

# FT8

What's the Big Deal?

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# WHAT IS FT8?

- A new weak signal digital mode developed by Steve Franke K9AN & Joe Taylor K1JT, released in June 2017.
- It uses 8-FSK modulation
- Joe is a Nobel Prize winner in Physics from Princeton Univ. that developed previous weak signal modes such as JT-9, JT-65, FSK441 (meteor scatter) and more.
- It's 4x faster than JT-65, and sacrifices just a bit of sensitivity.
- You xmit for 15 seconds and then listen for 15 seconds instead of JT-65's 60 seconds. Rinse & Repeat.

# WHAT'S THE BIG DEAL?

- In these days of few or no sunspots and very poor condx, FT8 allows you to make QSOs on a band that seems “dead”.
- It effectively raises the Maximum Useable Frequency (MUF).
- It's easy to set up and use (and free).
- The QSOs are rather mechanical with a preset, limited sequence of info exchanged.
- But it allows QSOs where otherwise you'd be lonesome.

# HOW TO SET IT UP & GET GOING

- It runs on Windows, OS-X, and Linux
- Everyone runs the same software: WSJT-X
- Download the software from Joe's Princeton University web site. Just search for WSJT-X.  
(<https://physics.princeton.edu/pulsar/k1jt/wsjtx.html>)
- Latest version is 1.9
- There's a Settings screen where you enter your call, grid, radio, and a few other optional things.
- As with all other "digital" modes, it sends and receives audio (USB). So any radio with USB can be used. CAT control is nice, but not required.

# GOT THE TIME?

- Time synchronization is very important
- Everyone in the world needs to be sync'd "within a second or so"
- Built-in Windows time sync works to some degree, but it's not the best, even if you sync to NIST standard sites.
- Other free sync apps are recommended. Popular ones include:
  - **Dimension4**
  - **Meinberg**

# TIME.IS IS A GOOD PLACE TO CHECK YOUR TIME

The screenshot shows a web browser window with the URL <https://time.is>. The page features a red header with the text "Time.is". Below the header, the text "Your time is exact!" is circled in red. Underneath, it states "The difference from Time.is was -0.084 seconds ( $\pm 0.054$  seconds)." and "Time in Colorado Springs, Colorado, United States now:". The main display shows the time "01:54:47 PM" in large black font, followed by the date "Sunday, November 19, 2017" and the events "World Toilet Day / International Men's Day". Below this, it shows "Sun:  $\uparrow$  06:48AM  $\downarrow$  04:42PM (9h 55m) [More info](#)". At the bottom, there are several boxes showing times for different cities: New York (03:54pm), London (08:54pm), Paris (09:54pm), Moscow (11:54pm), Beijing (04:54am), Tokyo (05:54am), and Los Angeles (12:54pm).

**Time.is**

Your time is exact!

The difference from Time.is was -0.084 seconds ( $\pm 0.054$  seconds).  
Time in Colorado Springs, Colorado, United States now:

**01:54:47 PM**

Sunday, November 19, 2017  
World Toilet Day / International Men's Day  
Sun:  $\uparrow$  06:48AM  $\downarrow$  04:42PM (9h 55m) [More info](#)

New York 03:54pm	London 08:54pm	Paris 09:54pm	Moscow 11:54pm	Beijing 04:54am	Tokyo 05:54am
Los Angeles 12:54pm					

- FT8
- JT4
- JT9
- JT9+JT65
- JT65
- QRA64
- ISCAT
- MSK144
- WSPR
- Echo
- FreqCal

UTC	dB	DT	Freq	Message
170345	-2	0.1		HTH EM02
170345	4	-1.6		K4FJU +04

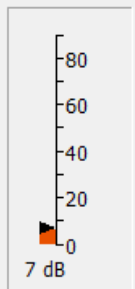
UTC	dB	DT	Freq	Message

IN LIFE, YOU  
HAVE TO PICK  
YOUR FIGHTS.

IN WSJT-X, YOU  
HAVE TO PICK  
YOUR MODE.

Log QSO Stop Monitor Erase Decode Enable Tx Halt Tx Tune  Menus

30m 10.136 000



**DX Call** **DX Grid**

AK5DA EM22

Az: 123 698 mi

Lookup Add

**2017 Dec 22**  
**17:03:59**

Tx even/1st

Tx 850 Hz Rx ← Rx

Rx 798 Hz Rx ← Tx

Hold Tx Freq

Report -15

Auto Seq  Call 1st

NA VHF Contest

Generate Std Msgs	Next	Now	Pwr
AK5DA KFOUR DM78	<input type="radio"/>	Tx 1	
AK5DA KFOUR -15	<input type="radio"/>	Tx 2	
AK5DA KFOUR R-15	<input type="radio"/>	Tx 3	
AK5DA KFOUR RRR	<input type="radio"/>	Tx 4	
AK5DA KFOUR 73	<input type="radio"/>	Tx 5	
CQ KFOUR DM78	<input checked="" type="radio"/>	Tx 6	

Next Click File /  
Settings  
to set up your  
info.

WSJT-X v1.8.0 by K1JT

File Configurations View Mode Decode Save Tools Help

- Open Ctrl+O
- Open next in directory F6
- Decode remaining files in directory Shift+F6
- Delete all \*.wav & \*.c2 files in SaveDir
- Erase ALL.TXT
- Erase wsjtx\_log.adi
- Open log directory
- Settings... F2**
- Exit

Rx Frequency

UTC	dB	DT	Freq	Message
-----	----	----	------	---------

Log QSO Stop Monitor Erase Decode Enable Tx Halt Tx Tune  Menus

40m ● **7.074 000**  Tx even/1st

**DX Call** **DX Grid** Tx 850 Hz Tx ← Rx  
KD6C CM95 Rx 851 Hz Rx ← Tx

Az: 262 907 mi  Hold Tx Freq

Lookup Add Report 0  Auto Seq  Call 1st  
 NA VHF Contest

**2017 Dec 22**  
**16:35:16**

Generate Std Msgs Next Now Pwr

Message	Next	Now	Pwr
KD6C KFOUR DM78	<input type="radio"/>	<input type="radio"/> Tx 1	
KD6C KFOUR +00	<input type="radio"/>	<input type="radio"/> Tx 2	
KD6C KFOUR R+00	<input type="radio"/>	<input type="radio"/> Tx 3	
KD6C KFOUR RRR	<input type="radio"/>	<input type="radio"/> Tx 4	
KD6C KFOUR 73	<input type="radio"/>	<input type="radio"/> Tx 5	
CQ KFOUR DM78	<input checked="" type="radio"/>	<input type="radio"/> Tx 6	

Receiving FT8 Last Tx: CQ KFOUR DM78 1/15 WD:8m



General | Radio | Audio | Tx Macros | Reporting | Frequencies | Colors | Advanced

## Station Details

My Call:  My Grid:  IARU Region:  ▼Message generation for type 2 compound callsign holders:  ▼

## Display

 Blank line between decoding periods

Font...

