

Razvoj FT8 FH in V2.0

Iztok, S52D

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Prej...

WSJTX na kratkem valu

- kako deluje in kako uporabiti

Ljubljana, 3. februar 2018, RIS 2018

Razširjeno, 19. februar 2018, S53APR

Novo: WSJTX 1.9.1, WSJTX 2.0

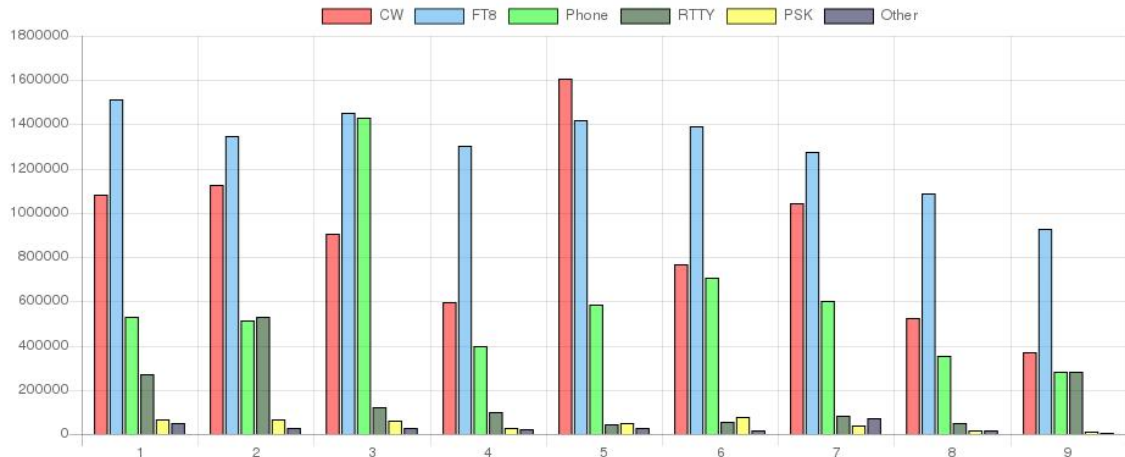
- lov na lisico, kontesti ...

STARI FT8 samo do decembra letos

FT8 je prevzel KV

CW: kontesti, DXpedicije, posebne postaje

- kako narediti CW QSO v ponedeljek na 14 MHz?
- clublog, LA8AJA:



Kup programov

WSJTX: Originalni K1JT, K9AN, G4WJS

- JTDX: skupina okoli UA3DJY: več funkcij
- weakmon, AB1HL, samo RX. Python koda
- celo S52D: Diversity, morebiti V2.1?
- FT8CALL: odprto besedilo z FT8 kodiranjem

Odprta koda: vsak lahko spreminja. Če objaviš, moraš tudi kodo.

Tu govorim o originalnem WSJTX in FT8.

ZL2IFB nasveti za delo z FT8

JTAlert za Windows: podpora klofariji.

FT8 QSO

klik na: CQ UX1BZ KN29

The screenshot displays the FT8 software interface. At the top, there are two columns of a contact log. The left column shows a list of contacts, with the entry '171615 -13 0.1 1896 ~ CQ UX1BZ KN29 -Ukraine' highlighted in pink. The right column shows another list of contacts, with '171615 -13 0.1 1896 ~ CQ UX1BZ KN29' highlighted in green. Below the log is a control panel with various buttons: 'Log QSO', 'Stop', 'Monitor', 'Erase', 'Decode', 'Enable Tx' (highlighted in red), 'Halt Tx', 'Tune', and 'Menus'. The frequency display shows '20m' and '14.074 000'. The 'DX Call' field contains 'UX1BZ' and the 'DX Grid' field contains 'KN29'. The 'Az: 62' and '816 km' are also visible. A large digital display shows the date and time: '2018 Feb 18 17:16:37'. On the right side, there is a 'Generate Std Msgs' section with a list of messages: 'UX1BZ S52D JN76', 'UX1BZ S52D -13', 'UX1BZ S52D R-13', 'UX1BZ S52D RRR', 'UX1BZ S52D 73', and 'CQ S52D JN76'. The 'Tx 2' button is selected. At the bottom, the status bar shows 'Tx: UX1BZ S52D -13', 'rocn', 'FT8', 'Last Tx: K4AKK S52D -17', '7/15', and 'WD:5m'.

