Port City Amateur Radio Club

May 6, 2026

PortCityARC@groups.io – Main Communications Channel

www.W1WQM.org

Sunday 10 AM Seacoast Net – 3895 kHz – General Discussion Rounds

Sunday 7 PM 2 M Net – W1WQM Repeater – New Ham Comms

First Wednesday of Month – POTA Picnic Hampton Beach - noon

Please Set Cell Phones to Silent

Officers & Members Introduction

- **Mark – K1RX – President, Trustee NM1JY**
- **Thom - K1TKT - Vice President**
- **Bonnie - N1IIM - Treasurer**
- **Mark – KC1UKO – Secretary**
- **Ken – N1RP – Trustee, W1WQM**

- **NEW VISITORS**
- **Around the room introductions with your:**
  - **Name**
  - **Call (use phonetics)**
  - **Home Location**
  - **Club Office Held (if any)**

Coming Up Tonight

- **Donation Dinner – Thank You Thom, K1TKT**
- **Announcements**
- **Club Calendar**
- **Treasurer’s Report**
- **Old Business**
- **New Business**
- **Main Topic – FT-8 Ken, N1RP**
- **Lightning Rounds**
- **Intermission – 50/50 Tickets on Sale!**
- **Lightning Rounds**
- **50/50 Drawing**
- **Motion to Adjourn**

Announcements

- **Member License Upgrades**

Coming Up Soon –
Club Calendar

- **VE Test session – May 9**
- **ARES**
- **Lab Night – TBD**

Old Business

Portsmouth Market Square Day June 13 – update – Dave, KX1A

Field Day Apparel – Club Purchase - AA1IT

New Business

Nominating Committee PCARC – Election June

Request by HamExpo – August, 2026 SSC Presentation

RAS-4 Project – Pre-payment now being collected
(K1TKT) Kit: $200 Assembled: $275

Any other NEW Business?

Main Topic Tonight

FT8 and FT4

-Ken, N1RP

A ***Brief Introduction*** to

FT8 and FT4

Franke & Taylor, 8-frequency shift keying format

FT8 – What is it?

FT8 is one of the many digital modes often referred to as sound card modes (SCM) because they utilize a computer's sound card to bring in audio from your radio to be processed by software to decode the information embedded in the signal. Conversely, when you want to transmit, the software encodes your message into audio tones that are sent out via your sound card to your radio's audio or Mic input.

For years there have been a variety of these new software modes including Phase-shift keying (PSK31 & PSK 65), Hellschreiber, Olivia, Pactor, etc. and even older hardware-based modes such as RTTY that we now use our computers to encode and decode. FT8 is one of a group of Multiple Frequency-Shift Keying (MFSK) modes that include JT9, JT65 and MSK144 created by Joe Taylor, K1JT and co-developers.

FT8 is designed to maximize communication even when signals are very weak (as low as -24dB). This means that even low-powered stations and stations with sub-optimal antennas can make contacts worldwide.

FT8 Signal/Noise Ratio

Weak-Signal Signal/Noise Ratio

- SSB +10 dB
- CW -15 dB
- FT8 -24 dB
- JT65 -25 dB
- JT9 -27 dB
- WSPR -31 dB

FT8/FT4 -Where is it? Frequencies

Recommended Frequencies

FT8

160m	1.840
80m	3.573
60m	5.357
40m	7.074
30m	10.136
20m	14.074
17m	18.100
15m	21.074
12m	24.915
10m	28.074
6m	50.313

FT8

FT4

160m	
80m	3.575
60m	
40m	7.0475
30m	10.140
20m	14.080
17m	18.104
15m	21.140
12m	24.919
10m	28.180
6m	50.318

FT4

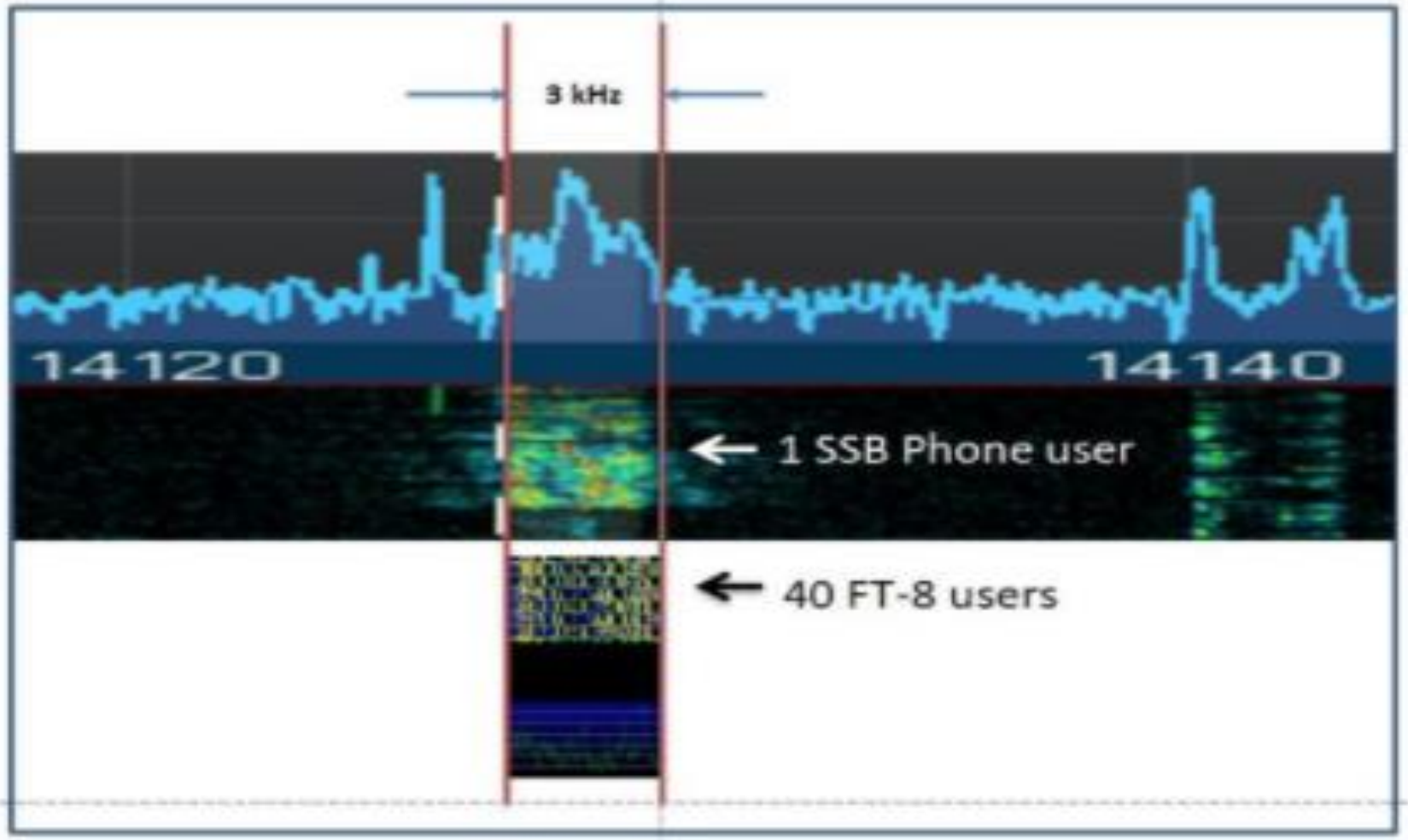
DXpedition stations often use surrounding frequencies

2026 3Y0K

Band	CW	SSB	FT8
160m	Free	N/A	1836 kHz
80m	Free	N/A	3567 kHz
60m	Free	N/A	5357 kHz
40m	Free	Free	7090 kHz
30m	Free	Free	10131 kHz
20m	Free	Free	14090 kHz
17m	Free	Free	18095 kHz
15m	Free	Free	21090 kHz
12m	Free	Free	24911 kHz
10m	Free	Free	28090 kHz

Band	Mode
160m	CW/FT8
80m	CW/FT8
60m	CW/FT8
40m	All mode
30m	CW/FT8
20m	All mode
17m	All mode
15m	All mode
12m	All mode
10m	All mode
SAT	QO-100

Bandwidth



Getting started with FT8

To use FT8 you need these things:

1. An HF transceiver with data or SSB capability *(FT8 always uses USB)*
2. An audio interface, a way to get receive audio from the radio into a computer and audio output of the computer into the radio, typically a sound card interface. *Built into many modern radios. Cable to connect computer to radio.*
3. *Your radio vendors comm port and audio drivers (usually a single install)*
4. A computer capable of running the FT8 software and **time synchronization**
5. FT8 software