 Display distance in miles Tx messages to Rx frequency window

Decoded Text Font...

 Show DXCC entity and worked before status

## Behavior

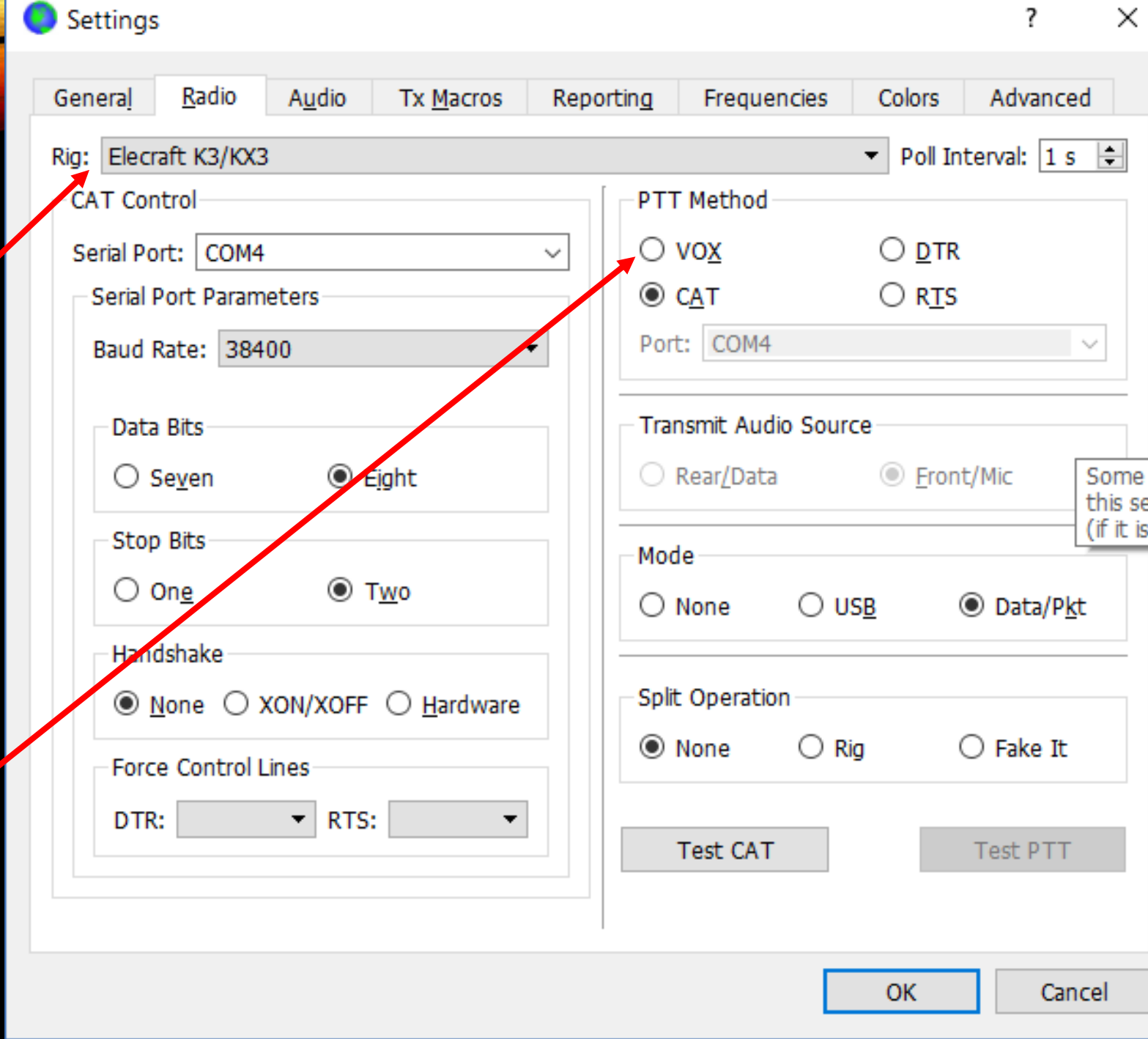
 Monitor off at startup Enable VHF/UHF/Microwave features Monitor returns to last used frequency Allow Tx frequency changes while transmitting Double-click on call sets Tx enable Single decode Disable Tx after sending 73 Decode after EME delayTx watchdog:  ▼ CW ID after 73Periodic CW ID Interval:  ▼

OK

Cancel

Enter  
Your  
Call &  
Grid





Enter Radio and Comm Method

No CAT? Select No Radio and just use VOX

Some of this set (if it is)

General | Radio | **Audio** | Tx Macros | Reporting | Frequencies | Colors | Advanced

Soundcard

Input: Line In (IDT High Definition Audio CODEC) Mono

Output: Speakers / Headphones (IDT High Definition Audio CODEC) Mono

Save Directory

Location: C:/Users/She/\AppData/Local/WSJT-X/save Select

Path to which .WAV files are saved.

AzEl Directory

Location: C:/Users/She/\AppData/Local/WSJT-X Select

Remember power settings by band

Transmit  Tune

OK Cancel

Select Audio In/ Out



Band Activity

Rx Frequency

UTC dB DT Freq Message

UTC dB DT Freq Message

# The Main Screen

Everything received and decoded in the 2 kHz+ FT8 band segment is shown here on the left side.

Everything on your specific receive freq is shown here on the right side.