Time	Offset	Power	Mode	Call	Grid	Country
171615	-18	0.2	388	~	CQ KALYQC FN42	USA
171615	5	0.1	507	~	DL6CMF EB5GC RRR	
171615	-13	0.7	760	~	A92AA KC1GNH FN43	
171615	13	1.2	847	~	C31KC CU7AA HM58	
171615	-18	0.2	1045	~	AM5WAP KN9C EM69	
171615	-20	0.8	1240	~	EA7OR PY7KG R-08	
171615	3	0.1	1401	~	4X1RU EA5IHM IN97	
171615	-8	1.4	1575	~	CQ K4TXX EM95	USA
171615	-11	0.2	1810	~	C31KC DK9WB -24	
171615	-13	0.1	1896	~	CQ UX1BZ KN29	-Ukraine
171615	-16	0.1	2210	~	N6ARY K2KXK EM96	
171615	-15	0.5	1003	~	A92AA K4AKK EM55	
171615	-8	-0.3	552	~	GI1PU EA7IEZ RRR	
171615	-11	0.1	727	~	A92AA W8MRL EM79	
171615	-13	0.1	1570	~	TP9OPR K9EKP R-04	
171615	-17	0.1	964	~	C31KC W8GU R-14	
171615	-17	0.1	1529	~	ZB2ER IK6BSN JN62	
171030	-13	1.1	1179	~	CQ N5JJH EM32	
171045	Tx		1179	~	N5JJH S52D -15	
171047	Tx		1179	~	N5JJH S52D -13	
171115	Tx		1179	~	N5JJH S52D -13	
171130	-13	0.1	1176	~	CQ CT1FIU IN50	
171145	Tx		1179	~	N5JJH S52D -13	
171300	-16	1.1	1178	~	VA2ZC N5JJH RRR	
171330	-16	1.1	1179	~	VA2ZC N5JJH 73	
171349	Tx		1179	~	N5JJH S52D -13	
171415	Tx		1179	~	N5JJH S52D -13	
171445	-17	0.1	1003	~	CQ DX K4AKK EM55	
171501	Tx		1003	~	K4AKK S52D -17	
171530	Tx		1003	~	K4AKK S52D -17	
171600	Tx		1003	~	K4AKK S52D -17	
171615	-15	0.5	1003	~	A92AA K4AKK EM55	
171615	-13	0.1	1896	~	CQ UX1BZ KN29	
171634	Tx		1896	~	UX1BZ S52D -13	

Kličem

Dvakrat, nisem sprejel odgovora

The screenshot displays a radio software interface with two main panes. The left pane shows a log of QSOs (contacts) with columns for time, signal strength, frequency, and call signs. The right pane shows a list of messages to be transmitted, with columns for time, signal strength, frequency, and call signs.

QSO Log (Left Pane):

Time	Signal	Freq	Call Sign	Location
171615	-8	0.3	552 ~ G1IPU EA7IEZ RRR	
171615	-11	0.1	727 ~ A92AA W8MRL EM79	
171615	-13	0.1	1570 ~ IT9OPR R9EKP R-04	
171615	-17	0.1	964 ~ C31KC W8GU R-14	
171615	-17	0.1	1529 ~ ZB2ER IK6BSN JN62	
171645	9	0.1	508 ~ DL6CMF EB5GC 73	
171645	-14	0.3	646 ~ DM2DMI AA7G -19	
171645	-14	0.1	726 ~ A92AA W8MRL EM79	
171645	12	1.2	847 ~ C31KC CU7AA R+01	
171645	3	0.1	1402 ~ 4X1RU EA5IHM IM97	
171645	-12	0.2	1809 ~ C31KC DK9WB -24	
171645	-14	0.2	1942 ~ YT1DL KN9C EM69	
171645	-10	-0.3	2152 ~ WA2HIP KJ4FZ +01	
171645	-15	0.1	2210 ~ N6ARY K2KXK EM66	
171645	-4	-0.3	552 ~ G1IPU EA7IEZ RRR	
171645	-14	0.6	920 ~ CQ EA5XY IM99	Spain
171645	-16	0.2	1003 ~ IZ8CKY K4AKK -15	

Message List (Right Pane):