Time is Critical

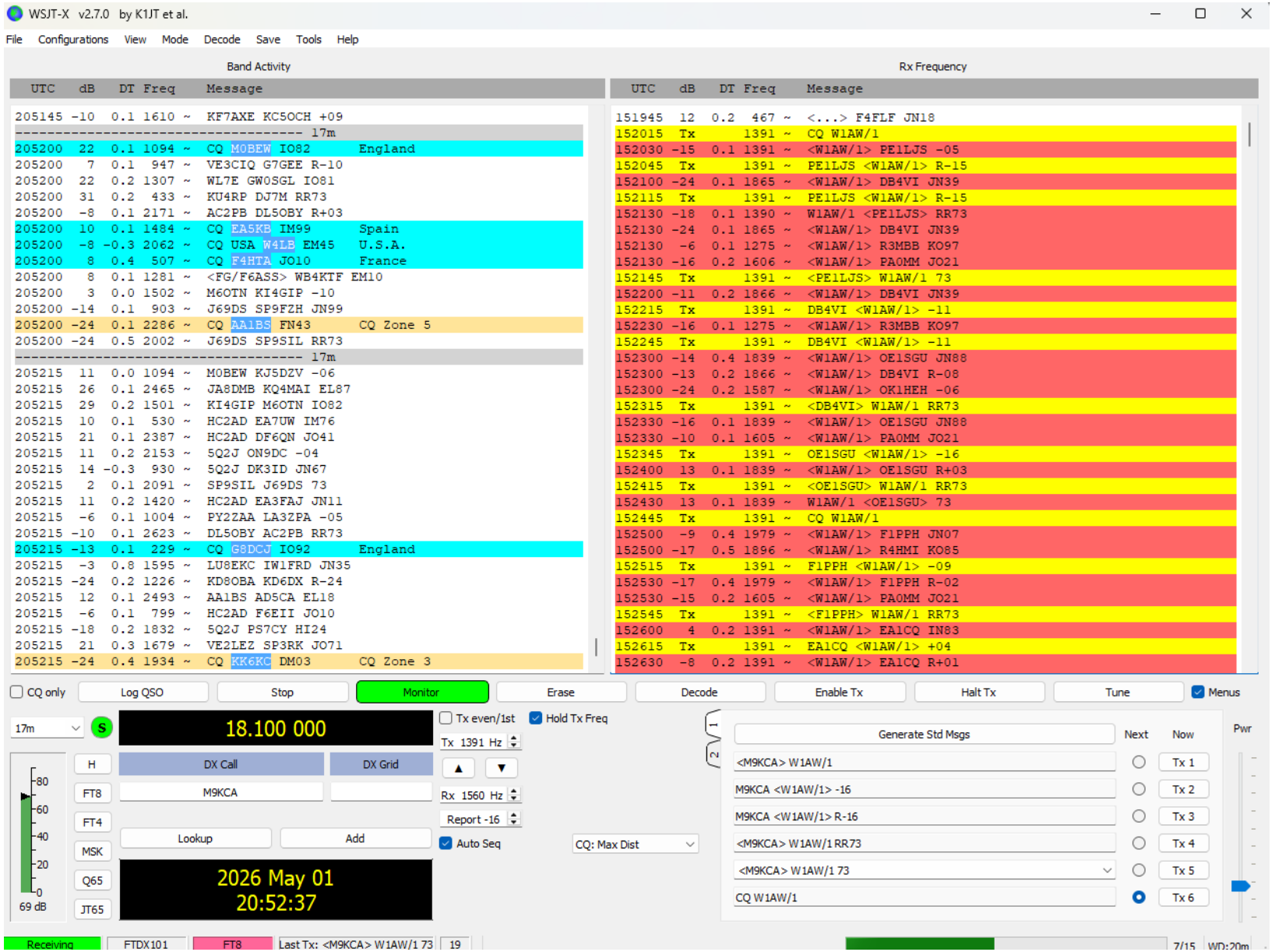
Synchronize your computer clock!

Synchronize your computer clock!!

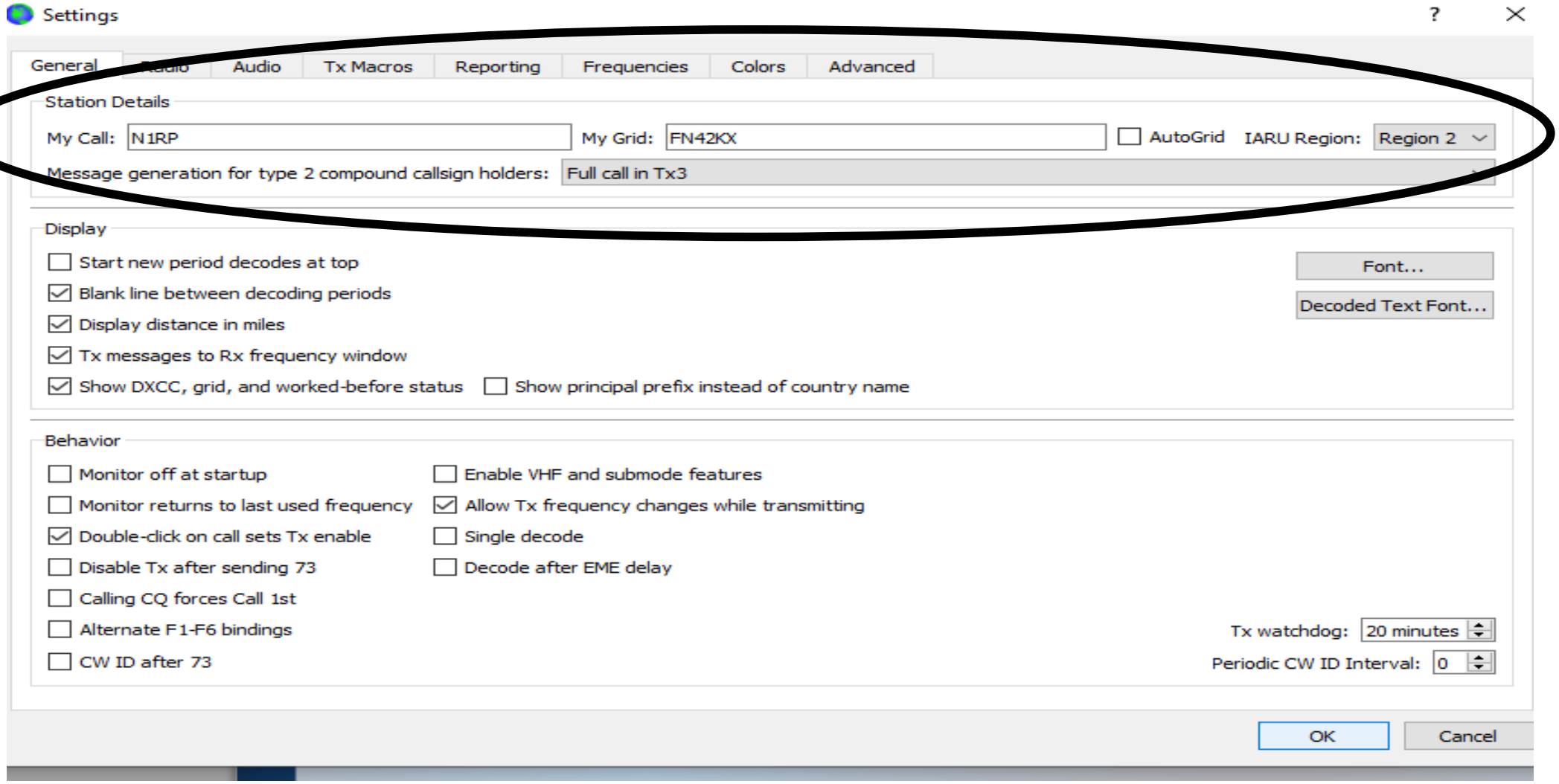
Synchronize your computer clock!!!