Log QSO Stop Monitor Erase Decode Enable Tx Halt Tx Tune  Menus

20m ● **14.074 000**  Tx even/1st

DX Call DX Grid Tx 850 Hz Tx ← Rx

KA4RSZ EM73 Rx 850 Hz Rx ← Tx

Az: 101 1169 mi  Hold Tx Freq

Lookup Add Report -11  Auto Seq  Call 1st

NA VHF Contest

Generate Std Msgs Next Now Pwr

KA4RSZ KF0UR DM78	<input type="radio"/>	Tx 1
KA4RSZ KF0UR -11	<input type="radio"/>	Tx 2
KA4RSZ KF0UR R-11	<input type="radio"/>	Tx 3
KA4RSZ KF0UR RRR	<input type="radio"/>	Tx 4
KA4RSZ KF0UR 73	<input type="radio"/>	Tx 5
CQ KF0UR DM78	<input checked="" type="radio"/>	Tx 6

Receiving FT8 Last Tx: KA4RSZ KF0UR 73 14/15 WD:7m

Band Activity					Rx Frequency				
UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message

**Auto-Pilot**

**Automatically generated standard messages**

**Band**

**Audio level in**

**Audio level out**

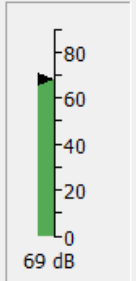
**Watchdog Timer**

**15 second Timer**

Log QSO Stop **Monitor** Erase Decode **Enable Tx** Halt Tx Tune  Menus

30m

**10.136 000**



**AKBA EN62**  
 Az: 68 985 mi

**2017 Dec 24 17:37:54**

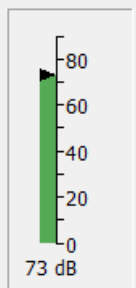
Tx even/1st  
 Tx 750 Hz  
 Rx 749 Hz  
 Hold Tx Freq  
 Report 3  
 Auto Seq  Call 1st  
 NA VHF Contest

Generate Std Msgs	Next	Now
AK8A KFOUR DM78	<input type="radio"/>	Tx 1
AK8A KFOUR +03	<input type="radio"/>	Tx 2
AK8A KFOUR R+03	<input type="radio"/>	Tx 3
AK8A KFOUR RRR	<input type="radio"/>	Tx 4
AK8A KFOUR 73	<input type="radio"/>	Tx 5
CQ KFOUR DM78	<input checked="" type="radio"/>	Tx 6

Band Activity					Rx Frequency				
UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message
----- 20m									
175500	-18	0.1	700	~ KJ6WH KD2IYI -21					
175500	-16	0.1	749	~ YU7JDE KA1YQC R-05					
175500	-6	0.0	907	~ K3GEV KK4LB R-24					
175500	-9	0.1	1046	~ K9QVB W7NAT CN84					
175500	1	0.0	1257	~ TA1BX W8ATE EN81					
175500	1	0.1	1532	~ W4USH KC9MEG R+08					
175500	3	0.0	1727	~ CQ KK4IOH EM45					
175500	-8	0.0	1783	~ CQ N5BFB EM13					
175500	6	0.1	1888	~ EA4DUA W9YSX EM79					
175500	-17	0.1	2096	~ CQ WA9THI EM69					
175500	0	0.0	2502	~ KK4HEG NU4N 73					
175500	-11	1.1	912	~ PY7XC W2WGK FN30					
175500	-23	0.2	1349	~ TA4RC AJ4VE R-24					
----- 20m									
175515	-4	0.1	523	~ CQ WB5XX EM33					
175515	-2	0.1	809	~ VE2PI KC9WIB 73					
175515	-19	0.0	969	~ W1AVK N7MMO CN87					
175515	5	-0.2	1045	~ IT9DGZ K9QVB -24					
175515	-11	-0.6	1097	~ CQ KQ4BR FM05					
175515	-6	0.1	1270	~ K6BV EA2XR -22					
175515	-5	0.2	1416	~ PR7RBA VE3KU FN03					
175515	-9	0.0	1531	~ KC9MEG W4USH RRR					
175515	-16	0.2	1662	~ KE7BC AA7CT RRR					
175515	-16	0.4	2094	~ KF0QR K2VER -04					
175515	-13	0.1	2500	~ NU4N KK4HEG 73					
175515	10	0.1	2627	~ K6AKW K8TB EN72					
175515	-3	-1.2	793	~ CQ DX KD7HSH CN87					

Log QSO Stop **Monitor** Erase Decode Enable Tx Halt Tx Tune  Menus

20m ● **14.074 000**



Tx even/1st

DX Call: AKSDA DX Grid: EM22

Az: 123 698 mi

Lookup Add Report -15

**2017 Dec 22 17:55:32**

Auto Seq  Call 1st

NA VHF Contest

Tx 850 Hz Tx ← Rx Rx 850 Hz Rx ← Tx  Hold Tx Freq

Generate Std Msgs Next Now Pwr

AKSDA KFOUR DM78	<input type="radio"/>	Tx 1
AKSDA KFOUR -15	<input type="radio"/>	Tx 2
AKSDA KFOUR R-15	<input type="radio"/>	Tx 3
AKSDA KFOUR RRR	<input type="radio"/>	Tx 4
AKSDA KFOUR 73	<input type="radio"/>	Tx 5
CQ KFOUR DM78	<input checked="" type="radio"/>	Tx 6

# A CLOSER LOOK.....

## Band Activity

UTC	dB	DT	Freq	Message
----- 20m				
175500	-18	0.1	700 ~	KJ6WH KD2IYI -21
175500	-16	0.1	749 ~	YU7JDE KA1YQC R-05
175500	-6	0.0	907 ~	K3GEV KK4LB R-24
175500	-9	0.1	1046 ~	K9QVB W7NAT CN84
175500	1	0.0	1257 ~	TA1BX W8ATE EN81
175500	1	0.1	1532 ~	W4USH KC9MEG R+08
175500	3	0.0	1727 ~	CQ KK4IOH EM45
175500	-8	0.0	1783 ~	CQ N5BFB EM13

A typical QSO where I answered someone.

4U1WB called CQ.

I double-clicked on his **green** CQ on the left (off screen). WSJT-X took over from there.

Band Activity

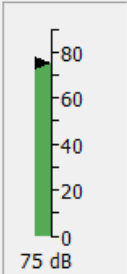
UTC	dB	DT	Freq	Message
185815	6	-0.0	639	~ K0OY W4GU EM95
----- 20m -----				
185845	10	1.6	1211	~ KFOUR 4U1WB RRR
185845	-2	0.0	368	~ WA2ZVN K4TFT EM70
185845	-14	1.1	440	~ CQ K2CDP FN20
185845	-19	0.8	576	~ CQ K3GEV EM92
185845	1	0.0	638	~ K0OY W4GU R-14
185845	-1	0.1	705	~ KG5HTH W6TST CM96
185845	-1	0.4	883	~ HC7AE KG8P R+01
185845	-11	-0.2	1023	~ KD2BYA KT7G 73
185845	-3	0.2	1506	~ CQ WE7P CN87
185845	-14	0.5	1605	~ VE7JH W6ZKH -03
185845	-18	0.1	1754	~ KC0LR N2PGJ -19
185845	-8	0.1	2062	~ CQ W2IAN CM87
185845	-10	0.1	738	~ W0CAS WF6L -12
----- 20m -----				
185915	2	1.7	1210	~ KFOUR 4U1WB 73
185915	-6	0.0	367	~ WA2ZVN K4TFT EM70
185915	3	-0.0	637	~ K0OY W4GU 73
185915	-16	0.1	704	~ KG5HTH W6TST R+00
185915	7	0.4	882	~ HC7AE KG8P 73
185915	-10	0.0	1349	~ N6HE K8ZAP EN72
185915	-7	0.1	1450	~ CQ N2YI FN13
185915	-2	0.2	1505	~ CQ WE7P CN87
185915	-19	0.5	1605	~ VE7JH W6ZKH RRR
185915	-7	0.1	2060	~ JA8ECS W2IAN -24
185915	-12	0.0	2280	~ CQ KA2GQQ FN20
185915	-5	0.1	883	~ HC7AE K4AGO EM95
185915	-17	0.2	1512	~ CQ AH6FF/W3 EN90