Time	Signal	Freq	Call Sign	Location
171045	Tx	1179	~ N5JUH S52D -15	
171047	Tx	1179	~ N5JUH S52D -13	
171115	Tx	1179	~ N5JUH S52D -13	
171130	-13	0.1	1176 ~ CQ CT1FIU IN50	
171145	Tx	1179	~ N5JUH S52D -13	
171300	-16	1.1	1178 ~ VA2ZC N5JUH RRR	
171330	-16	1.1	1179 ~ VA2ZC N5JUH 73	
171349	Tx	1179	~ N5JUH S52D -13	
171415	Tx	1179	~ N5JUH S52D -13	
171445	-17	0.1	1003 ~ CQ DX K4AKK EM55	
171501	Tx	1003	~ K4AKK S52D -17	
171530	Tx	1003	~ K4AKK S52D -17	
171600	Tx	1003	~ K4AKK S52D -17	
171615	-15	0.5	1003 ~ A92AA K4AKK EM55	
171615	-13	0.1	1896 ~ CQ UX1BZ KN29	
171634	Tx	1896	~ UX1BZ S52D -13	
171700	Tx	1896	~ UX1BZ S52D -13	

Software Interface Details:

- Frequency:** 14.074 000
- Mode:** 20m
- Call Sign:** UX1BZ, Grid: KN29
- Distance:** 816 km
- Date/Time:** 2018 Feb 18 17:17:08
- Buttons:** Log QSO, Stop, Monitor, Erase, Decode, Enable Tx (red), Halt Tx, Tune, Menu
- Message List:** Generate Std Msgs, Next, Now, Pwr. Messages include UX1BZ S52D JN76, UX1BZ S52D -13, UX1BZ S52D R-13, UX1BZ S52D RRR, UX1BZ S52D 73, CQ S52D JN76.
- Status Bar:** Tx: UX1BZ S52D -13, rocn, FT8, Last Tx: UX1BZ S52D -13, 8/15, WD:4m

Odgovor

Sprejel me je z -6 dB S/N

The screenshot displays a radio software interface with two main windows showing signal logs. The left window lists received signals with columns for frequency, S/N, and call sign. The right window shows a list of transmit messages. Below the logs is a control panel with buttons for Log QSO, Stop, Monitor, Erase, Decode, Enable Tx, Halt Tx, and Tune. A central display shows the frequency 14.074 000 and a digital readout for 2018 Feb 18 17:17:38. A transmit queue on the right lists messages like UX1BZ S52D JN76, UX1BZ S52D -13, and CQ S52D JN76. The status bar at the bottom shows 'Tx: UX1BZ S52D RRR' and 'Last Tx: UX1BZ S52D -13'.

Frequency	S/N	Call Sign	Other Info
171645	-10	-0.3	2152 ~ WA2HIP KJ4FZ +01
171645	-15	0.1	2210 ~ N6ARY K2KXK EM96
171645	-4	-0.3	552 ~ G1IPU EA7IEZ RRR
171645	-14	0.6	920 ~ CQ EA5XY IM99 Spain
171645	-16	0.2	1003 ~ IZ8CKY K4AKK -15
171715	-13	0.2	1896 ~ S52D UX1BZ R-06
171715	-20	0.2	388 ~ G0JUR KAIYQC -11
171715	-17	0.2	727 ~ A92AA W8MRL EM79
171715	14	1.2	847 ~ C31KC CU7AA 73
171715	-21	0.2	1027 ~ WB4HAL DF1SD JN48
171715	-9	0.2	1299 ~ S55G K1CA RRR
171715	-5	0.2	1401 ~ 4X1RU WA5ZFP -24
171715	-12	0.1	1805 ~ AA7G IU8PRE JN70
171715	-13	0.2	1942 ~ IK8SDA KN9C -13
171715	-7	-0.1	2152 ~ WA2HIP KJ4FZ R-03
171715	-7	0.3	2284 ~ DM2DMI AA7G -19
171715	-13	0.6	932 ~ CQ EA5XY IM99 Spain

Frequency	S/N	Call Sign	Other Info
171115	Tx	1179	~ N5JJH S52D -13
171130	-13	0.1	1176 ~ CQ CT1FIU IN50
171145	Tx	1179	~ N5JJH S52D -13
171300	-16	1.1	1178 ~ VA2ZC N5JJH RRR
171330	-16	1.1	1179 ~ VA2ZC N5JJH 73
171349	Tx	1179	~ N5JJH S52D -13
171415	Tx	1179	~ N5JJH S52D -13
171445	-17	0.1	1003 ~ CQ DX K4AKK EM55
171501	Tx	1003	~ K4AKK S52D -17
171530	Tx	1003	~ K4AKK S52D -17
171600	Tx	1003	~ K4AKK S52D -17
171615	-15	0.5	1003 ~ A92AA K4AKK EM55
171615	-13	0.1	1896 ~ CQ UX1BZ KN29
171634	Tx	1896	~ UX1BZ S52D -13
171700	Tx	1896	~ UX1BZ S52D -13
171715	-13	0.2	1896 ~ S52D UX1BZ R-06
171730	Tx	1896	~ UX1BZ S52D RRR