www.time.is

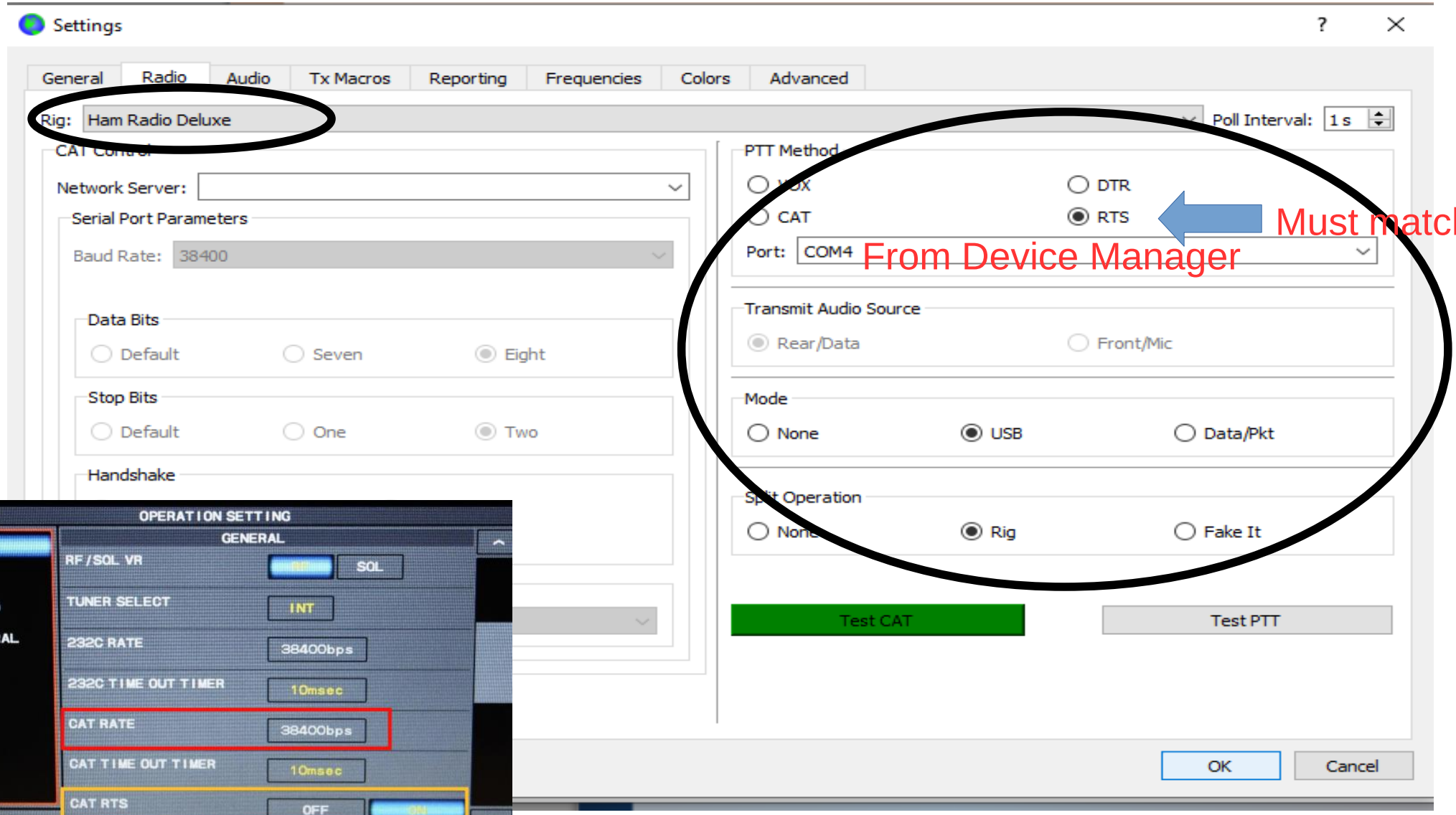
WSJT-X Software



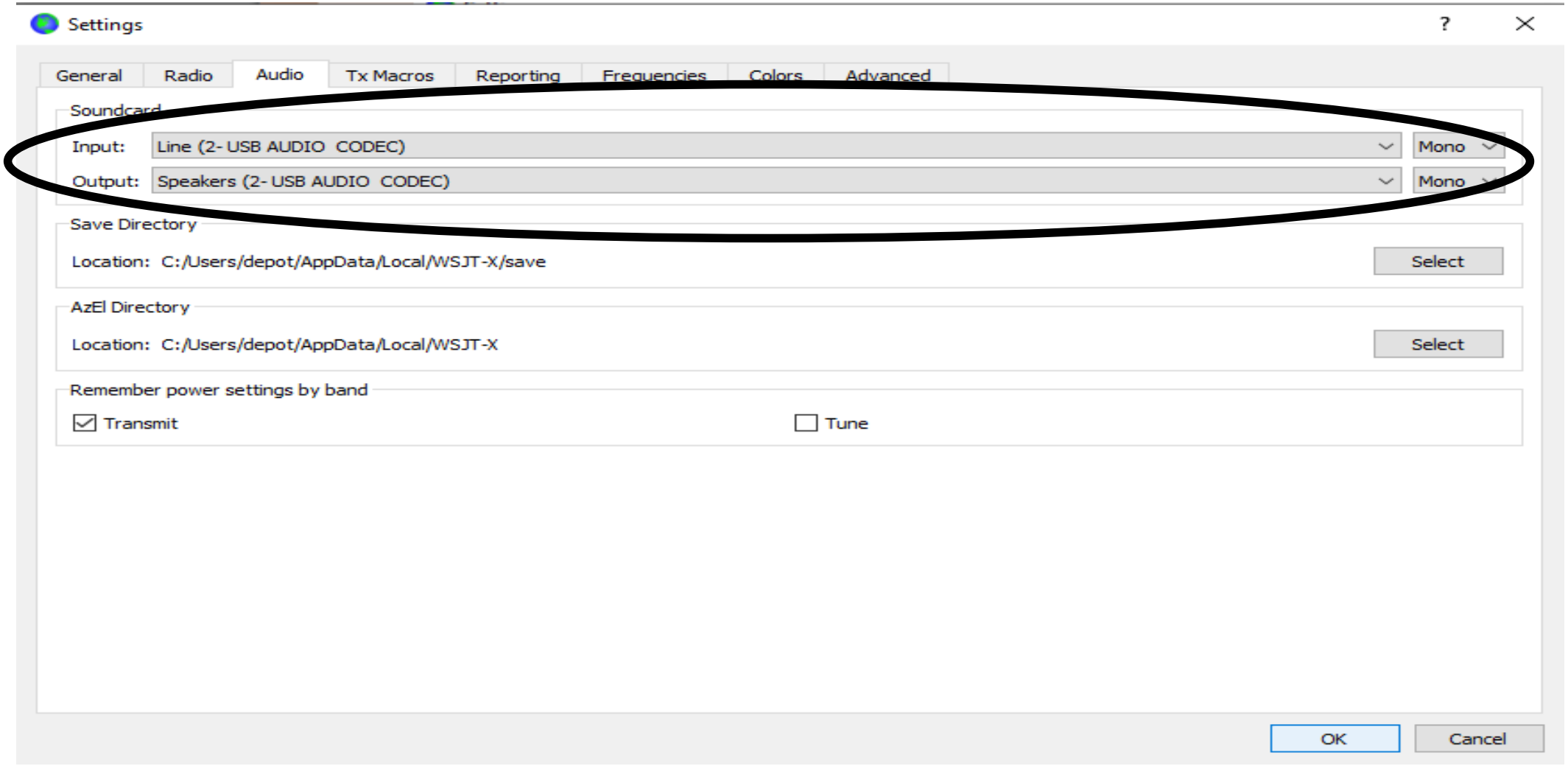
WSJT-X General Settings



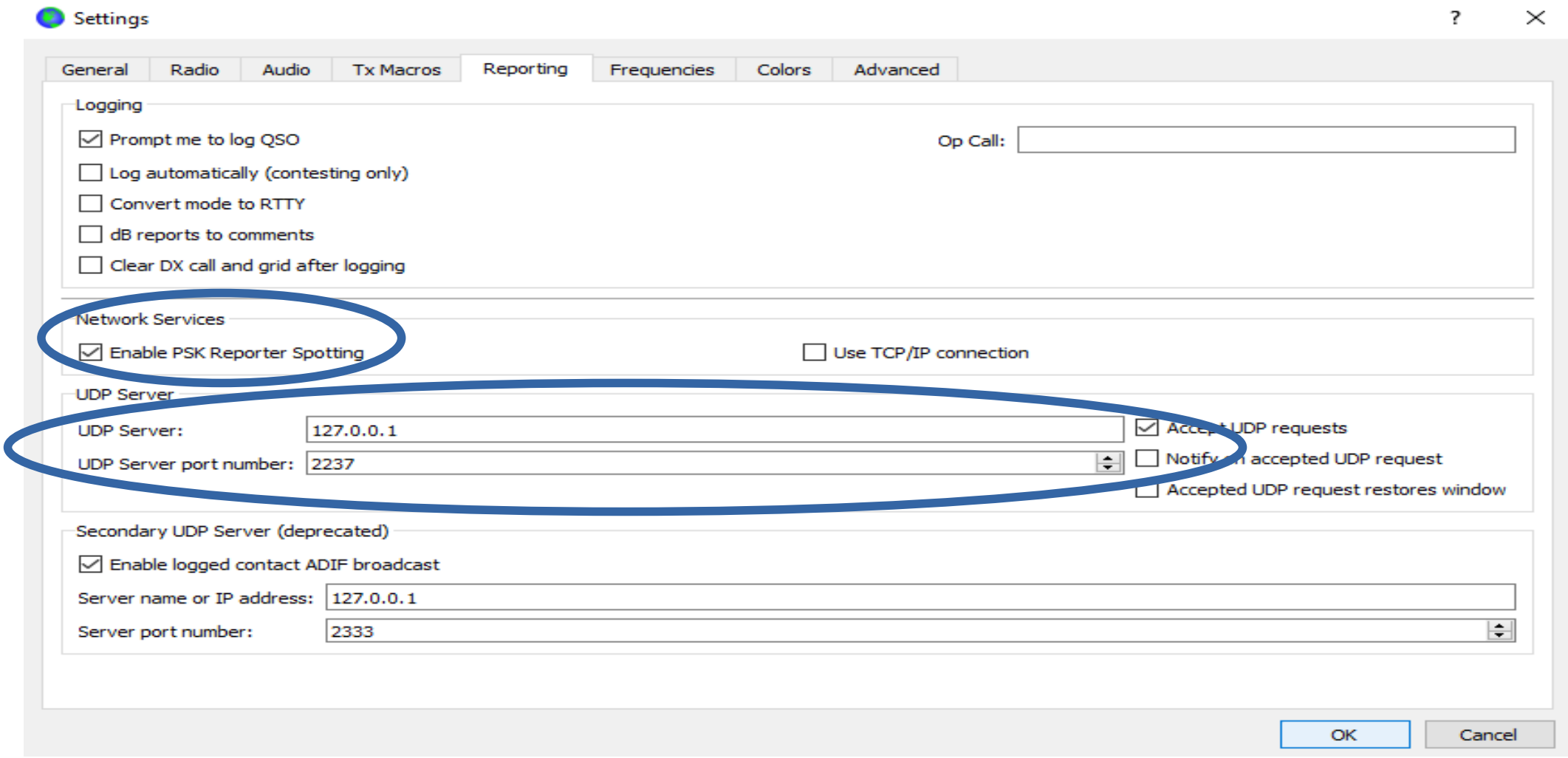
WSJT-X Radio Settings



WSJT-X Audio Settings



WSJT-X Settings

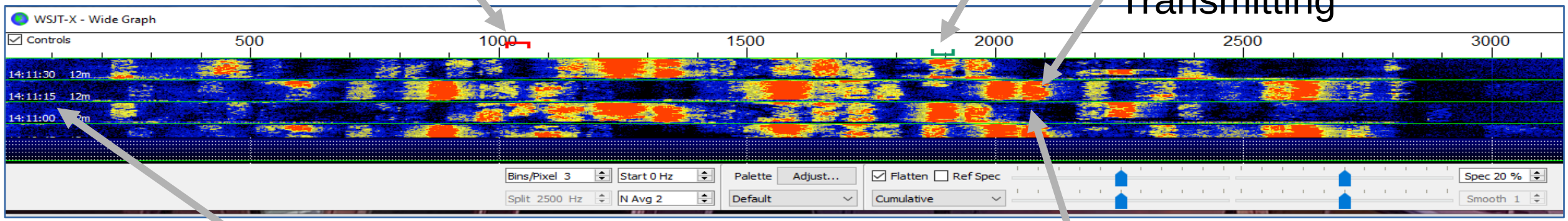


WSJT-X Waterfall

My transmit frequency (1015)

