ADX Pocket FT8 Tune Screen Note: March 2023

This note is written to explain how to use the Tune Screen to calibrate and use the ADX board designed to directly plug into the Ardunio Connectors on an STM32F476 Disco Board.

The board is designed to use plugin filters which Barb designed for the ADX series of transceivers. I really think this the way to go instead of build a separate multi band filter board.

However, there is some **danger** in using this design. Sometimes if you do not set the band (frequency) to match the installed ADX filter board you may destroy one or more BS170 FET's. Don't ask how we figured this out.

To access the Tune Screen please touch the Tune button at the bottom of the display.

The firmware is designed so that when the Tune Screen is presented the unit is still in the Receive Mode. The user has to touch the Xmit button on the Tune Screen to place the unit in the Transmit Mode.

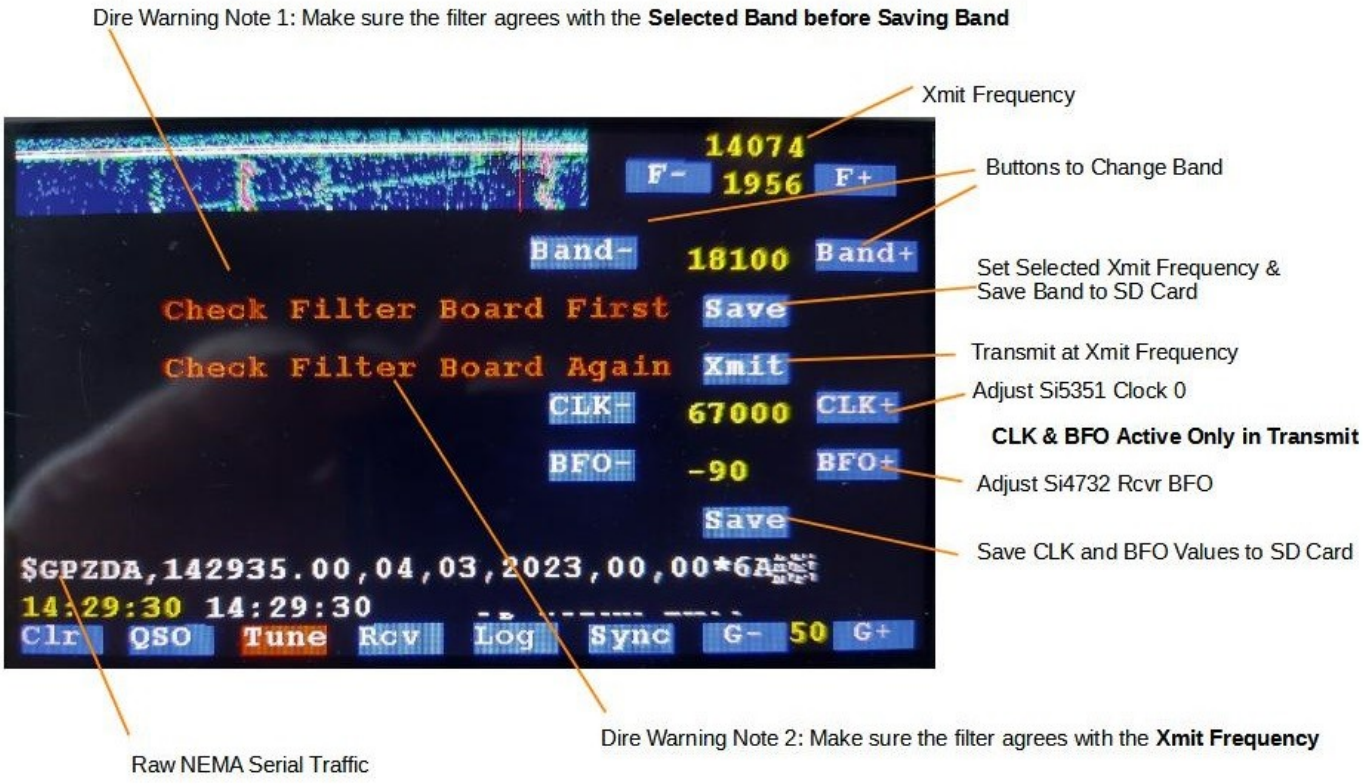
The user may change the Band by using the Band – and Band+ buttons. To actually change the frequency of operation touch the Save button shown below the selected frequency displayed between the Band buttons. **Please observe the Dire Warning Message Shown in Red to the left of the Save button.**

The user will want to use Clk and BFO buttons to adjust the calibration of the Si5351 clock and Si4732 BFO. In order to use these buttons place the unit in the Xmit mode. Please make sure that you have a well matched antenna or a dummy load attached to the SMA RF connector. To place the unit in the Xmit mode, touch the Xmit button after **Observing the second Dire Warning Message shown in Red to the left of the Xmit button.**

In addition, Jim and I have experienced the GPS Receiver operation to be somewhat balky. To aid in diagnosing the GPS behavior I have added to the Tune Screen the display of the raw NEMA Sentence data being fed into the firmware.

Shown below is a screen shot of the Tune Screen with hopefully explanatory notes.

To exit the Tune screen touch the RED Tune button.


Dire Warning Note 1: Make sure the filter agrees with the **Selected Band before Saving Band**
Xmit Frequency
14074
F-
1956
F+
Buttons to Change Band
Band-
18100
Band+
Set Selected Xmit Frequency &
Save Band to SD Card
Check Filter Board First
Save
Check Filter Board Again
Xmit
Transmit at Xmit Frequency
CLK-
67000
CLK+
Adjust Si5351 Clock 0
CLK & BFO Active Only in Transmit
BFO-
-90
BFO+
Adjust Si4732 Rcvr BFO
Save
Save CLK and BFO Values to SD Card
$GPZDA,142935.00,04,03,2023,00,00*6A
14:29:30 14:29:30
Clr
QSO
Tune
Rcv
Log
Sync
G-
50
G+
Raw NEMA Serial Traffic
Dire Warning Note 2: Make sure the filter agrees with the **Xmit Frequency**