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

20m **14.074 000** Tx even/1st

DX Call: UX1BZ DX Grid: KN29 Tx: 1896 Hz Rx: 1896 Hz Lock Tx=Rx

Az: 62 816 km Auto Seq Call 1st

2018 Feb 18 17:17:38

Generate Std Msgs Next Now Pwr

Message	Next	Now	Pwr
UX1BZ S52D JN76	<input type="radio"/>	<input type="radio"/>	Tx 1
UX1BZ S52D -13	<input type="radio"/>	<input type="radio"/>	Tx 2
UX1BZ S52D R-13	<input type="radio"/>	<input type="radio"/>	Tx 3
UX1BZ S52D RRR	<input type="radio"/>	<input checked="" type="radio"/>	Tx 4
UX1BZ S52D 73	<input type="radio"/>	<input type="radio"/>	Tx 5
CQ S52D JN76	<input type="radio"/>	<input type="radio"/>	Tx 6

Tx: UX1BZ S52D RRR rocno FT8 Last Tx: UX1BZ S52D -13 8/15 WD:5m

73

73, klik na "Log QSO" in zveza je končana

The screenshot displays a radio software interface with a log window at the top and a control panel below. The log window is split into two panes. The left pane shows a list of QSOs with columns for time, signal strength, distance, and call signs. The right pane shows a list of QSOs with columns for time, signal strength, distance, and call signs. The control panel includes buttons for Log QSO, Stop, Monitor, Erase, Decode, Enable Tx, Halt Tx, and Tune. It also features a frequency display showing 14.074 000, a signal strength indicator, and a list of QSOs to be generated.

Time	Signal	Distance	Call Sign	Location
171745	-13	0.2	1896	~ S52D UX1BZ 73
171745	-13	0.2	388	~ G0JUR K1YQC -11
171745	11	0.1	508	~ CQ EB5GC IM97 Spain
171745	3	0.1	799	~ VU3UPZ EA3VM JN01
171745	-8	0.0	848	~ N9TC EA8HB RRR
171745	-13	0.6	932	~ I3QDK EA5XY -12
171745	-16	0.1	1003	~ IZ8CKY K4AKK -15
171745	-7	0.2	1299	~ S55G K1CA RRR
171745	-5	0.2	1401	~ 4X1RU WA5ZFP -24
171745	-9	1.4	1575	~ VU3UPZ K4TXX R-10
171745	-8	0.1	1805	~ AA7G IU8FRE JN70
171745	-7	-0.3	2152	~ WA2HIP KJ4FZ 73
171745	-5	0.3	2284	~ DM2DMI AA7G RRR
171745	-1	0.2	549	~ C31KC NC2V EL98
171745	-5	0.2	752	~ IT9OPR K9EKP R-04
171745	-16	0.3	1427	~ NN4S W8NET EN91
171745	-11	0.2	1942	~ IK8SDA KN9C RRR

Time	Signal	Distance	Call Sign	Location
171145	Tx	1179	~	N5JJH S52D -13
171300	-16	1.1	1178	~ VA2ZC N5JJH RRR
171330	-16	1.1	1179	~ VA2ZC N5JJH 73
171349	Tx	1179	~	N5JJH S52D -13
171415	Tx	1179	~	N5JJH S52D -13
171445	-17	0.1	1003	~ CQ DX K4AKK EM55
171501	Tx	1003	~	K4AKK S52D -17
171530	Tx	1003	~	K4AKK S52D -17
171600	Tx	1003	~	K4AKK S52D -17
171615	-15	0.5	1003	~ A92AA K4AKK EM55
171615	-13	0.1	1896	~ CQ UX1BZ KN29
171634	Tx	1896	~	UX1BZ S52D -13
171700	Tx	1896	~	UX1BZ S52D -13
171715	-13	0.2	1896	~ S52D UX1BZ R-06
171730	Tx	1896	~	UX1BZ S52D RRR
171745	-13	0.2	1896	~ S52D UX1BZ 73
171800	Tx	1896	~	UX1BZ S52D 73