My receive frequency (1871)

Station Transmitting



Transmissions are in 15 second intervals

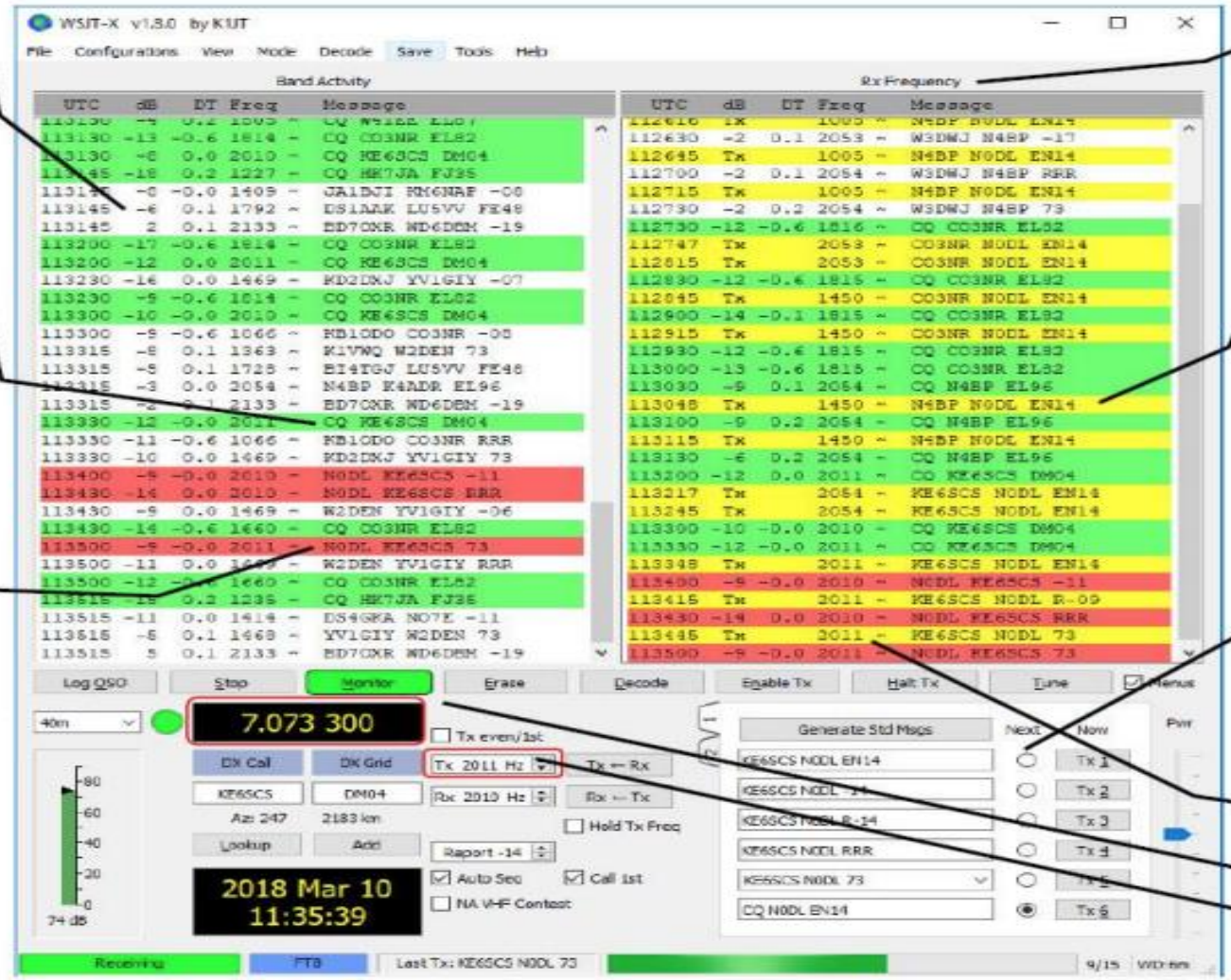
Station Receiving

WSJT-X Main Screen

All QSO activity in the receive spectrum

Stations calling "CQ" will be highlighted in green

Your call will show up highlighted in red



All activity shown on the Rx frequency

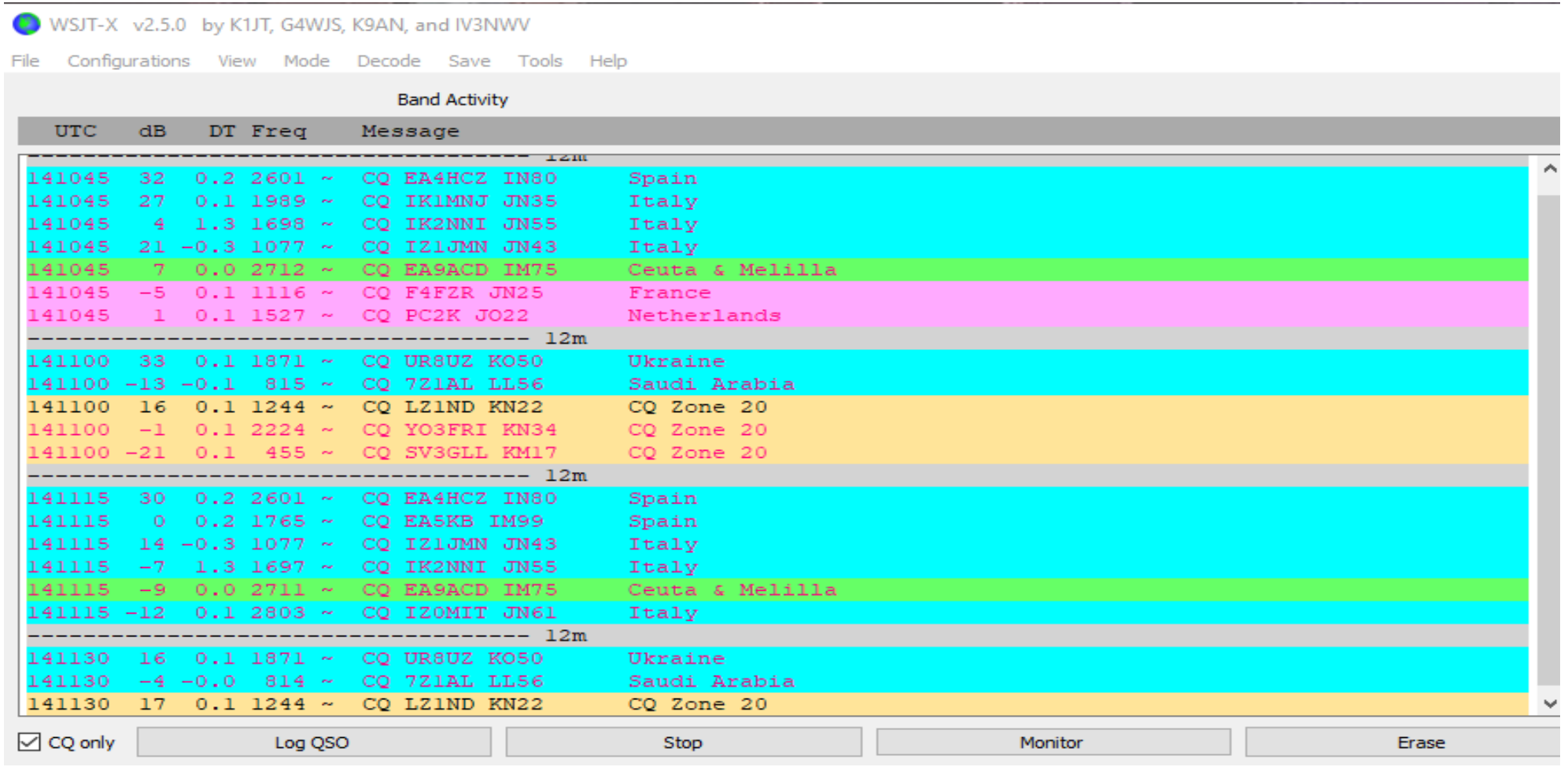
Your transmissions are highlighted in yellow

The message transmissions are generated automatically and sent in sequence

Your transmissions are sent in a 50 Hz-wide slot at the base frequency + the audio offset