Rx Frequency

UTC	dB	DT	Freq	Message
185745	-2	1.2	1213	~ CQ 4U1WB FM18
185800	Tx		798	~ 4U1WB KFOUR DM78
185815	10	1.6	1212	~ KFOUR 4U1WB +09
185830	Tx		798	~ 4U1WB KFOUR R+10
185845	10	1.6	1211	~ KFOUR 4U1WB RRR
185900	Tx		798	~ 4U1WB KFOUR 73
185915	2	1.7	1210	~ KFOUR 4U1WB 73

Log QSO
Stop
Monitor
Erase
Decode
Enable Tx
Halt Tx
Tune
 Menus

20m



75 dB

14.074 000

2017 Dec 06  
18:59:38

Tx even/1st

Hold Tx Freq

Auto Seq  Call 1st

NA VHF Contest

Generate Std Msgs

	Next	Now
4U1WB KFOUR DM78	<input type="radio"/>	Tx 1
4U1WB KFOUR +10	<input type="radio"/>	Tx 2
4U1WB KFOUR R+10	<input type="radio"/>	Tx 3
4U1WB KFOUR RRR	<input type="radio"/>	Tx 4
4U1WB KFOUR 73	<input type="radio"/>	Tx 5
CQ KFOUR DM78	<input checked="" type="radio"/>	Tx 6

Receiving
FT8
Last Tx: 4U1WB KFOUR 73
8/15 WD:8m



# A CLOSER LOOK AT A TYPICAL QSO.....

## Rx Frequency

UTC	dB	DT	Freq	Message
185745	-2	1.2	1213 ~	CQ 4U1WB FM18
185800	Tx		798 ~	4U1WB KFOUR DM78
185815	10	1.6	1212 ~	KFOUR 4U1WB +09
185830	Tx		798 ~	4U1WB KFOUR R+10
185845	10	1.6	1211 ~	KFOUR 4U1WB RRR
185900	Tx		798 ~	4U1WB KFOUR 73
185915	2	1.7	1210 ~	KFOUR 4U1WB 73

# WSJT-X CAN BE ON AUTO-PILOT

- You can opt to have WSJT-X automatically sequence through the QSO exchange.
- It will automatically repeat things if necessary.
- It has a WatchDog timer so it will stop calling CQ after so many minutes
- It contains a log, with ADIF output. You can have it prompt you to log at the end of each QSO. You just have to click OK.

WSJT-X v1.8.0 by K1JT

File Configurations View Mode Decode Save Tools Help

Band Activity

UTC	dB	DT	Freq	Message
165845	-14	0.1	1089	~ CQ K9VD CN87
165845	-8	-0.1	1390	~ 9A5CW W0LSD R-21
165845	0	-1.0	1881	~ IT9CCB K4PVJ FM16
165845	-12	-0.1	2391	~ NA4ME TU 73
----- 30m -----				
165915	-3	0.9	406	~ I2OGV KB2DTT RRR
165915	-6	0.1	470	~ N5HOT AA0AW RRR
165915	13	0.2	712	~ W0QU N0AZZ EM36
165915	-7	1.5	799	~ KF0UR AK5DA EM22
165915	2	-1.6	977	~ CQ K4FJU FM05
165915	-18	0.1	1088	~ CQ K9VD CN87
165915	13	0.1	2107	~ E74EBL WG0G EN35
165915	-19	-0.1	2390	~ NA4ME TU 73
----- 30m -----				
165945	0	1.5	799	~ KF0UR AK5DA R-12
165945	-3	0.9	406	~ I2OGV KB2DTT RRR
165945	-6	0.0	470	~ N5HOT AA0AW 73
165945	5	0.3	712	~ W0QU N0AZZ EM36
165945	3	-1.6	977	~ CQ K4FJU FM05
165945	-18	0.1	1088	~ F8FUA K9VD -14
165945	15	0.1	2107	~ E74EBL WG0G EN35
----- 30m -----				
170015	0	1.5	798	~ KF0UR AK5DA 73
170015	-6	0.9	406	~ I2OGV KB2DTT 73
170015	-4	0.1	470	~ N5HOT AA0AW 73
170015	13	0.3	712	~ W0QU N0AZZ EM36
170015	-8	-1.6	977	~ CQ K4FJU FM05
170015	-19	0.1	1089	~ F8FUA K9VD RRR
170015	-23	0.1	2234	~ CQ W3IH DM63

Rx Frequency

UTC	dB	DT	Freq	Message
165730	Tx		850	~ CQ KF0UR DM78
165800	Tx		850	~ CQ KF0UR DM78
165830	Tx		850	~ CQ KF0UR DM78
165900	Tx		850	~ CQ KF0UR DM78
165915	-7	1.5	799	~ KF0UR AK5DA EM22
165930	Tx		850	~ AK5DA KF0UR -07
165945	0	1.5	799	~ KF0UR AK5DA R-12
170000	Tx		850	~ AK5DA KF0UR RRR
170015	0	1.5	798	~ KF0UR AK5DA 73
170030	Tx		850	~ AK5DA KF0UR 73

Log QSO Stop Monitor Erase Decode Enable Tx Halt Tx Tune  Menus

30m ● 10.136 000  Tx even/1st

DX Call: AK5DA

DX Grid: EM22

Az: 123 698 mi

Lookup Add

Tx 850 Hz

Rx 798 Hz

Report 0

Auto Seq  Call 1st

NA VHF Contest

Tx ← Rx

Rx ← Tx

Hold Tx Freq

Generate Std Msgs

Next	Now
AK5DA KF0UR DM78	<input type="radio"/> Tx 1
AK5DA KF0UR +00	<input type="radio"/> Tx 2
AK5DA KF0UR R+00	<input type="radio"/> Tx 3
AK5DA KF0UR RRR	<input type="radio"/> Tx 4
AK5DA KF0UR 73	<input type="radio"/> Tx 5
CQ KF0UR DM78	<input checked="" type="radio"/> Tx 6

2017 Dec 22 17:00:50

Receiving FT8 Last Tx: AK5DA KF0UR 73 5/15 WD:8m

A typical QSO where I called CQ.