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

20m 14.074 000

DX Call DX Grid

UX1BZ KN29

Az: 62 816 km

Lookup Add

2018 Feb 18 17:18:09

Report -13

Auto Seq Call 1st

Generate Std Msgs

Next Now

UX1BZ S52D JN76 Tx 1

UX1BZ S52D -13 Tx 2

UX1BZ S52D R-13 Tx 3

UX1BZ S52D RRR Tx 4

UX1BZ S52D 73 Tx 5

CQ S52D JN76 Tx 6

Tx: UX1BZ S52D 73 rocn FT8 Last Tx: UX1BZ S52D RRR 9/15 WD:4m

QSO

bz: CQ UX1BZ KN29

2d: UX1BZ S52D -13 (UX1BZ S52D JN76FB)

bz: S52D UX1BZ R-06

2d: UX1BZ S52D RRR

bz: S52D UX1BZ 73

2d: UX1BZ S52D 73

Kako deluje?

S57UUU, RIS 2008: Novi načini dela na EME zvezah

S52D lani: JT65, bolj tehnično (lea.hamradio.si)

RIS: S56A: kako kľofati FT8 na KV, S57RA EME

CW, SSB, RTTY: ispred 2 svetovne vojne

- novo: AX.25, PSK, AMTOR ...
- K1JT: WSJT, JT65 in kolegi
- Uspeh FT8 na kratkem valu

Uspeh WSJT

Nekaj razlogov:

- enostaven, robusten protokol
- prijazen program
- dobra dokumentacija
- reklama

Ne: Rešitev, ki išče problem

- pravi trenutek

Bi FT8 uspel, če bi ga predlagala UN8VYL?

FT8 Marketing

F: K9AN, Stan Franke: profesor, telekomunikacije

T: K1JT, Joe Taylor: Nobelov nagrajenec, Princeton

8: uporablja 8 tonov

ARRL PR mašina, QEX (in dobro dela)

- Prvo EME (JT65), nato MS (MSK144), bolje od CW
- JT65 dela celo na KV, vendar: FT8 je pravi za KV

JT65: Joe Taylor, 65 tonov

WSJT program: Weak Signal, K1JT

FSK modulacija

Več tonov, med seboj ravno prav razmaknjeni

- oddaja samo en ton istočasno
- primerno za CW QRO (konstantna ovojnica signala)
- SW: ustrezni prehodi med toni

FT8 oddaja 12.64 sekunde, JT65 47.8 sekunde

- perioda 15 sekund (FT8), 60 sekund za JT65

FT8 ima 8 tonov, razmaknjeni so 6.25 HZ, 50 Hz širina

JT65 ima 65 tonov, 2.7 razmika, 177 Hz širina

CW: več kot 200 Hz zaradi 4 ms prehoda

Sinhronizacija

Na kateri frekvenci so toni, kdaj se sporočilo začne?

- nujna je točna ura na računalniku, NTP protokol
- napaka do ene (dveh) sekunde je dopustna

JT65: 65-ti ton, znana sekvenca. Polovico časa/energije za Sync

FT8: trikrat 7x7 Costasovo polje

JT65/FT8 raport

Namesto RST se daje razmerje signal/motnje (šum) v dB.

Marketing: meritev na 2500 Hz RX pas

- dejansko za en ton: 28 dB boljše (JT65)
- dovolj tonov mora biti nad 3 dB za dekodiranje
- meri znotraj 177/50 Hz, izračuna za cel pas

Številka se izboljša, če imamo ozko sito (CW filter)

- učinkovito pri močnih signalih v 2 kHz pasu

Samodejni QSO

Pri MSK144 (MS) in FT8 je perioda 15 sekund, čas za klik cca 2 sekundi

- prehitro za počasne HAME

Avtomatika za QSO:

- odgovor na CQ, vzame prvega
- klikneš CQ in program sam naredi QSO

Split: CQ 908 S52D na 160 m za JA, RX na 1908

Klik, log, klik, log, klik, log ...

Operaterstvo

Kaj ostane operaterju?

- frekvenca, antena, nastavitve postaj
- izbor: koga klicati, kdaj in kje
- CQ avtomatika: odgovor, ne da bi ga OP izbral

Pravzaprav... Enako kot CW ali RTTY.