FT8 Band Activity – All Decodes

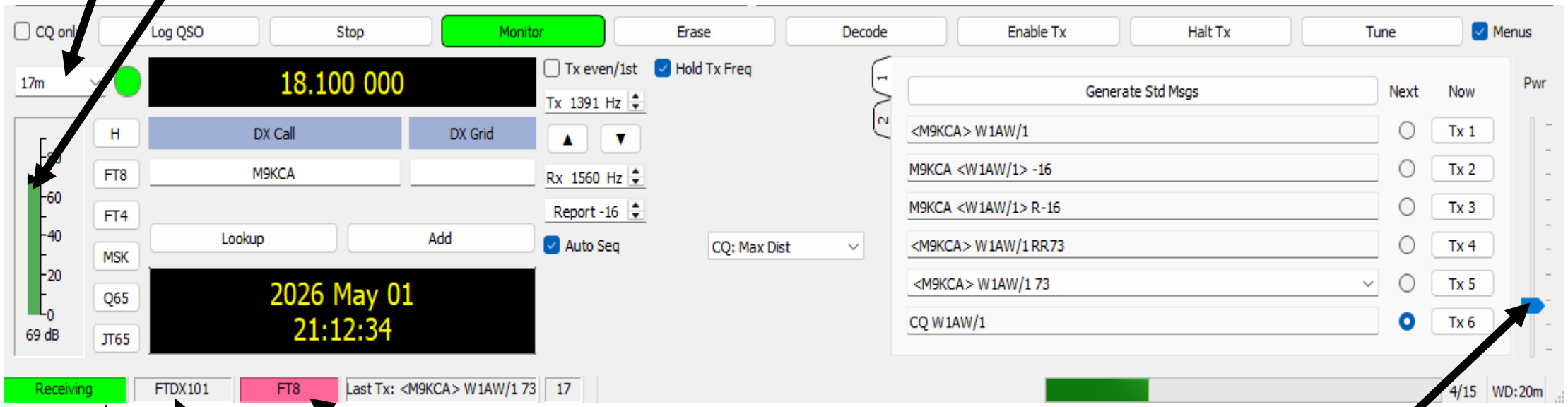
FT8 Band Activity – CQ Only Decodes



WSJT-X

Select Band

Audio receive level



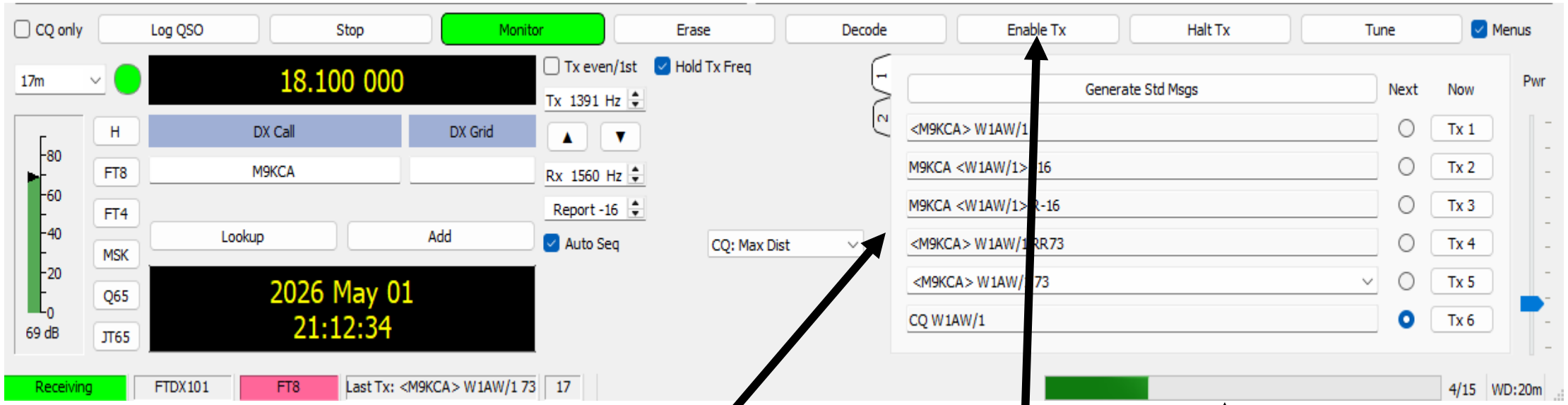
Current activity

Radio

Current mode

Adjust power for minimum ALC

WSJT-X

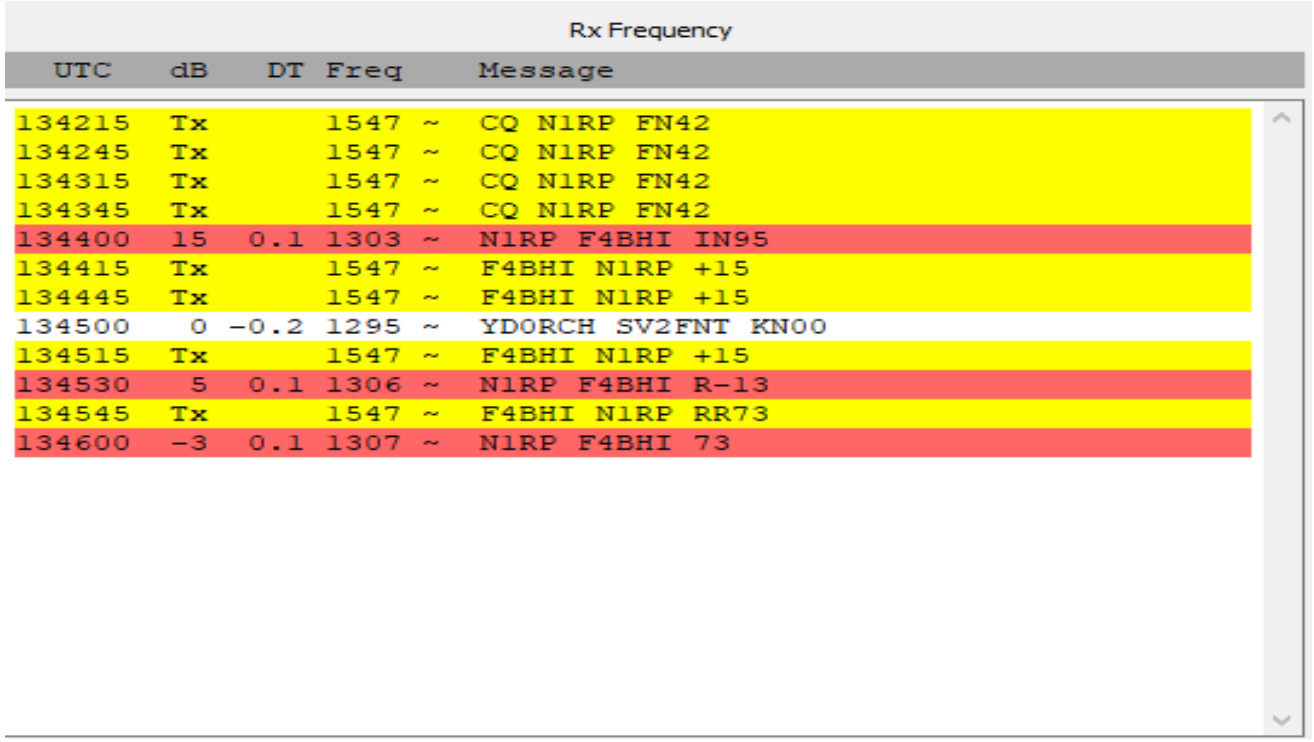