AK5DA answered me.

I just logged it at the end.

# A CLOSER LOOK.....

## Rx Frequency

UTC	dB	DT	Freq	Message
165730	Tx		850 ~	CQ KF0UR DM78
165800	Tx		850 ~	CQ KF0UR DM78
165830	Tx		850 ~	CQ KF0UR DM78
165900	Tx		850 ~	CQ KF0UR DM78
165915	-7	1.5	799 ~	KF0UR AK5DA EM22
165930	Tx		850 ~	AK5DA KF0UR -07
165945	0	1.5	799 ~	KF0UR AK5DA R-12
170000	Tx		850 ~	AK5DA KF0UR RRR
170015	0	1.5	798 ~	KF0UR AK5DA 73
170030	Tx		850 ~	AK5DA KF0UR 73

Multiple sigs can be decoded at a time

If Call 1<sup>st</sup> is checked, the first one is replied to (W7WRJ)

WSJT-X v1.8.0 by K1JT

File Configurations View Mode Decode Save Tools Help

Band Activity

UTC	dB	DT	Freq	Message
193515	-21	0.2	1328	~ VE3PCP KY0R DM78
193515	-1	-0.0	1437	~ KC3ARN AG5AY EM40
193515	4	0.0	1640	~ W7UT W2IAN -02
193515	-2	-0.1	1785	~ F4HRM N9NTC EN52
193515	-16	0.0	1908	~ KM4DDJ W1EME 73
193515	-7	-0.0	1983	~ CQ KN4BBC FM05
193515	-17	1.7	2245	~ KS0CW KW7U DM08
193515	-17	0.0	780	~ WB9RAS KD2BYA 73
193515	-3	0.0	1421	~ KL3MO K8NU R-20
----- 20m				
193545	-10	0.2	1148	~ KF0UR W7WRJ 73
193545	0	-0.1	932	~ WA8YEG K5TTF EL28
193545	-9	0.3	1020	~ CQ VE3CUS FN14
193545	-11	0.3	1340	~ WA8YEG KF6LYF DM13
193545	-3	0.0	1421	~ KL3MO K8NU 73
193545	-12	0.0	1640	~ W7UT W2IAN RRR
193545	4	-0.1	1785	~ F4HRM N9NTC EN52
193545	-17	-0.0	1908	~ CQ W1EME FN32
193545	-5	-0.0	1983	~ CQ KN4BBC FM05
193545	-8	-0.0	894	~ KG5UWB AG6GL -17
193545	-20	0.1	1193	~ CQ MS AA7CT CN86

Rx Frequency

UTC	dB	DT	Freq	Message
193430	Tx		1148	~ CQ KF0UR DM78
193445	-10	0.2	1149	~ KF0UR W7WRJ DM41
193445	-23	0.6	1016	~ KF0UR K9WQ -15
193445	-19	-1.1	1077	~ KF0UR KG5VMD EL29
193500	Tx		1148	~ W7WRJ KF0UR -10
193515	-15	-0.6	1149	~ KF0UR W7WRJ R-14
193530	Tx		1148	~ W7WRJ KF0UR RRR
193545	-10	0.2	1148	~ KF0UR W7WRJ 73
193600	Tx		1148	~ W7WRJ KF0UR 73

Log QSO Stop Monitor Erase Decode Enable Tx Halt Tx Tune  Menus

20m

0 dB

14.074 000

Tx even/1st

Auto Seq

NA VHF Contest

DX Call: W7WRJ    DX Grid: DM41

Az: 217    590 mi

Report -10

Call 1st

Generate Std Msgs

Next	Now
W7WRJ KF0UR DM78	<input type="radio"/> Tx 1
W7WRJ KF0UR -10	<input type="radio"/> Tx 2
W7WRJ KF0UR R-10	<input type="radio"/> Tx 3
W7WRJ KF0UR RRR	<input type="radio"/> Tx 4
W7WRJ KF0UR 73	<input type="radio"/> Tx 5
CQ KF0UR DM78	<input checked="" type="radio"/> Tx 6

Tx: W7WRJ KF0UR 73

FT8

Last Tx: W7WRJ KF0UR RRR

8/15    WD:8m

# A CLOSER LOOK.....

## Rx Frequency

UTC	dB	DT	Freq	Message
193430	Tx		1148 ~	CQ KFOUR DM78
193445	-10	0.2	1149 ~	KFOUR W7WRJ DM41
193445	-23	0.6	1016 ~	KFOUR K9WQ -15
193445	-19	-1.1	1077 ~	KFOUR KG5VMD EL29
193500	Tx		1148 ~	W7WRJ KFOUR -10
193515	-15	-0.6	1149 ~	KFOUR W7WRJ R-14
193530	Tx		1148 ~	W7WRJ KFOUR RRR
193545	-10	0.2	1148 ~	KFOUR W7WRJ 73
193600	Tx		1148 ~	W7WRJ KFOUR 73

Band Activity					Rx Frequency				
UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message
211715	-21	-0.2	1443	~ K4MY PY2EBD GG67	211630	Tx		721	~ CQ KFOUR DM78
211715	0	0.1	1570	~ VE7ACU W1EHQ 73	211700	Tx		721	~ CQ KFOUR DM78
211715	6	0.2	1654	~ WOPE W3WTE FM28	211730	Tx		721	~ CQ KFOUR DM78
211715	11	2.3	1733	~ K8YBU CO3NR 73	211745	2	0.1	720	~ KFOUR PU3WIW GG41
211715	1	0.6	1655	~ WOPE K2DAR FN22	211745	-2	0.6	722	~ KFOUR VE6DAC DO32
----- 15m					211800	Tx		721	~ PU3WIW KFOUR +02
211745	2	0.1	720	~ KFOUR PU3WIW GG41	211745	-14	0.0	721	~ KFOUR NA5WH EL96
211745	1	-0.2	477	~ VK2LAW NJ8K EN82	211815	2	0.1	719	~ KFOUR PU3WIW R-08
211745	13	-1.0	1015	~ CQ AC8MW EM99	211830	Tx		721	~ PU3WIW KFOUR RRR
211745	-11	0.3	1167	~ CQ PY2OSD GG66					
211745	-10	-0.2	1357	~ CQ LU5MT FF57					
211745	-1	0.1	1571	~ CQ W1EHQ FN42					
211745	-5	0.5	1656	~ WOPE K2DAR FN22					
211745	4	2.3	1733	~ CQ CO3NR EL83					
211745	-2	0.6	722	~ KFOUR VE6DAC DO32					
211745	-3	0.1	1652	~ WOPE PY1BL GG87					
211745	-14	0.0	721	~ KFOUR NA5WH EL96					
----- 15m									
211815	2	0.1	719	~ KFOUR PU3WIW R-08					
211815	2	-0.2	477	~ VK2LAW NJ8K EN82					
211815	2	0.3	596	~ CQ WA3TLT FN00					
211815	13	-0.9	1015	~ CQ AC8MW EM99					
211815	-10	0.3	1166	~ KA7PNH PY2OSD -16					
211815	-4	0.1	1465	~ WOPE K2DAR R-05					
211815	-5	0.1	1570	~ CQ W1EHQ FN42					
211815	-1	0.1	1652	~ WOPE PY1BL GG87					
211815	3	2.3	1733	~ CQ CO3NR EL83					
211815	-18	-0.2	476	~ UD3VTY D4/4L8QJP					
211815	-16	-0.2	1176	~ WB5JJJ PY2EBD GG67					