- novo: vsi poslušamo 2 do 3 kHz:
- lahko kličem nekoga, ki samo pobira

Res QRQ QSO

Minuto za QSO, 60 na uro

a: CQ DX1DX

b: DX1DX S51A -12

a: S51A DX1DX R-05

b: DX1DX S51A RR73 (EU1Z kliče na drugi QRG)

a: EU1Z DX1DX R-05 (ali CQ DX1DX), pomeni tudi RR73 za S51A

c: DX1DX EU1Z RR73 (D kliče na drugi frekvenci)

ET1A in podobni, problem ponavljanj in QRM

DXanje

Če ima DX avtomatiko in posluša cel pas:

- prvo na svoji frekvenci
- potem od spodaj navzgor, prvo dekodiranje
- potem od spodaj navzgor drugo dekodiranje

Prednost: 270, 330, 390 Hz na začetku

Ali ima filter (ponavadi ne), ali je na avtomatiki, kje ima VFO?

- težko, če ne slišimo srečnežev, ki so ga naredili pred nami

QSO z J28PJ

Pile up, oddajal na 690 Hz, avtomatika, brez sit.

Iztok: VFO na 14073.1 (900 Hz nižje)

RX: 1590 Hz, 500 Hz filter (najmanj za FT-450D)

TX: 1180, dejanski 280 Hz, začetek pasu

Nova država na FT8.

ICOM-7610: kar 3.4 kHz stalno, RX 200 Hz nižje.

J28PJ

The screenshot displays a radio software interface with several key components:

- Waterfall Plot:** A spectral display showing signal activity across a frequency range from 1500 to 3000 kHz. A prominent signal is visible around 1500 kHz, with a green waveform overlaid at the bottom.
- Log Window:** A text-based log showing call signs and frequencies. The current entry is `14 0.4 1622 ~ SV0RNG RW9UB N035 TRUE FALSE P`. Other entries include `731 band: 20 FT8 B J28PJ S52D RRR` and `14 0.4 1727 ~ CQ DX LU2XP FD66 TRUE TRUE LU`.
- Frequency List:** A table of active frequencies and call signs. The current frequency is 14.073 100. The list includes entries for `0731615 3 C.9 15C7 ~ RA3DAP RA186B RRR`, `0731645 -3 C.6 15C0 ~ R09ZAC CA1Q04 75`, `0731645 -32 C.3 1727 ~ CQ DX LU2XP ID56`, `0731715 14 C.4 1622 ~ SV0RNG RW9UB N035`, `0731715 8 C.5 1589 ~ S52D J28PJ R-08`, `0731745 5 C.5 1590 ~ S52D J28PJ 73`, and `0731745 -15 C.4 1727 ~ CQ DX LU2XP ID56`.
- Control Panel:** A central control area with a frequency display showing `14.073 100`, a date/time display showing `2018 Feb 16 07:38:28`, and various buttons for `Log QSO`, `Stop`, `Monitor`, `Erase`, `Decode`, `Enable Tx`, `Net Tx`, and `Tune`. It also features a `Generate Std Msgs` section with a list of messages like `J28PJ S52D JN76`, `J28PJ S52D +05`, `J28PJ S52D R+CS`, `J28PJ S52D RRR`, `J28PJ S52D 73`, and `CC BX S52D JN76`.
- System Settings:** A sidebar on the right with `System Settings` and `NVIDIA X Server Settings` buttons, and a list of users including `3128-B458`, `default`, `tratedeal`, and `total2.3.1.tar`.

WSJTX 1.81

Lepo za večino vsakodnevnih QSO.
problemi:

- število QSO za DXpedicije
- neobičajni znaki in prefiksi
- kontesti?

DXpedicije: KH1/KH7Z, verzija 1.9.1

- Fox and Hound mode

Nastavitev

FT8 DXpedition mode (Advanced):

- brez izbire za običajno
- Fox izbere DXpedicija
- Hound izberemo klicoči

Ko WSJTX 1.9.1 opazi FH, nas opozori, da vklopimo H.

FH

Lisica oddaja do 5 signalov istočasno na začetku pasu

- dva QSO hkrati v enem FT8 okvirju (10 QSO istočasno?)

Skrajšan protokol:

- Psi lovci kličemo nad 1 kHz in čakamo raport
- ko sprejmemo raport, oddajamo raport pod 1 KHz
- Ko sprejmemo RR73, nehamo klicati. QSO je v LOGu

Primer

Zakaj DL1DTL ne bo naredil QSO?