The standard (automated) QSO sequence

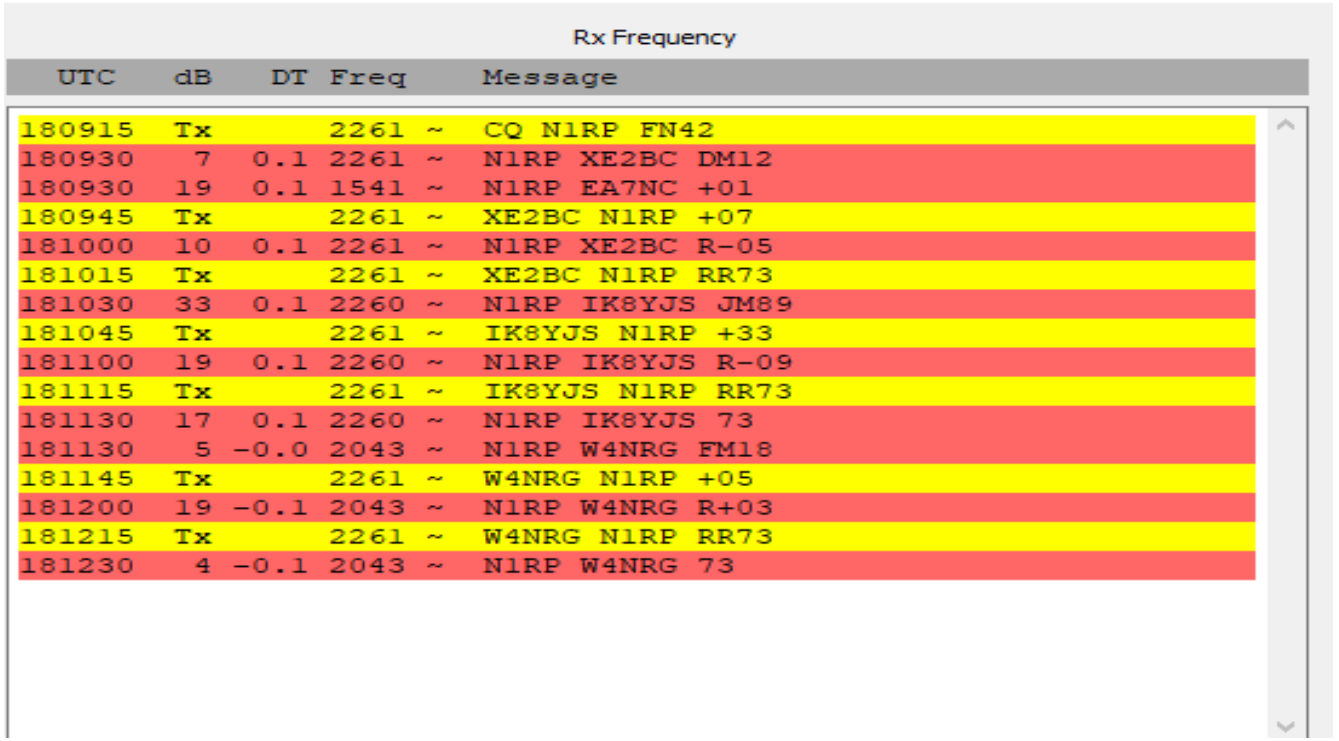
Enable further transmissions

15 second timer

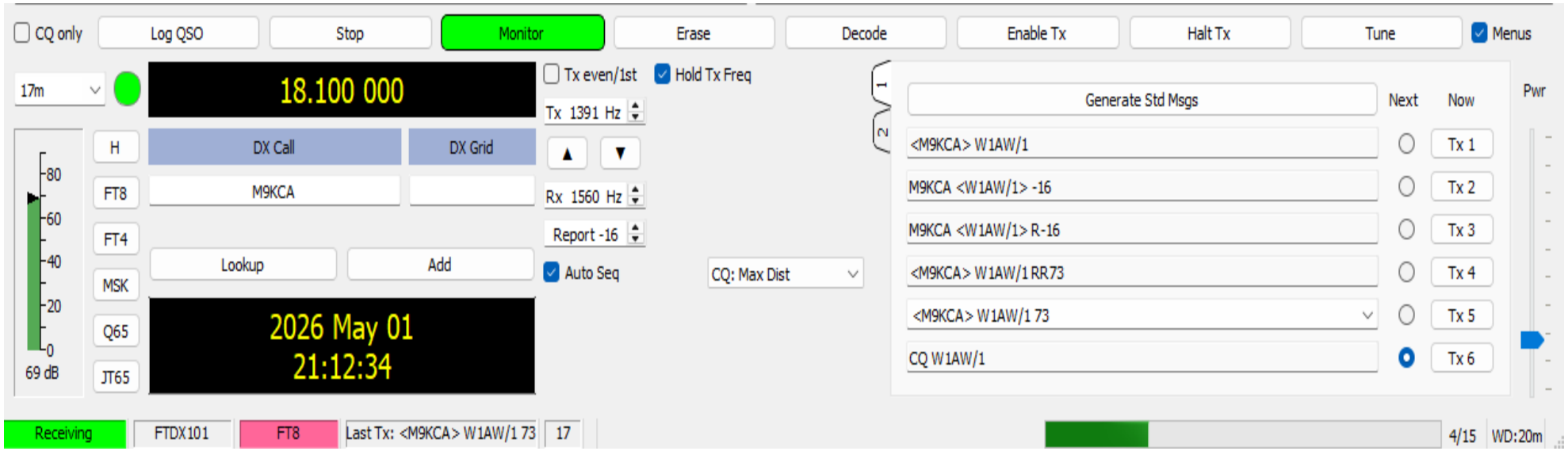
WSJT-X – Sending CQ

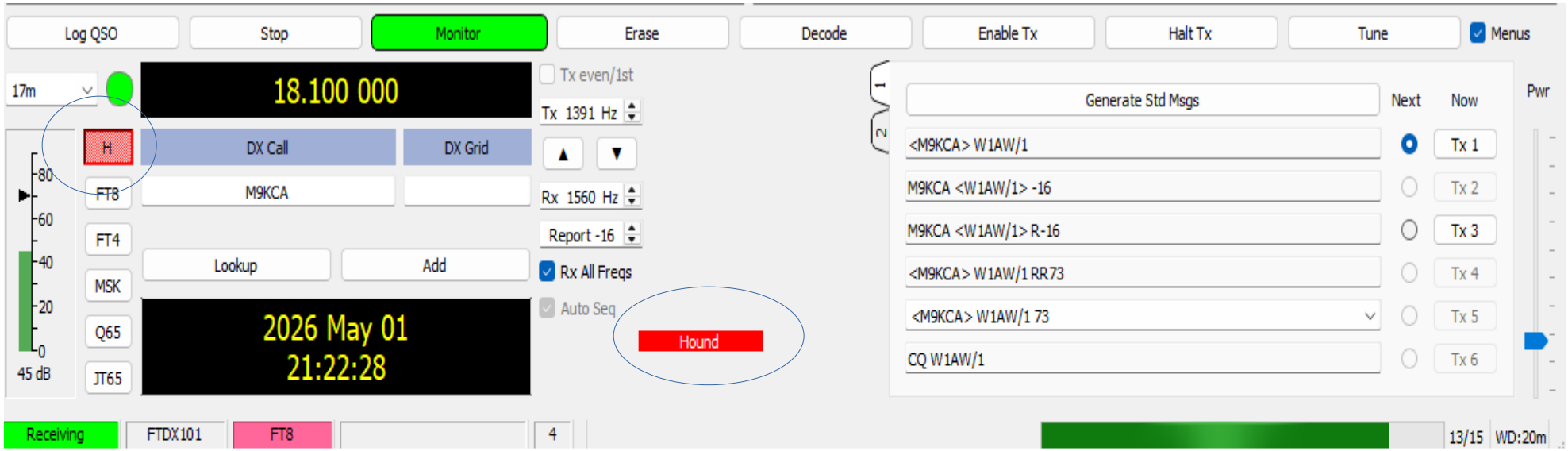


WSJT-X Sending CQ

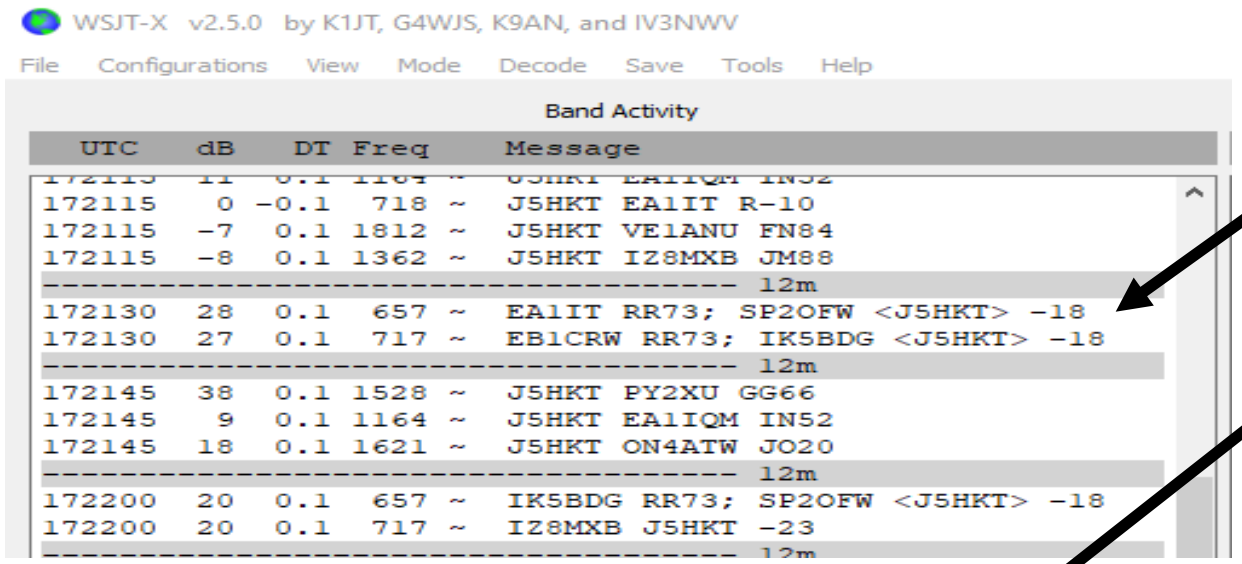


FT8 “DXpedition Mode” Fox / Hound (F/H)





