ADX-MINI CAT Firmware Update

Document Revision 1.0

April 12, 2023

Acknowledgement: The ADX-MINI is derived from the ADX, and ADX-UNO projects by WB2CBA. More info about the ADX project can be found here: https://antrak.org.tr/blog/adx-arduino-digital-transceiver

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Introduction

CAT control is supported by the ADX-MINI firmware starting with firmware version 1.04b. A small subset of TS2000 CAT command is implemented. The main purpose of CAT support for the ADX-MINI is to update the VFO frequency when band or mode changes are made in the WSJT-X control window.

Implemented Commands

The following CAT commands are implemented in the ADX-MINI firmware.

Cmd	Type	Operation	Operation
AI	R	Auto-Information	Returns 0
FA	R/W	Frequency	Sets and reads back ADX frequency
IF	R	Radio Status	Returns ADX frequency and TX status
ID	R	Radio ID	Returns 019 = Kenwood TS2000
MD	R	Radio Mode	Returns 2
PS	R	Power-on status	Returns 1
TX	R	Transmit	Returns 0 and sets ADX TX LED
RX	R	Receive	Returns 0 and clears ADX TX LED

Note: the TX and RX commands do not control the transmit. Transmit is always controlled by VOX whether in normal mode or CAT mode

Enabling CAT

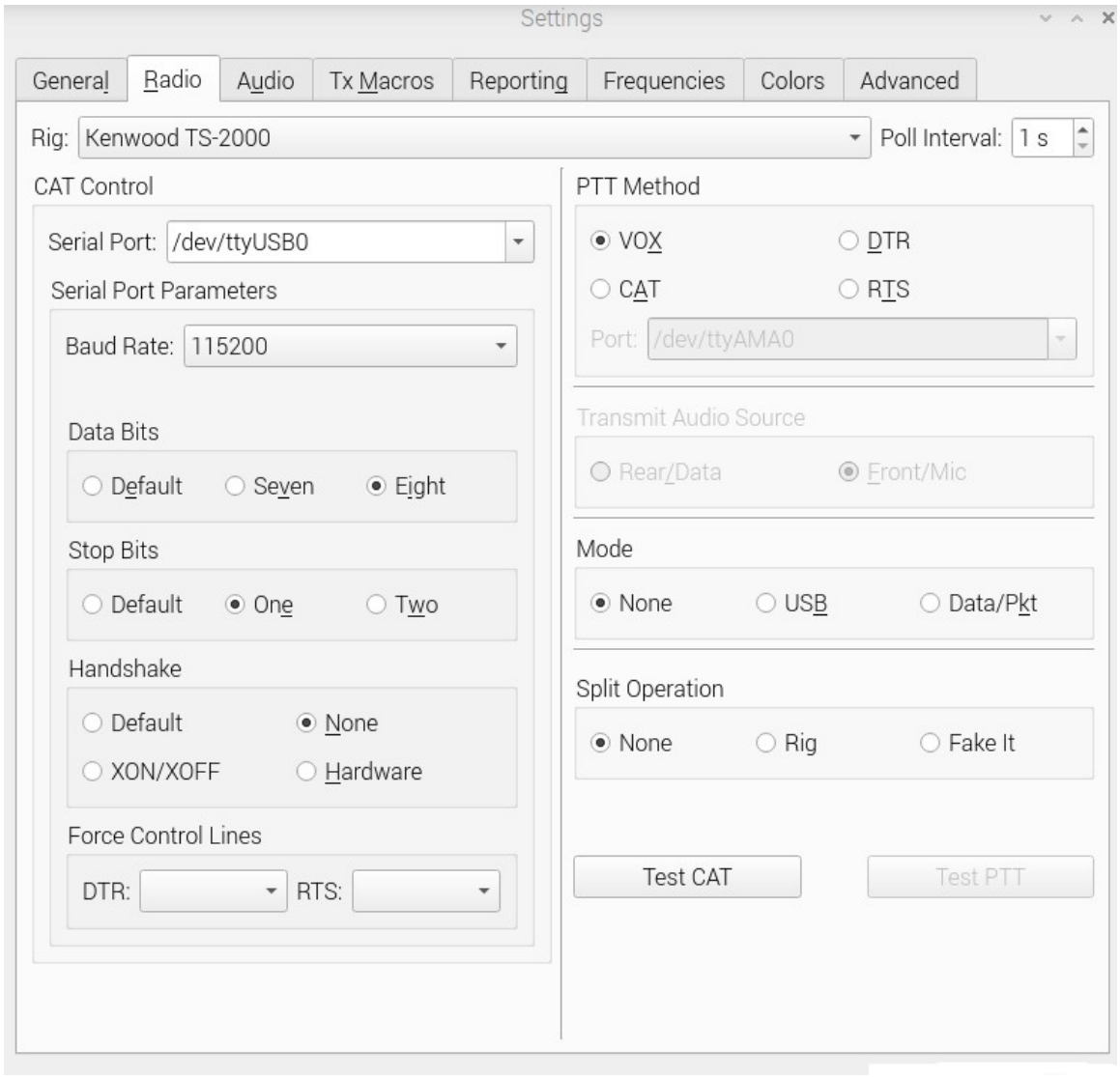
When the ADX-MINI is first powered up CAT is not enabled. CAT can be enabled by pressing and holding the “>” button until the LEDs light up sequentially in a right to left Cylon sequence.