Log QSO Stop Monitor Erase Decode Enable Tx Halt Tx Tune  Menus

15m ● **21.074 000**  Tx even/1st

DX Call: PU3WIW DX Grid: GG41 Tx 721 Hz Rx 719 Hz Tx ← Rx Rx ← Tx

Az: 134 5779 mi  Hold Tx Freq

Lookup Add Report 2  Auto Seq  Call 1st  NA VHF Contest

**2017 Dec 04 21:18:48**

Generate Std Msgs	Next	Now	Pwr
PU3WIW KFOUR DM78	<input type="radio"/>	Tx 1	
PU3WIW KFOUR +02	<input type="radio"/>	Tx 2	
PU3WIW KFOUR R+02	<input type="radio"/>	Tx 3	
PU3WIW KFOUR RRR	<input checked="" type="radio"/>	Tx 4	
PU3WIW KFOUR 73	<input type="radio"/>	Tx 5	
CQ KFOUR DM78	<input type="radio"/>	Tx 6	

# A CLOSER LOOK.....

## Rx Frequency

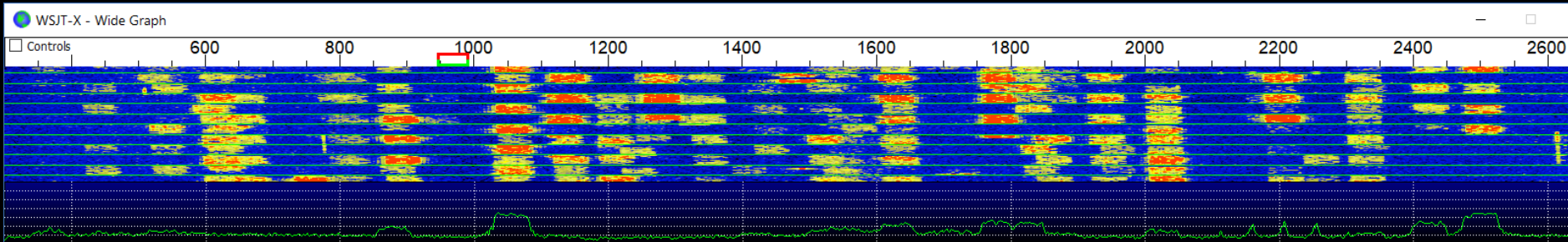
UTC	dB	DT	Freq	Message
211630	Tx		721 ~	CQ KFOUR DM78
211700	Tx		721 ~	CQ KFOUR DM78
211730	Tx		721 ~	CQ KFOUR DM78
211745	2	0.1	720 ~	KFOUR PU3WIW GG41
211745	-2	0.6	722 ~	KFOUR VE6DAC DO32
211800	Tx		721 ~	PU3WIW KFOUR +02
211745	-14	0.0	721 ~	KFOUR NA5WH EL96
211815	2	0.1	719 ~	KFOUR PU3WIW R-08
211830	Tx		721 ~	PU3WIW KFOUR RRR



# A CLOSER LOOK.....

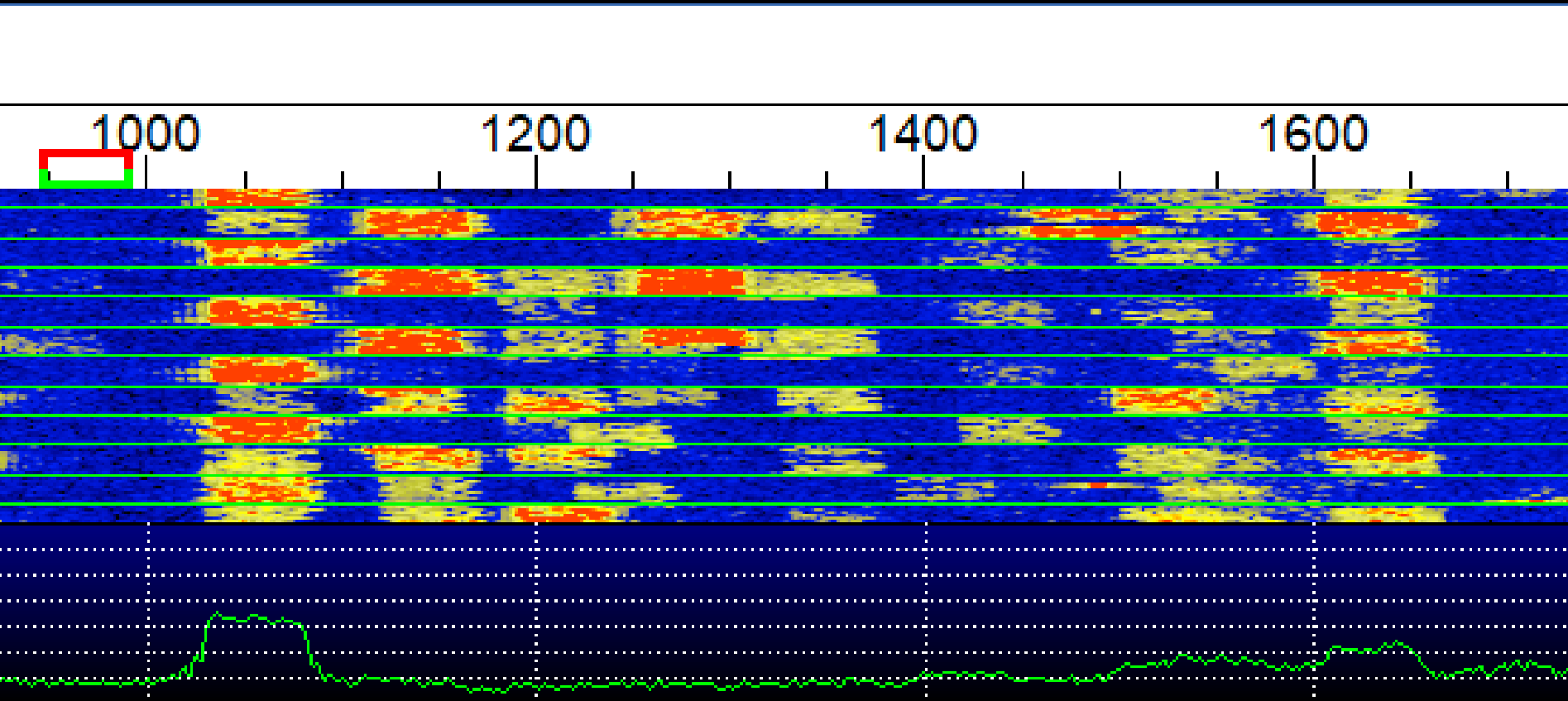
Rx Frequency				
UTC	dB	DT	Freq	Message
190115	Tx		1240 ~	K1JT KFOUR DM78
190100	-6	-0.3	1848 ~	KFOUR K1JT -03
190115	Tx		1240 ~	K1JT KFOUR R-06
190130	-10	0.4	1846 ~	KFOUR K1JT RR73
190145	Tx		1240 ~	K1JT KFOUR 73

