect it, but not set it. The user will have to press the main RX button to turn off the main receiver when split from VFO-B. Note that Alt+F10 will swap VFO A & B frequencies. That is very useful in this case.
- Optimum configuration for those who wish to operate AFSK and/or PSK. There will be an 85 Hz display offset between RTTY and PSK but that is minor.
- PKT is LSB with the frequency display shifted by 2.125 KHz (or other user defined offset at menu 6-4). It also selects audio input from the PACKET jack on the rear of the radio, disables the processor and mutes the microphone. Finally, it offsets the filters so the narrow filters are properly placed (centered as specified in menu 6-5).
- Using QMB memories
 - When doing a QMB RCLI press M>A until it transfers the QMB frequency to the VFO. After this it should work as normal, but you lose the original frequency that was in VFO-A.
 - For filter settings see below
- The stereo (grave accent - `) key toggles Sub on and off. It is identical to pressing the SUB radio button. To leave SUB on all the time, select **Configurer>Dual RX always on**
- Subrx ON/OFF control by Logger (SO2V mode)
 - Independent of the state of Dual RX Always On:
 - Changing RX Focus to VFOB turns the subrx ON
 - The ` key or Alt+F12 toggles subrx ON/OFF if RX Focus is on VFOA (action disabled if RX Focus on VFOB)
 - Dual RX Always On Checked:
 - Clicking any vfo bandmap/avail. window spot or Ctrl+Up/Dn turns the subrx ON
 - Changing RX Focus turns the subrx ON
 - If dual rx always on was unchecked and the user checks it, subrx is turned ON
 - Dual RX Always On Unchecked:
 - If the TX & RX Focus is on VFOB and the RX Focus changes to VFOA (\ keystroke), the subrx stays ON
 - If the TX & RX Focus is initially on VFOB and then RX & TX Focus is on VFOA (PAUSE, CTRL+Left or VFOA Bandmap/Available window spot click), the subrx is turned OFF
 - If dual rx always on was checked and the user unchecks it, subrx is turned OFF

- Ctrl+Alt+D command action:
 - If "Dual RX always on" is ON and the Sub RX is ON, turn "Dual RX Always On" to OFF and leave the Sub RX ON
 - If "Dual RX always on" is ON and the Sub RX is OFF, turn "Dual RX Always On" to OFF and leave the Sub RX OFF
 - If "Dual RX always on" is OFF and the Sub RX is ON, turn "Dual RX Always On" to ON and leave the Sub RX ON
 - If "Dual RX always on" is OFF and the Sub RX is OFF, turn both ON
- Alt+F12 action is similar to the stereo (`) key, but also affects "Dual RX Always On" state:
 - If the subrx is OFF - check "Dual RX always on" and turn the subrx ON
 - If the subrx is ON - uncheck "Dual RX always on" and turn the subrx OFF unless RX Focus is on VFOB

10.23. FT-1000MPSteppIR

- Select this FT1000mp when using a SteppIR antenna.
- This selection is optimized for the combination of an FT1000MP and the SteppIR antenna. It sends radio commands one at a time, paced with the command delay. Otherwise, it is identical to the FT-1000MP

10.24. FT-1000 series, FT-990 and FT-920 Setting filters

Simply right-click on the bandmap and you will get a menu which includes "Set transceiver filter codes" ... there are six submenus: CW Wide, CW Narrow, SSB Wide, SSB Narrow, Digi Wide and Digi Narrow. In my case the commands for SO2V are:

- The settings below will work for the FT-1000, FT-1000D, the FT-1000MP, the FT-1000MP/MKV and the FT-1000MP/MKV Field (or any combination of two FT-1000 "family" of rigs in SO2R).