Disabling CAT

When the ADX-MINI is in CAT enabled mode, CAT can be disabled by pressing and holding the “>” button until the LEDs light up sequentially in a left to right Cylon sequence.

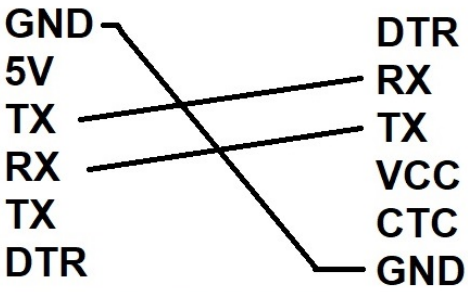
Appendix

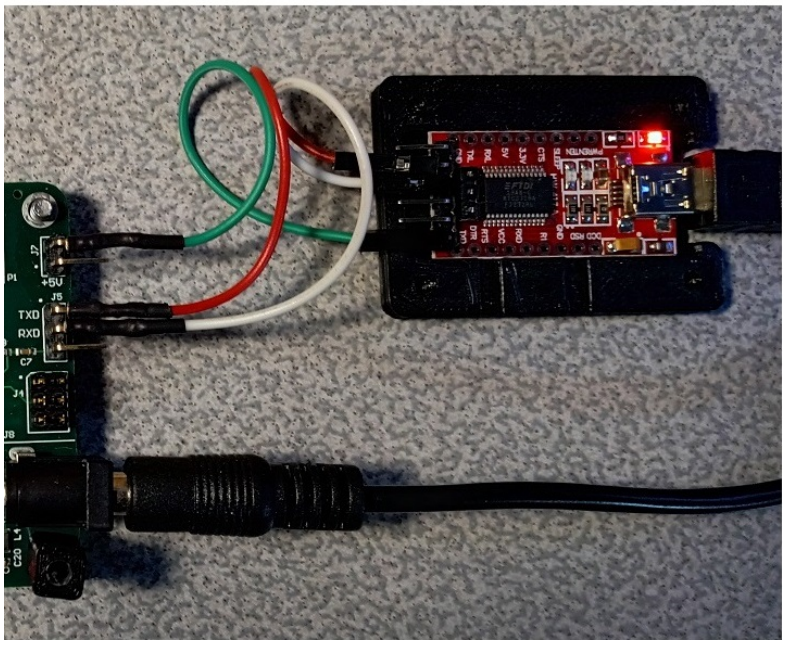
WSJT-X Settings



USB Serial Port Connection

Depending on which version of ADX-MINI that you have you may need to connect a USB-to-serial converter, like this one





If you have a new ADX-MINI (V1.5) then the USB-to-serial converted is onboard.

Note: Only 3 wires are needed (TX, RX, and GND). Do NOT connect the adapter 5V to the ADX-MINI 5V.

Testing the Serial Port

To test the serial port you first need to determine which serial port has been assigned. This will differ depending on whether you are using Window or Linux. I'm not going to give a tutorial here. YouTube is your friend.

Once you have determine the serial port, then you can use a terminal program like PuTTY to verify that you are connected and able to communicate with the ADX-MINI. PuTTY is available on either Windows or Linux. Here is a PuTTY screen shot showing CAT command communication: