Configure/Run

Testing is a two-phase operation:

- Test/Calibrate using tracker test program
- Configure/Run using tracker run program

This is Configure/Run.

See WSPR Tracker User Guide - Testing/Calibration before continuing.

Introduction

For this phase, you will be:

- Configuring the tracker with Calibration data acquired previously.
- Configuring the tracker with personal data.
- Setting tracker to run continuously.

Wire up tracker

Programming header
GND
VCC
Serial In
Serial Out

Set up fuses

However you normally do this.

Run testSerialRaw

The tracker test program isn't running yet, but start the program anyway.
You won't see any output at this point.

Upload Test Program

AppPicoTrackerWSPR1Config.run.2019-06-18.hex (from here)

Once started, you will see some text, a prompt to "ground to configure," and then an error.

```
Starting, TCXO Disabled
Ground to configure .....
No configure signal -- ERR: no prior config found
Bad Configuration
```

This is because the tracker needs configuration.

Plug a jumper into header A.
Restart the tracker.
When prompted to configure, touch the jumper to GND. (you have 5 seconds to do this)

Configure

Now you see this:

```
Starting, TCXO Disabled
Ground to configure ..
No prior config, defaulting

Commands:
done

Parameters: (set <param> <val>)
trackerId[4]            :
wsprCallsignId[2]       : 00
gpsLockTimeoutMs        : 150000            2:30
lhAltFtThreshold        : 10000
hAlt.wakeAndEvaluateMs  : 1800000          30:00
lAlt.wakeAndEvaluateMs  : 60000             1:00
lAlt.stickyMs           : 10800000       3:00:00
crystalCorrectionFactor : 0
systemClockOffsetMs     : 0
```

Commands:

Command	Meaning
set <param> <value>	Set a given parameter to a given value
done	Exit configuration mode, run like it's flying

Settings:

Setting	Values
trackerId	4 characters. Things like DM17. Note -- not transmitted.
wsprCallsignId	2 characters. 00 is testing only. Q2 is KD2KDD. Q4 is KN4IUD.
gpsLockTimeoutMs	How long to wait for a GPS lock before giving up and trying again later.
lhAltFtThreshold	Same as in APRS.
hAlt.wakeAndEvaluateMs	Same as in APRS.

lAlt.wakeAndEvaluateMs	Same as in APRS.
lAlt.stickyMs	Same as in APRS.
crystalCorrectionFactor	The crystalCorrectionFactor value from Testing/Calibration.
systemClockOffsetMs	The systemClockOffsetMs value from Testing/Calibration.

Each time you set a parameter, the complete set of values are saved and re-displayed.

```
...

set trackerId DM09
Setting trackerId to DM09

Saving

Parameters: (set <param> <val>)
trackerId[4]            : DM09
wsprCallsignId[2]       : 00
...
```

Run

When parameters are set as desired, type 'done' and the values are re-saved, and the tracker is now "Running."

```
...

done

Saving

Parameters: (set <param> <val>)
trackerId[4]            : DM09
wsprCallsignId[2]       : Q2
gpsLockTimeoutMs        : 150000            2:30
lhAltFtThreshold        : 10000
hAlt.wakeAndEvaluateMs  : 1800000          30:00
lAlt.wakeAndEvaluateMs  : 60000             1:00
lAlt.stickyMs           : 10800000       3:00:00
crystalCorrectionFactor : 650
systemClockOffsetMs     : -2
```

```
Running
```

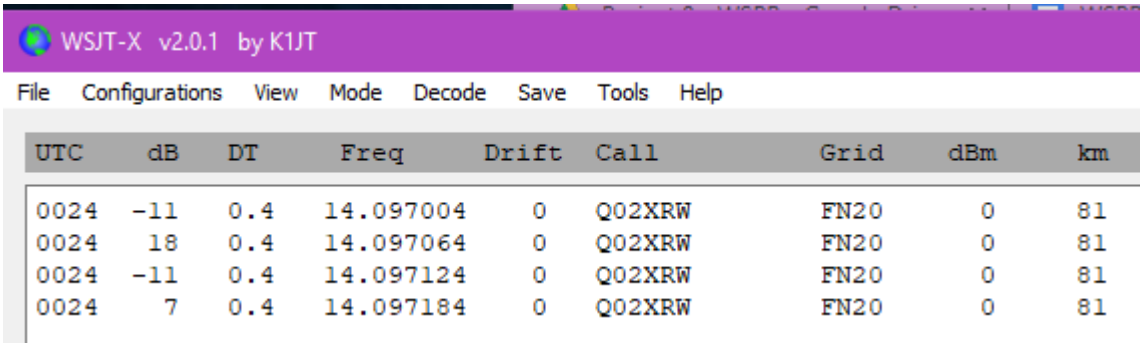
From here, the tracker goes through a never-ending cycle.

```
Wake
GPS ON
OK
GPS keep ON
GPS locking on 2 min
OK
WSPR MSG READY, chan 8
TX
Sleep 60000
```

Message meanings:

Message	Meaning
Wake	Starting new cycle.
GPS ON	Starting GPS for location lock.
OK	Succeeded in location lock.
GPS keep ON	Keeping GPS on for time lock.
GPS locking on 2 min	Time lock acquired. Waiting for 2 min mark.
OK	2 min mark reached.
WSPR MSG READY, chan <x>	Message prepared to be sent. Using WSPR channel <x> to send on. (Note, <x> is a random number and changes each time)
TX	Tracker is transmitting
Sleep <x>	The configured sleep duration is starting. Depends on sticky and low/high altitude settings.

You should see decoded messages:


WSJT-X v2.0.1 by K1JT
File Configurations View Mode Decode Save Tools Help
UTC dB DT Freq Drift Call Grid dBm km
0024 -11 0.4 14.097004 0 Q02XRW FN20 0 81
0024 18 0.4 14.097064 0 Q02XRW FN20 0 81
0024 -11 0.4 14.097124 0 Q02XRW FN20 0 81
0024 7 0.4 14.097184 0 Q02XRW FN20 0 81

DONE