BandWidth	VFO-A (main)	VFO-B (sub)	Filter	Remarks
2.4 kHz	0 0 0 0 140	0 0 0 128 140	SSB Wide or Digi Wide	—
2.0 KHz	0 0 0 1 140	0 0 0 129 140	SSB Narrow or Digi Narrow	will use 2.4 kHz on VFO-B
500 Hz	0 0 0 2 140	0 0 0 130 140	CW Wide or Digi Wide	—
250 Hz	0 0 0 3 140	0 0 0 131 140	CW Narrow or Digi Narrow	will use 500 Hz on VFO-B
6.0 KHz (thru)	0 0 0 4 140	0 0 0 132 140	—	--

- The VFO-B (sub) only supports bandwidths of 6.0 KHz, 2.4 KHz and 500 Hz.
- For SO2R (two rigs) configure the two bandmaps the same.
- Some notes:
 - "Duplicates default filter settings" is appropriate to the FT-1000 MK/V and Field only. The FT-1000/D/MP permit more flexible filter selection.
 - The FT-920 does not support 2.0 KHz and 250 Hz filters ... it might make more sense to revise CW and Digi settings for 2.4/500 Hz (0 0 0 0 140 and 0 0 0 2 140) filters.
 - Even though the FT-920 lacks the second receiver, the FT-920 permits selecting different bandwidths for each VFO. The CAT commands are the same as those for the second receiver in the "1000" series: 0 0 0 130 140 selects 500 Hz and 0 0 0 128 140 selects 2.4 KHz.
 - The FT-990 commands are the same as those for VFO A in the "1000" series of radios.

10.25. FT-2000

- A user has reported communications issues when using firmware version 11.54 1.55. It's unclear if a CAT menu has been changed or added. The user reported no issues when using firmware 11.53 1.50.
- The radio menu CAT TOT should be set to 1000 or higher.
- The radio menu CAT RATE must match the program COM port baud rate. The suggested baud rate is 38400 (38400, N, 8, 2).
- When using a COM port cable that contains data and signaling wires, verify that the radio menu CAT RTS = ENABLE (default) and the program radio COM port RTS to Handshake or Always ON.
- When using a COM port cable with only three wires (TX, RX and ground) set CAT RTS = DISABLE and the program radio COM port RTS to Always OFF.
- There are other forms of the CATMacros for SO2R use but a basic form to play the internal radio voice memories are:
 - {CAT1ASC PB0#;} (where # is a number 1 - 5 for message 1 - 5)
 - {CAT1ASC PB00;} (stop)
 - The DVK stop command is sent to the radio when the ESC key is pressed.
- The stereo (grave accent - `) key toggles Sub RX On and Off. To leave SUB On all the time, select **Configurer>Dual RX Always On**
- Subrx ON/OFF control
 - Independent of the state of Dual RX Always On:
 - Changing RX Focus to VFOB with \, PAUSE, or CTRL+RightArrow turns the subrx ON
 - Ctrl+Shift+Up/Dn used to store the next Bandmap spot in the Sub does not change the state of the subrx
 - The ` key or Alt+F12 toggles subrx ON/OFF when RX Focus is on VFOA. This action is disabled if RX Focus on VFOB.
 - Dual RX Always On checked:
 - Clicking any VFO, Bandmap, or Available window spot or Ctrl+Up/Dn turns the subrx ON
 - Changing RX Focus with \ turns the subrx ON
 - If Dual RX Always On was unchecked and the user checks it, subrx is turned ON
 - Dual RX Always On unchecked:
 - If the TX & RX Focus is on VFOB and the RX Focus changes to VFOA with the \ keystroke, the subrx stays ON
 - If the TX & RX Focus is initially on VFOB and then RX & TX Focus is on VFOA (PAUSE, CTRL+Left or VFOA Bandmap/Available window spot click), the subrx is turned OFF
 - If Dual RX Always On was checked and the user unchecks it, subrx is turned OFF
- Ctrl+Alt+D command action:
 - If "Dual RX always on" is ON and the Sub RX is ON, turn "Dual RX Always On" to OFF and leave the Sub RX ON
 - If "Dual RX always on" is ON and the Sub RX is OFF, turn "Dual RX Always On" to OFF and leave the Sub RX OFF
 - If "Dual RX always on" is OFF and the Sub RX is ON, turn "Dual RX Always On" to ON and leave the Sub RX ON
 - If "Dual RX always on" is OFF and the Sub RX is OFF, turn both ON
- Alt+F12 action is similar to the stereo (`) key, but also affects "Dual RX Always On" state:
 - If the subrx is OFF - check "Dual RX always on" and turn the subrx ON
 - If the subrx is ON - uncheck "Dual RX always on" and turn the subrx OFF unless RX Focus is on VFOB
- Also see the Advanced SO2V for Radios with Separate Sub-Receivers? section of this manual.