The screenshot shows a radio software interface with a log of contacts and a control panel. The log is divided into two columns. The left column shows contacts with call signs like DL1DTL and FK29. The right column shows contacts with call signs like SP3JGI and JN76. The control panel includes buttons for 'Log QSO', 'Stop', 'Monitor', 'Erase', 'Decode', 'Enable Tx', 'Halt Tx', and 'Tune'. A frequency display shows 21.090 800. A call sign 'KG4HF' and grid 'FK29' are entered. A date and time display shows '2018 Oct 11 15:42:55'. A power level display shows '61 dB'. A 'Generate Std Msgs' menu is open, showing options like 'KG4HF S52D JN76', 'KG4HF S52D +06', 'KG4HF S52D R+06', 'KG4HF S52D RRR', 'KG4HF S52D 73', and 'CQ S52D JN76'.

Call Sign	Mode	Power	Distance	Grid	Notes
153745	1	0.5	293	~	KG4HF DL1DTL JO61
153830	-4	0.5	2294	~	SP3JGI KG4HF -12
153930	4	0.5	493	~	SP3JGI KG4HF RR73
154000	4	0.5	493	~	CQ KG4HF FK29
154030	5	0.4	493	~	S52D KG4HF -07
154100	6	0.8	493	~	S52D KG4HF -07
154130	7	0.4	493	~	S52D KG4HF RR73
154145	-7	0.4	555	~	KG4HF DL1DTL JO61
154200	7	0.4	494	~	CQ KG4HF FK29
154215	-9	0.4	556	~	KG4HF DL1DTL JO61
154230	3	0.4	494	~	CQ KG4HF FK29

Call Sign	Mode	Power	Distance	Grid	Notes
153830	-4	0.5	2294	~	SP3JGI KG4HF -12
153946	Tx	1400	~	~	KG4HF S52D JN76
154015	Tx	1400	~	~	KG4HF S52D JN76
154000	4	0.5	493	~	CQ KG4HF FK29
154016	Tx	1400	~	~	KG4HF S52D JN76
154030	5	0.4	493	~	S52D KG4HF -07
154045	Tx	493	~	~	KG4HF S52D R+05
154100	6	0.8	493	~	S52D KG4HF -07
154115	Tx	493	~	~	KG4HF S52D R+06
154130	7	0.4	493	~	S52D KG4HF RR73

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

15m 21.090 800 Tx even/1st Tx 807 Hz Rx 1411 Hz Report 6

DX Call: KG4HF DX Grid: FK29 Az: 284 8428 km

2018 Oct 11 15:42:55 DXpedition: Hound

Generate Std Msgs Next Now Pwr

- KG4HF S52D JN76 Tx 1
- KG4HF S52D +06 Tx 2
- KG4HF S52D R+06 Tx 3
- KG4HF S52D RRR Tx 4
- KG4HF S52D 73 Tx 5
- CQ S52D JN76 Tx 6

61 dB

Več QSO istočasno

Lisica potrjuje dva QSO z eno odajo:

S52D RR73; OZ7JZ <TY7C> -17

- WSJTX si je prej zapomnil kodo za TY7C, drugače ...

Z JTDX tudi običajni FT8. Kak S01WS, 5B4 ipd
WSJTX, samo Fox, več TX hkrati, en zraven drugega:

- TX moč: ovojnica ni konstantna, -6 dB za 2 TX
- sešteva napetosti, ne moči

SW lahko malce popravlja, samo ni več konstantna amplituda.

QRG?

FH obvezno izven običajnega FT8 pasu.

- kaos na bandu, če se mešajo.
- kje je trenutno 2 kHz prosto?

Kako veš, da je DX izven standardnega pasu?

- enako kot CW/RTTY: poslušas, spremljaš DXcluster ipd

9X0Y: 10 000 QSO v FT8, zadovoljni

RTTY kontesti

Okoli 1987 leta: CQ WW, ARRL roundup
CQ WW je kasneje postal samo RTTY

- verjetno ni bilo nič Pactor, AX.25 prometa

ARRL roundup, začetek januarja

- katerikoli data mode.
- S52D 2017: nikogar na PSK.
- lahko tudi FT8

WSJTX 2.0: ARRL RU 2019 bo FT8 zgodba.

WSJTX 2.0

Spremenjen FT8 (77 namesto 75 bitov, CRC) in MSK144 (MS)

- predvideni izid 10. decembra 2018
- ne bo več delal s sedanjim FT8
- vsi bomo morali nadgraditi SW.