# WSJT-X INCLUDES A SPECTRAL DISPLAY



- Like WX Radar, strong sigs are bright red, weak ones are faded yellow.
- You may not see really weak ones at all
- The bandwidth of each sig is 50 Hz.
- My Xmit freq is the **red** goal post (~950 Hz above).
- My Receive freq is the **green** goal post (also ~950 Hz)

# WSJT-X SPECTRAL DISPLAY



# PSKREPORTER.INFO

- PSKReporter.info, as the URL implies, is not new to FT8
- Stations anywhere, if connected to the internet, can optionally report what they hear to PSK Reporter.
- It's a world-wide skimmer! **Very COOL!**
- It'll show you where you are heard and how strong.
- You can report what you hear just by clicking a checkbox in Settings.

General

Radio

Audio

Tx Macros

Reporting

Frequencies

Colors

Advanced

## Logging

- Prompt me to log QSO
- Convert mode to RTTY
- dB reports to comments
- Clear DX call and grid after logging

## Network Services

- Enable PSK Reporter Spotting

## UDP Server

- UDP Server:   Accept UDP requests
- UDP Server port number:   Notify on accepted UDP request
- Accepted UDP request restores window

OK

Cancel

# PSKReporter.info

Display Reception Report x

Secure | <https://pskreporter.info/pskmap.html>

On  , show  sent by   using  over the last

[Display options](#) [Permalink](#)

Monitoring KF0UR (last heard 0 mins ago). Automatic refresh in 5 minutes. Large markers are monitors.  
There are [736 active FT8 monitors](#) on 20m. [Show all FT8 on all bands](#). [Show all on all bands](#). [Legend](#)