10.26. FTDX-1200

- The N1MM Logger developers are busy with the program re-write in VB.NET. Until changes can be made to the program, use the FTDX-3000 radio selection. Follow the menu instructions for that radio. Report any radio control issues to K3CT.

10.27. FTDX-3000

- The radio menu settings:
 - CAT TOT should be set to 1000 or higher.
 - CAT SELECT must be set to USB if you wish to use the internal USB port for CAT control.
 - PC KEYING must be set to DTR to send CW with a COM port or with the USB port on the radio.
 - CAT RATE must match the program COM port baud rate. The suggested baud rate is 38400 (38400, N, 8, 2).
- When using a COM port cable that contains data and signaling wires, verify that the radio menu CAT RTS = ENABLE (default) and the program radio COM port RTS to Handshake or Always ON. When using a COM port cable with only three wires (TX, RX and ground) set CAT RTS = DISABLE on the radio menu and set the program radio COM port RTS to Always OFF.
- There are other forms of the CATMacros for SO2R use but a basic form to play the internal radio voice memories are:
 - {CAT1ASC PB0#;} (where # is a number 1 - 5 for message 1 - 5)
 - {CAT1ASC PB00;} (stop)
 - The DVK stop command is sent to the radio when the ESC key is pressed.
- The USB driver for the FTDX-3000 will install two virtual serial ports. One, called the "enhanced COM port", can be used for CAT control, while the other, the "standard COM port", can be used for PTT, CW or FSK keying

10.28. FTDX-5000

- The radio menu CAT TOT should be set to 1000 or higher.
- The radio menu CAT RATE must match the program COM port baud rate. The suggested baud rate is 38400 (38400, N, 8, 2).
- When using a COM port cable that contains data and signaling wires, verify that the radio menu CAT RTS = ENABLE (default) and the program radio COM port RTS to Handshake or Always ON.
- When using a COM port cable with only three wires (TX, RX and ground) set CAT RTS = DISABLE and the program radio COM port RTS to Always OFF.
- There are other forms of the CATMacros for SO2R use but a basic form to play the internal radio voice memories are:
 - {CAT1ASC PB0#;} (where # is a number 1 - 5 for message 1 - 5)
 - {CAT1ASC PB00;} (stop)
 - The DVK stop command is sent to the radio when the ESC key is pressed.
- The stereo (grave accent - `) key toggles Sub RX On and Off. To leave SUB On all the time, select **Configurer>Dual RX Always On**
- Subrx ON/OFF control
 - Independent of the state of Dual RX Always On:
 - Changing RX Focus to VFOB with \, PAUSE, or CTRL+RightArrow turns the subrx ON
 - Ctrl+Shift+Up/Dn used to store the next Bandmap spot in the Sub does not change the state of the subrx
 - The ` key or Alt+F12 toggles subrx ON/OFF when RX Focus is on VFOA. This action is disabled if RX Focus on VFOB.

- Dual RX Always On checked:
 - Clicking any VFO, Bandmap, or Available window spot or Ctrl+Up/Dn turns the subrx ON
 - Changing RX Focus with \ turns the subrx ON
 - If Dual RX Always On was unchecked and the user checks it, subrx is turned ON
- Dual RX Always On unchecked:
 - If the TX & RX Focus is on VFOB and the RX Focus changes to VFOA with the \ keystroke, the subrx stays ON
 - If the TX & RX Focus is initially on VFOB and then RX & TX Focus is on VFOA (PAUSE, CTRL+Left or VFOA Bandmap/Available window spot click), the subrx is turned OFF
 - If Dual RX Always On was checked and the user unchecks it, subrx is turned OFF
- Ctrl+Alt+D command action:
 - If "Dual RX always on" is ON and the Sub RX is ON, turn "Dual RX Always On" to OFF and leave the Sub RX ON
 - If "Dual RX always on" is ON and the Sub RX is OFF, turn "Dual RX Always On" to OFF and leave the Sub RX OFF
 - If "Dual RX always on" is OFF and the Sub RX is ON, turn "Dual RX Always On" to ON and leave the Sub RX ON
 - If "Dual RX always on" is OFF and the Sub RX is OFF, turn both ON
- Alt+F12 action is similar to the stereo (`) key, but also affects "Dual RX Always On" state:
 - If the subrx is OFF - check "Dual RX always on" and turn the subrx ON
 - If the subrx is ON - uncheck "Dual RX always on" and turn the subrx OFF unless RX Focus is on VFOB
- Also see the Advanced SO2V for Radios with Separate Sub-Receivers? section of this manual.