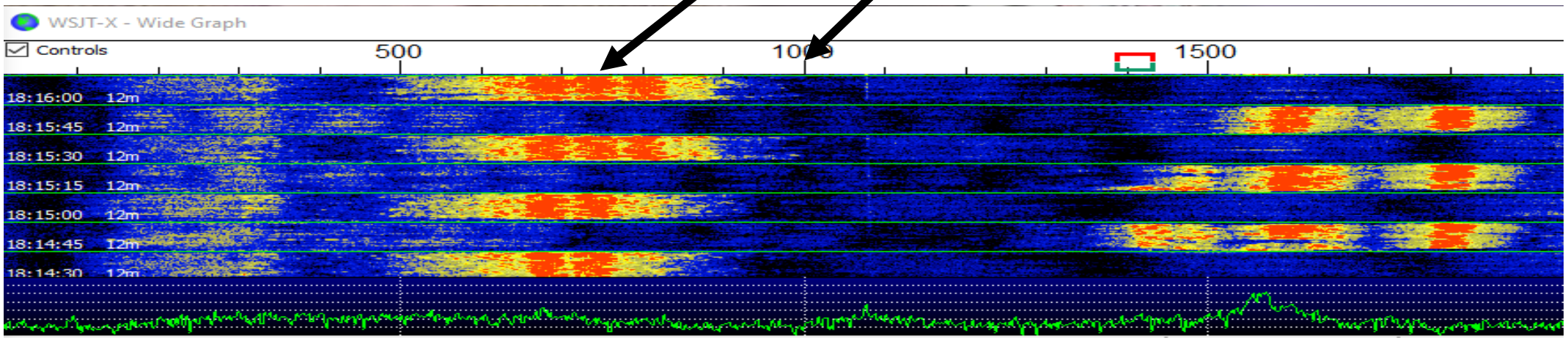
FT8 Fox / Hound



Fox can transmit on multiple streams

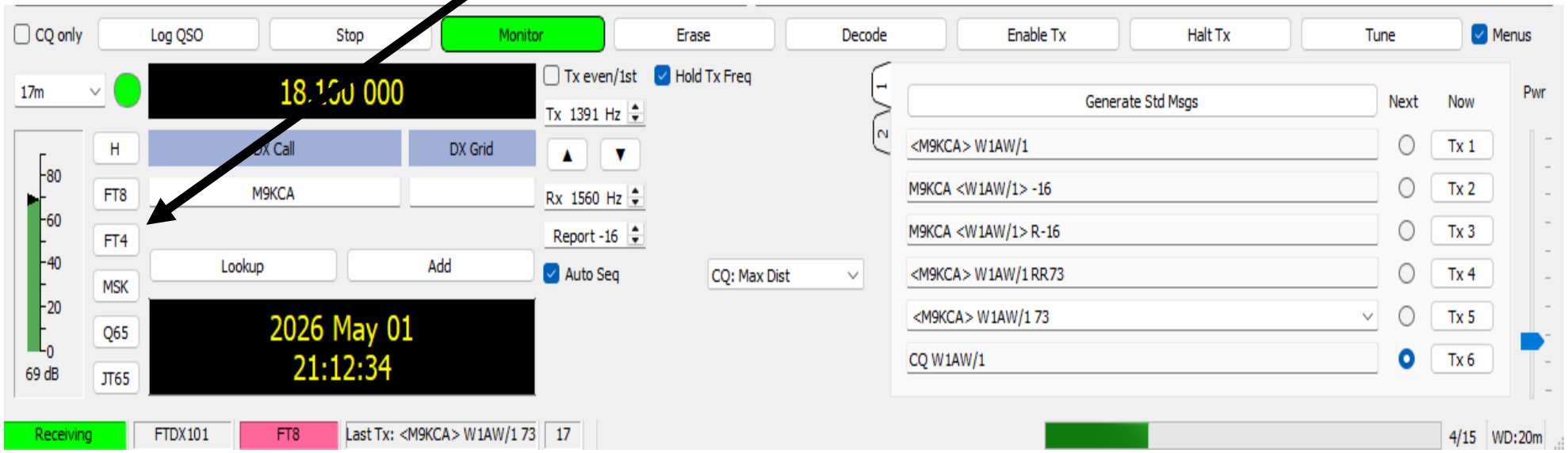
Fox transmits below 1kHz

Hounds transmit above 1kHz



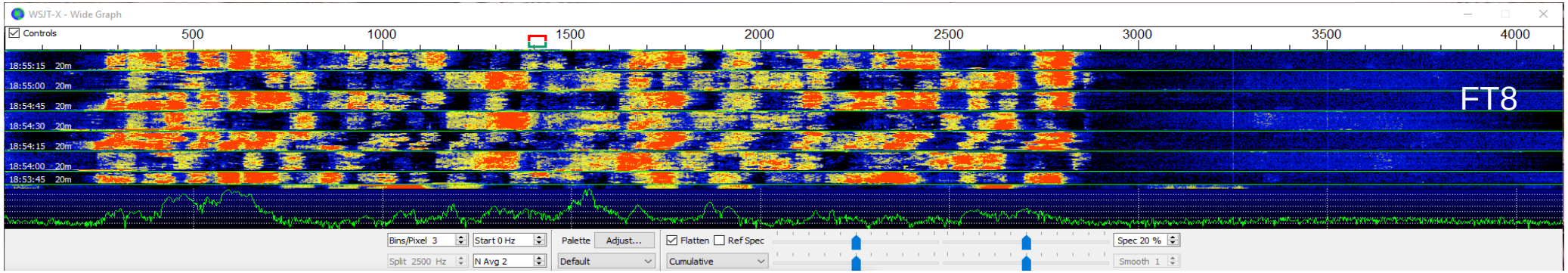
FT4?

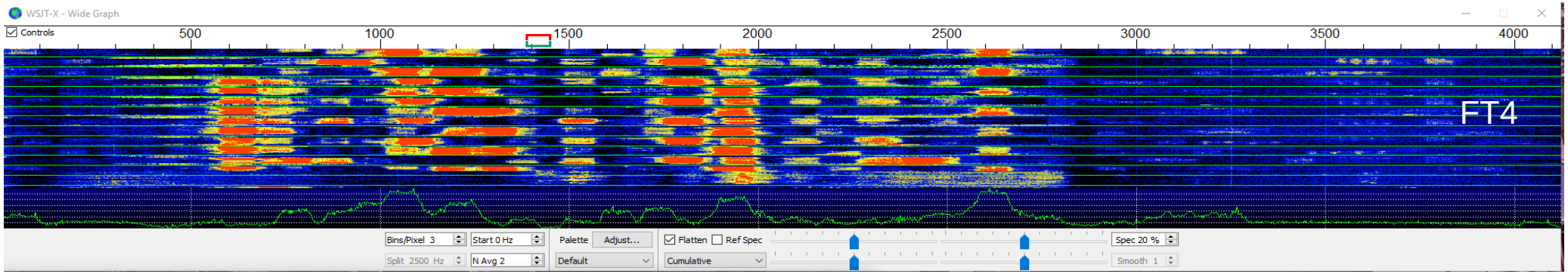
Change Modes here



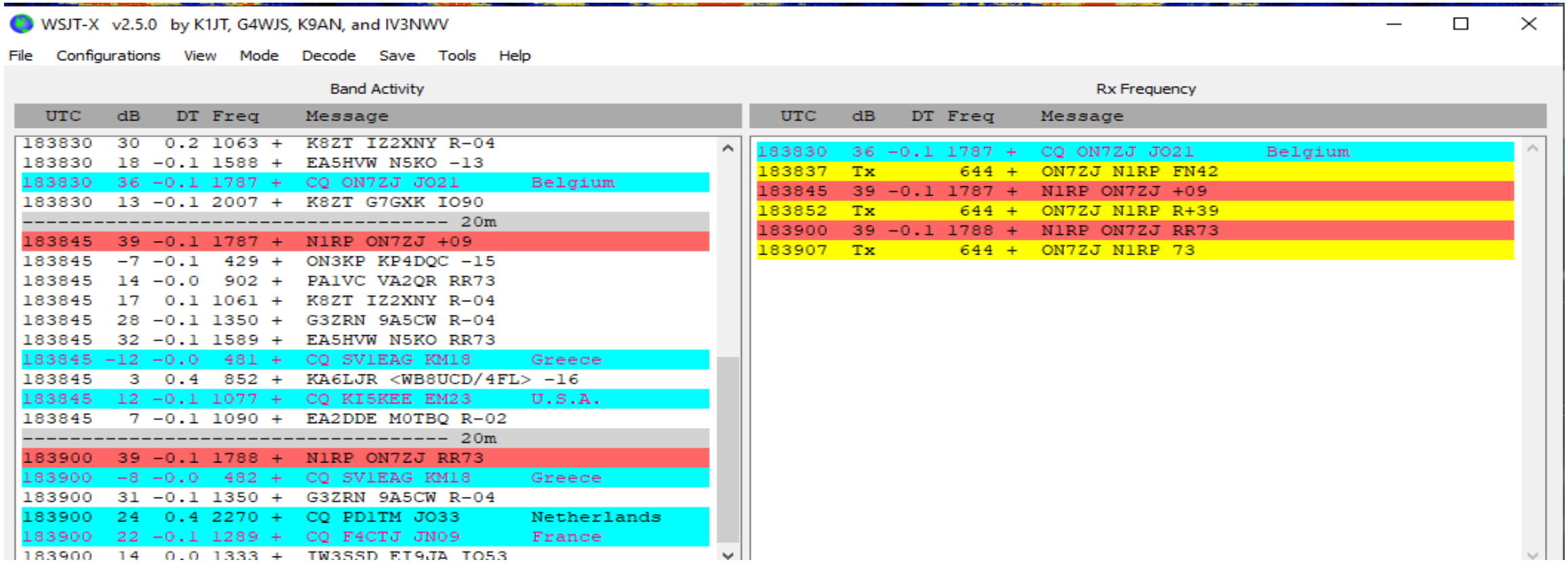
FT4

- Modulation uses 4-tone frequency-shift keying
- T/R sequences are 6 seconds long, so FT4 is 2.5 × faster than FT8
- The occupied bandwidth of FT4 is 90 Hz vs FT8 50 Hz

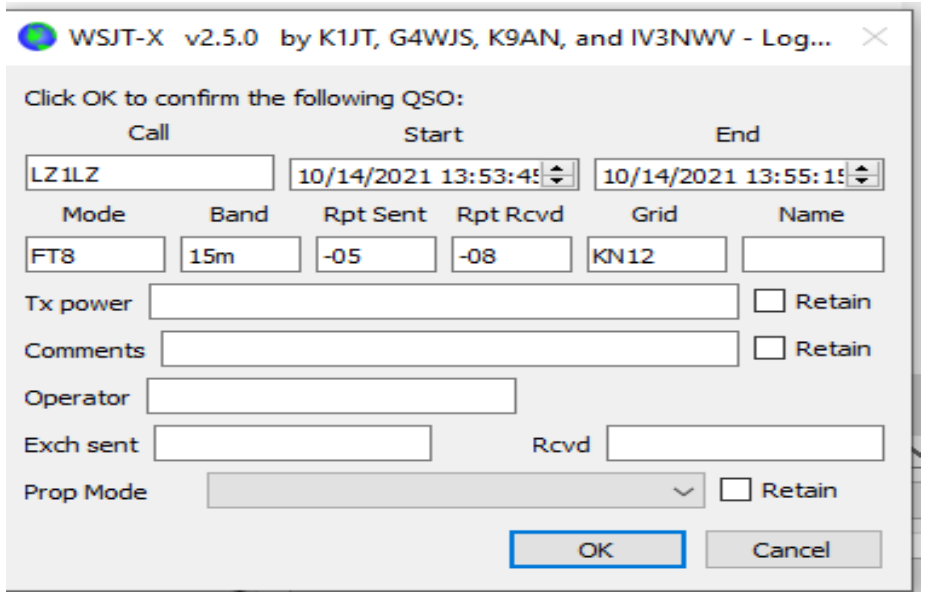




FT4 – Responding to CQ



WSJT-X - Logging



QSO date	Time on	Call	Mode	Sent	Rcvd	Band	Name	Country	Freq
10/14/2021	14:06:30	HB9TVS	FT8	-19	-08	12m	Stephane Arneodo	Switzerland	24.916.015
10/14/2021	14:01:15	DO3GE	FT8	+03	+05	15m	THOMAS SCHULTZ	Fed. Republic of Ger...	21.075.375
10/14/2021	13:59:30	MI0OBC	FT8	+16	+01	15m	David T Best	Northern Ireland	21.075.375
10/14/2021	13:53:45	LZ1LZ	FT8	-05	-08	15m	KOSTA (KEN) SHOLEV	Bulgaria	21.075.386
10/14/2021	13:06:00	UA1ABO	FT8	+05	-19	17m	Igor Minaev	European Russia	18.102.532

FT8/FT4 Logbook of the World

Details	N1RP	7Z1IS	2021-10-11 14:08:15	12M	FT8	24.91626	SAUDI ARABIA
Details	N1RP	PY5JO	2021-10-12 19:10:15	10M	FT8	28.07511	BRAZIL
Details	N1RP	FO5QB	2021-10-06 20:30:45	15M	FT8	21.07498	FRENCH POLYNESIA
Details	N1RP	CA6JQN	2021-10-12 19:13:15	10M	FT8	28.07511	CHILE
Details	N1RP	PY2PJ	2021-10-12 19:14:45	10M	FT8	28.07511	BRAZIL
Details	N1RP	TR8CA	2021-10-07 15:23:53	12M	FT4	24.92010	GABON

DXCC Award	New LoTW QSLs	LoTW QSLs in Process	DXCC Credits Awarded	Total (All)	Total (Current)
Mixed *	3	0	250	253	253
Phone *	1	0	239	240	240
Digital	11	0	157	168	168

Award Credits: Selected: 11 Applied for: 0 Awarded: 157 Total: 168
Key: Selected · *Applied*

DXCC Entity	Digital
ANTARCTICA	8J1RL
DJIBOUTI	J28PJ
FRENCH POLYNESIA	FO5QB
INDIA	VU2MSA
LIBERIA	A82Z
MALAWI	7Q7RU
SAUDI ARABIA	7Z1IS
SEYCHELLES ISLANDS	S79VU
SINT MAARTEN	PJ7AA
SURINAME	PZ2YT
THAILAND	E20XMG

Station

Call Sign	N1RP
DXCC	UNITED STATES OF AMERICA (291)
CQ Zone	05
ITU Zone	08
Grid	FN42KX
State	New Hampshire (NH)
County	Rockingham

Worked Station

Worked	FO5QB
DXCC	FRENCH POLYNESIA (175)
CQ Zone	32
ITU Zone	63
IOTA	OC-046
Grid	BH52EK
Date/Time	2021-10-06 20:30:45
Mode	FT8 (DATA)
Band	15M
Frequency	21.07498
QSL	2021-10-12 22:44:24

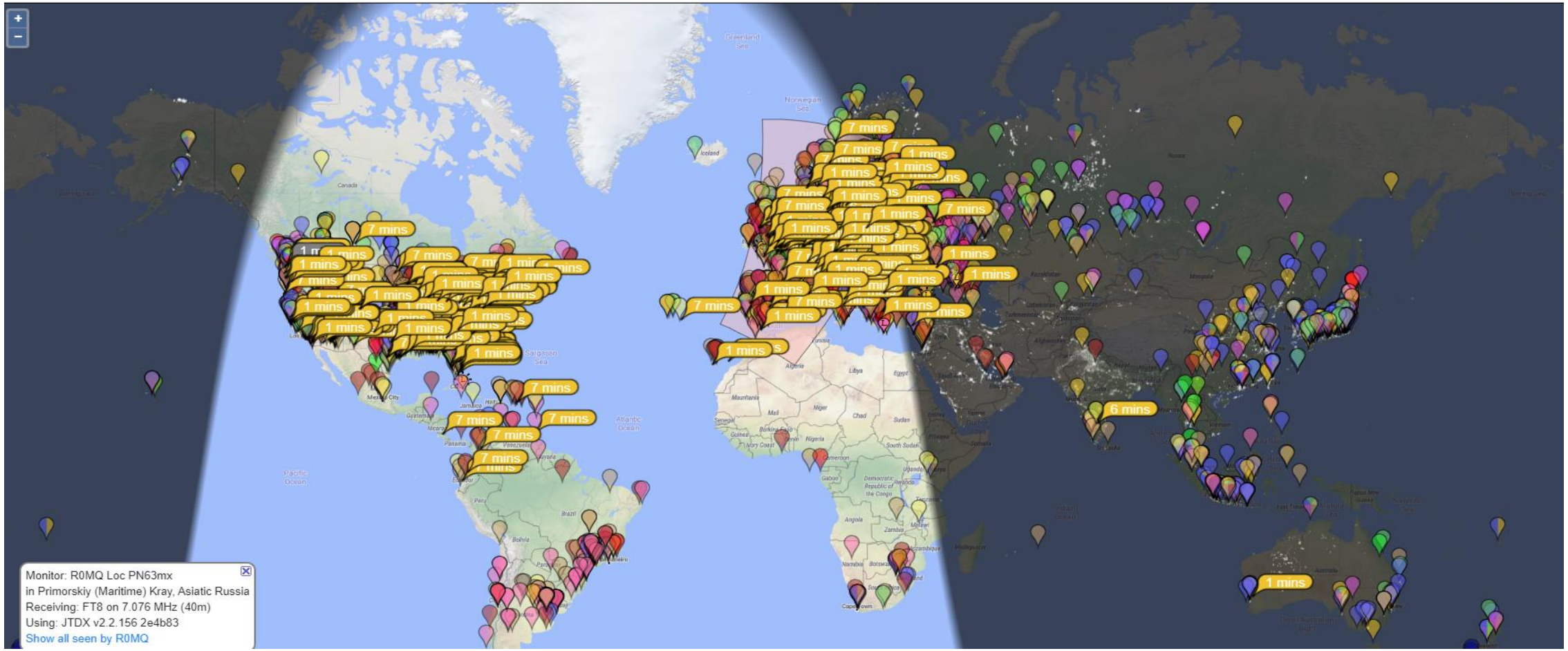
Record ID 1408879844 **Received:** 2021-10-06 20:52:59

PSKreporter.info

On all bands, show signals, sent/rcvd by, the callsign, n1rp using all modes over the last 15 minutes Go! Display options Permalink

Monitoring N1RP (last heard 1 mins ago). Automatic refresh in 5 minutes. Small markers are the 121 transmitters (show logbook) heard (distance chart) at N1RP (1211 reports, 67 countries last 24 hours; 2587 reports, 77 countries last week).

There are 6257 active monitors: 1286 on 20m, 957 on 40m, 882 on 15m, 681 on 12m, 650 on 17m, 588 on 10m, 364 on 30m, 219 on 2m, 196 on 6m, 181 on 80m, 53 on unknown, 50 on 160m, 38 on 11m, 21 on 60m, 12 on 2200m, 9 on 70cm, 2 on uhf, 2 on 600m, 1 on 5m, 1 on 4m. Legend



Questions?

Lightning Rounds

Field Day 2026
an early look

Mark, K1RX & Rory, W1ENR

PCARC Field Day 2026
June 27-28

- 3A + GOTA K1R & W1WQM
- New 20-15-10 M antenna/Suspension system
- Feed system – 3 radio application
- Go Kit updates
- Shelter Update
- Celebrating 75 Years!

Lightning Rounds

WAS 250 Week 1 of 2
W1AW/1 NH
Summary
Sully, KC1WNM

NH Activation Week#1 - COMPLETE

16 active operators / 28 registered operators

operator	SUM of qso_ct
AE1P	3011
K1RO	382
K1RX	1941
KC1UKO	241
KC1VYM	13
KN1WDS	45
N1RP	388
WA1HXH	149
WM1H	21
Grand Total	**6191**

SUM of qso_ct	mode			
band	CW	DIGI	VOICE	Grand Total
10M		14	2	16
15M	270	83	744	1097
17M	120	175		295
20M	569	296	2917	3782
30M		108		108
40M	188	230	364	782
80M	20	22	69	111
Grand Total	**1167**	**928**	**4096**	**6191**

***preliminary data*
***8 of 16 operators reporting*
***QSOs not confirmed by ARRL*

NH Activation Week#2 – Sept 16 - 22


IT'S INTERMISSION TIME!
CANDY
Visit Our Snack Bar!!
Buy your 50/50 Tickets
Return in 20 Minutes

Lightning Rounds
Upcoming Contests
Mark, KC1UKO

May Contests

WPX CW Contest – May 30-31

State/Province QSO

Canadian Prairies	17Z May 9 to 03Z May 10 (Alberta, Manitoba, and Saskatchewan)
Arkansas	14Z May 16 to 02Z May 17

Plus many others. Checkout www.contestcalendar.com for more information.

Lightning Rounds
POTA

Thom, K1TKT

POTA Lightning Round

POTA Picnics

- April 19th: First club POTA Picnic
  - PCARC joined by Great Bay > We're all here for POTA!
  - 36 QSOs, SSB and FT8 – W1WQM working toward that Kilo
- May 9th: 1200 ET; Hampton Beach State Park
  - Bring your own picnic food!
- June: Field day & Museum Ships = no POTA Picnic.
- Will plan for July & August. Stay tuned.

50/50 Drawing

Motion to Adjourn