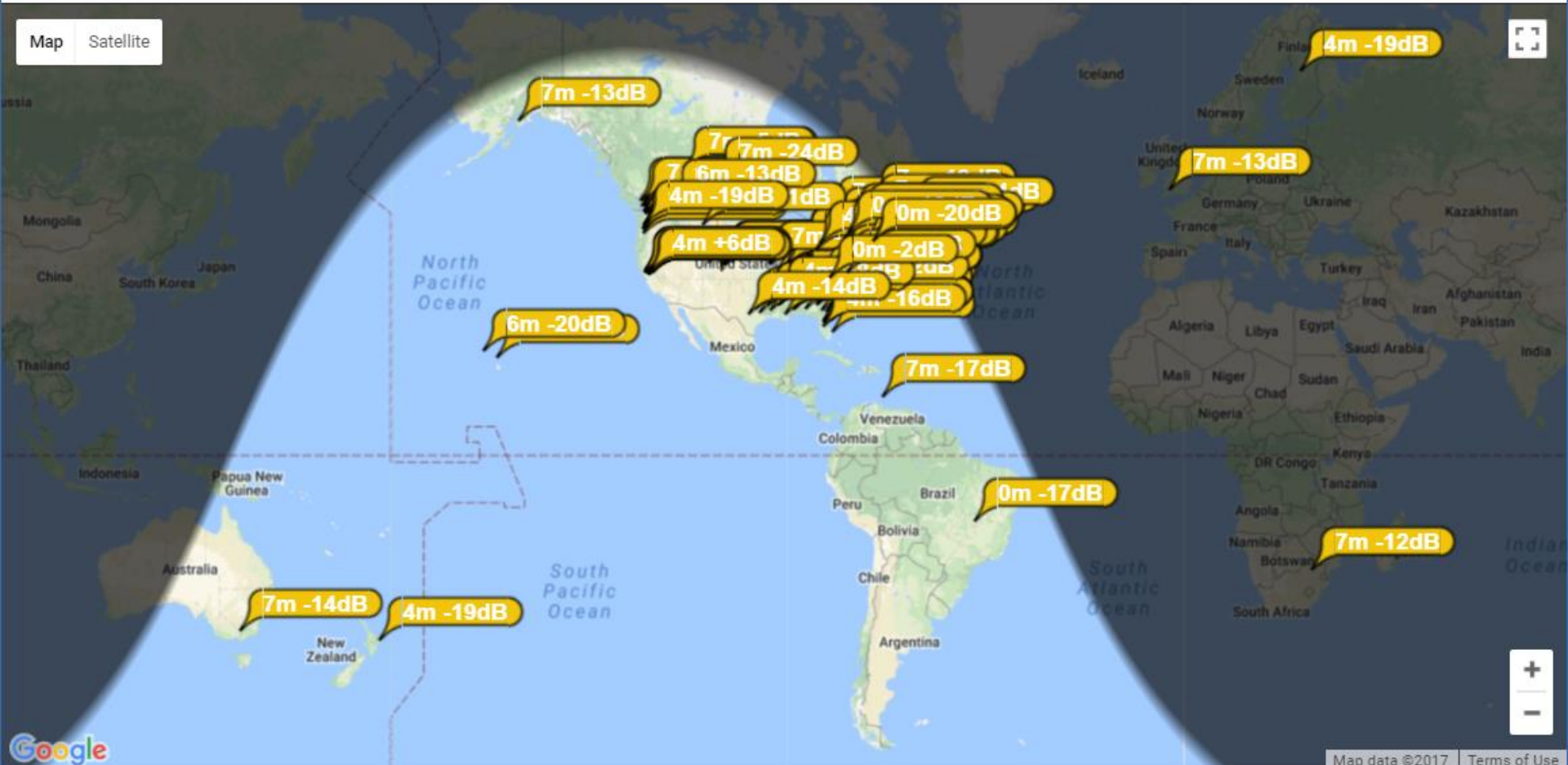
# PSKREPORTER.INFO

Display Reception Report x

Secure | <https://pskreporter.info/pskmap.html>

On  , show  sent by   using  over the last

[Display options](#) [Permalink](#)  
Monitoring KF0UR (last heard 0 mins ago). Automatic refresh in 5 minutes. 232 reception reports for KF0UR are shown as times ([show logbook](#)).  
There are [725 active FT8 monitors](#) on 20m. [Show all FT8 on all bands](#). [Show all on all bands](#). [Legend](#)



Display Reception Report

Secure | <https://pskreporter.info/pskmap.html>

On , show , sent by ,  using  over the last

[Display options](#) [Permalink](#)

Monitoring KF0UR (last heard 1 mins ago). Automatic refresh in 5 minutes. 121 reception reports for KF0UR are shown as times ([show logbook](#)).

There are [570 active FT8 monitors](#) on 40m. [Show all FT8 on all bands](#). [Show all on all bands](#). [Legend](#)

Map Satellite

1m -14dB

3m -4dB  
2m -18dB  
3m -14dB  
3m -14dB  
2m -17dB  
2m -16dB  
2m -11dB  
1m +5dB  
1m -20dB  
1m +3dB  
2m -13dB  
3m -18dB  
3m -12dB

Rx at Thu, 07 Dec 2017 15:06:44 GMT  
From [KF0UR](#) by [JA7OXV](#) Loc QM07  
Frequency: 7.074.754 MHz (40m), FT8, -14dB  
Distance: 9199 km bearing 313°  
Using: WSJT-X v1.8.0-rc2 r8069

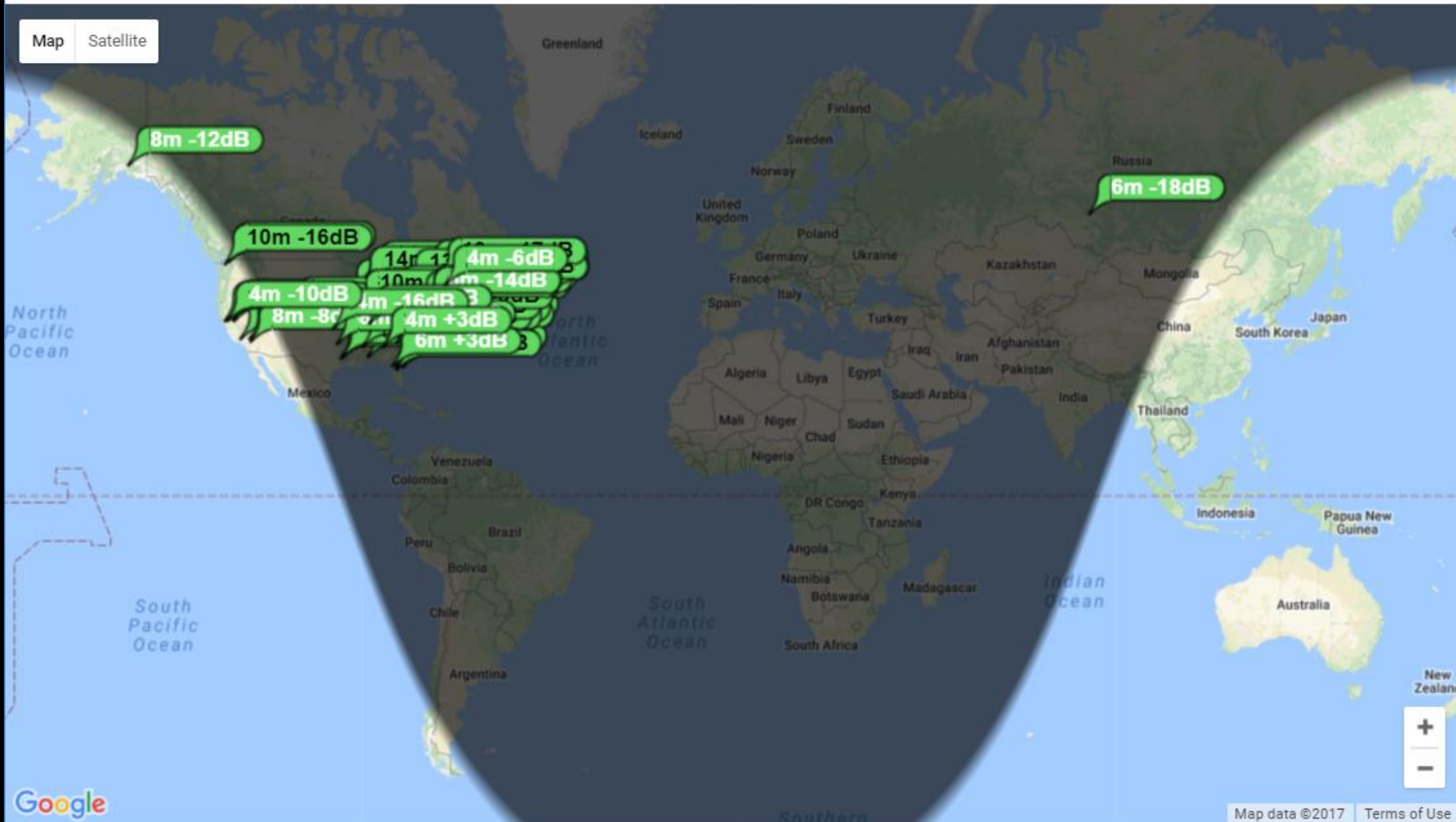


On  show  sent by   using  over the last

[Display options](#) [Permalink](#)

Monitoring KF0UR (last heard 4 mins ago). Automatic refresh in 2 minutes. 81 reception reports for KF0UR are shown as times ([show logbook](#)).

There are [196 active FT8 monitors](#) on 30m. [Show all FT8 on all bands](#). [Show all on all bands](#). [Legend](#)



**Let's Take a Real-Time Look!**

**KFØUR**



**Colorado Springs, Colorado, USA**

**Elevation  
6850 Feet**