Rešuje: dolgi znaki (do 11 mest), kontesti, odprti tekst, telemetrija ...

- Hash tabela, enako kot DXped mode

ostaja problem: dva posebna znaka (še) ne moreta imeti QSO.

Testiranje

77 bit FT8 e na običajnih FT8 frekvencah: zmeda.

- Danes pričakujemo novi release candidate?

Kontest test: ena ura ARRL RTTY roundup

Veliko dela za K1JT in ekipo

- N1MM integracija: znano kontest okolje
- izvoz cabrillo formata

Izbira

Nastavitve, Advanced

FT8 DXpedition mode

Fox Hound

FT8 message types

Always generate 77-bit messages Decode only 77-bit messages

Special operating activity: Generation of FT8 and MSK144 messages

None

NA VHF Contest ARRL Field Day Exch:

EU VHF Contest ARRL RTTY Roundup Exch:

Barvice

Morebiti preveč?

General	Radio	Audio	Tx Macros	Reporting	Frequencies	Colors	Advanced
CQ in message				KIABC			
My Call in message				KIABC			
Transmitted message				KIABC			
New DXCC				KIABC			
New DXCC on Band				KIABC			
New grid				KIABC			
New Grid on Band				KIABC			
New Call				KIABC			
New Call on Band				KIABC			
LoTW				KIABC			

Kontesti

Prvi kontest ARRL Roundup

- pripravljeno za CQ WW in CQ WPX. Ločeno ali RTTY?
- UKV kontesti: številka QSO in 6 mestni UL

Priporočeno: 20 kHz pas. En signal hkrati.

Med QSO že klikneš naslednjega za pile-up.

Primer ARRL RU

30 sekund za QSO? 100 na uro?

UTC	dB	DT	Freq	Message
152400	Tx		1207 ~	CQ RU K1JT FN20
152415	9	0.2	1300 ~	K1JT W9XYZ 589 WI
152415	17	0.1	1800 ~	K1JT KD7ABC 589 WA
152415	9	0.1	2300 ~	K1JT G4AAA 589 0001
152430	Tx		1207 ~	W9XYZ K1JT R 579 NJ
152445	8	0.1	1300 ~	K1JT W9XYZ RR73
152445	17	0.1	1800 ~	K1JT KD7ABC 589 WA
152445	9	0.2	2300 ~	K1JT G4AAA 589 0001
152500	Tx		1207 ~	TU; KD7ABC K1JT R 589 NJ
152515	18	0.2	1800 ~	K1JT KD7ABC RR73
152515	9	0.2	2300 ~	K1JT G4AAA 589 0001
152530	Tx		1207 ~	TU; G4AAA K1JT R 579 NJ
152545	15	0.2	2300 ~	K1JT G4AAA RR73
152600	Tx		1207 ~	G4AAA K1JT 73

Operatorji

Še vedno: kdaj pobirati, kdaj klicati, kateri QRG?

- zelo podobno RTTY: bolj učinkovit modem
- zmagovalec bo kombiniral FT8 in RTTY
- kaj pa več QSO vzporedno?

Kakšen bo vpliv na Clublog statistiko?

SCC RTTY kontest

Kviz: kdaj bo FT8?

1. 2019 po uspešnem ARRL roundup
2. eno leto po CQ WW in CQ WPX (pozor, W/K PR mašina)
3. ko bo FT8 več kot 50% QSO v CQ WW RTTY
4. nikoli, raje ugasnemo kontest

Sedaj rezerviramo CQ SCC in 4 mestne množilce?

Bandplan

IARU: priporočilo

- joj joj, kaj z FT8? JT65? WSPR?
- ampak tam je "rezerviranoža XX27
- ni prostih kHz na KV pasovih.

Za manj uporabljane MODE napotek, kje najti sogovornika.
Ko pride CQ WW je CW/SSB povsod.

- lanski CQ WW. Ponedeljek Ob 0005 prvi FT8 na 160m.

FH način za DXe, FT8 kontesti so novi, rabimo dobro prakso.

Za danes konec

Kmalu nadgradite na WSJTX 2.0: stari FT8 ne bo več delal.
Odlična dokumentacija. G, DL, SM. ZL2IFB. (lea forum)
ARRL RU kontest januarja.

Nadaljevanje sledi:

- RIS, S52D, različnostni sprejem (APR)

Kaj manjka WSJTX 2.0?

- pustimo se presenetiti z WSJTX 3.0.

CU RU januarja 77 bit FT8