10.29. FTDX-9000

- The radio menu CAT TOT should be set to 1000 or higher.
- The radio menu CAT RATE must match the program COM port baud rate. The suggested baud rate is 38400 (38400, N, 8, 2).
- When using a COM port cable that contains data and signaling wires, verify that the radio menu CAT RTS = ENABLE (default) and the program radio COM port RTS to Handshake or Always ON.
- When using a COM port cable with only three wires (TX, RX and ground) set CAT RTS = DISABLE and the program radio COM port RTS to Always OFF.
- There are other forms of the CATMacros for SO2R use but a basic form to play the internal radio voice memories are:
 - {CAT1ASC PB#;} (where # is a number 1 - 5 for message 1 - 5)
 - {CAT1ASC PB0;} (stop)
 - The DVK stop command is sent to the radio when the ESC key is pressed.
- The stereo (grave accent - `) key toggles Sub RX On and Off. To leave SUB On all the time, select **Configurer>Dual RX Always On**
- Subrx ON/OFF control
 - Independent of the state of Dual RX Always On:
 - Changing RX Focus to VFOB with \, PAUSE, or CTRL+RightArrow turns the subrx ON
 - Ctrl+Shift+Up/Dn used to store the next Bandmap spot in the Sub does not change the state of the subrx
 - The ` key or Alt+F12 toggles subrx ON/OFF when RX Focus is on VFOA. This action is disabled if RX Focus on VFOB.
 - Dual RX Always On checked:
 - Clicking any VFO, Bandmap, or Available window spot or Ctrl+Up/Dn turns the subrx ON

- Changing RX Focus with \ turns the subrx ON
 - If Dual RX Always On was unchecked and the user checks it, subrx is turned ON
- Dual RX Always On unchecked:
 - If the TX & RX Focus is on VFOB and the RX Focus changes to VFOA with the \ keystroke, the subrx stays ON
 - If the TX & RX Focus is initially on VFOB and then RX & TX Focus is on VFOA (PAUSE, CTRL+Left or VFOA Bandmap/Available window spot click), the subrx is turned OFF
 - If Dual RX Always On was checked and the user unchecks it, subrx is turned OFF
- Ctrl+Alt+D command action:
 - If "Dual RX always on" is ON and the Sub RX is ON, turn "Dual RX Always On" to OFF and leave the Sub RX ON
 - If "Dual RX always on" is ON and the Sub RX is OFF, turn "Dual RX Always On" to OFF and leave the Sub RX OFF
 - If "Dual RX always on" is OFF and the Sub RX is ON, turn "Dual RX Always On" to ON and leave the Sub RX ON
 - If "Dual RX always on" is OFF and the Sub RX is OFF, turn both ON
- Alt+F12 action is similar to the stereo (`) key, but also affects "Dual RX Always On" state:
 - If the subrx is OFF - check "Dual RX always on" and turn the subrx ON
 - If the subrx is ON - uncheck "Dual RX always on" and turn the subrx OFF unless RX Focus is on VFOB
- Also see the [Advanced SO2V for Radios with Separate Sub-Receivers?](#) section of this manual.

11. Unsupported Radios

- JRC JST-145 & JST-245 - These radios are unsupported because they lack commands to determine if the radio is in split, no means to set or clear split, the VFO can not be selected, and they lack an indicator to determine which VFO is active.

12. Other Models

- Submit a Feature Request along with a URL for the developers information for the computer interface. Radios with limited radio control or very long data exchanges are not well suited for this software application.

Last Modification: 16 January 2015 07:06:28 CST by VE3KI.