

ISLAND HF PRESENTS: DIGITAL MODES FOR HF

Decode Save Tools Help

WSJT-X - Wide Graph

WSJT-X v2.6.1 by K1JT et al.

Band Activity

UTC	dB	DT	Freq	Message	UTC	dB
010000	-7	0.7	2486	~ ZD7CA AG6RK CM97	005445	-11
010000	4	0.8	1639	~ VE6YXE KB6RKO R-19	005445	-19
010000	-9	0.6	2192	~ ZD7CA K0NV EM37	005500	Tx
010000	-12	0.4	2641	~ ZD7CA AC50 EL49	005515	1
010000	-7	0.6	2114	~ ZD7CA WB6EWM CM96	005535	Tx
010000	-3	0.7	1139	~ JE1CSW RR73; RA0QD <K6VHF/HR9>	005545	-3
010000	-9	0.7	1924	~ CQ KA3FMO FN21 U.S.A.	005600	Tx
010000	-20	0.6	965	~ ZD7CA KN6WKM CM87	005630	Tx
010000	-7	1.6	1157	~ CQ WB0SRP EM19 U.S.A.	005715	-23
010000	-8	0.8	1088	~ CX1RL KI6BTY -12	005730	Tx
010000	-15	1.6	1213	~ AC7NB K8DID EN63	005745	-10
010000	-14	0.6	1513	~ CQ N6MX DM03 U.S.A.	005800	Tx
010000	-4	0.4	1370	~ CQ PY2YW GG66 SA	005815	-6
010000	-14	0.4	2577	~ CQ PY7AN HI21 SA	005839	Tx
010000	-18	0.6	1290	~ ZD7CA LU8HEV -11	005845	-7
010000	-21	0.7	504	~ <8A0RARI> JG8IBY QN03	005900	Tx
010000	-19	0.7	1496	~ PY2XJ KW0KW EM48	005915	-6
010000	-13	1.1	754	~ N8QE PT2OP -10	005930	Tx
010000	-18	0.6	819	~ KK6HPJ AG5JU EL09	005945	-5
010000	-21	0.8	1194	~ CQ WFOG EM26 U.S.A.	010000	-14
010000	-20	0.4	820	~ BD4XUC LU2EI -17	010015	Tx

CQ only Log QSO

20m **14.074 000** Tx even/1st Hold Tx Freq
 Tx 1307 Hz

 Az: 97 10592 km Rx 2577 Hz

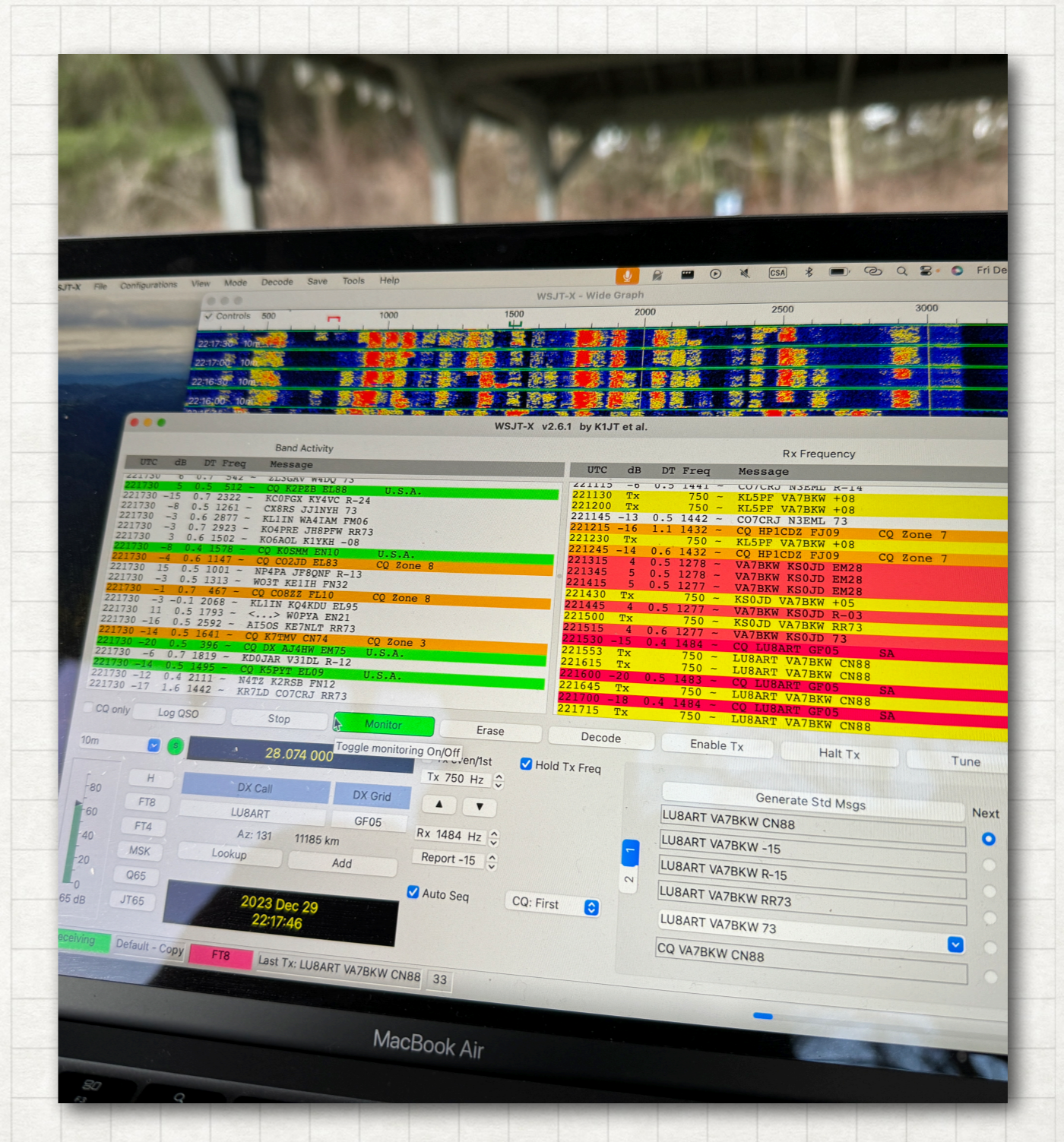
Auto Seq CQ: First

 2024 Jan 05
01:00:40

 Default - Copy Last Tx: PY7AN VA7BKW CN88 27

DIGITAL MODES FOR HF

- Why Digital Modes?
- Protocols
- Software
- Reporting
- Bonus Material!
- Logging
- Antennas
- QRP



WHY DIGITAL MODES?

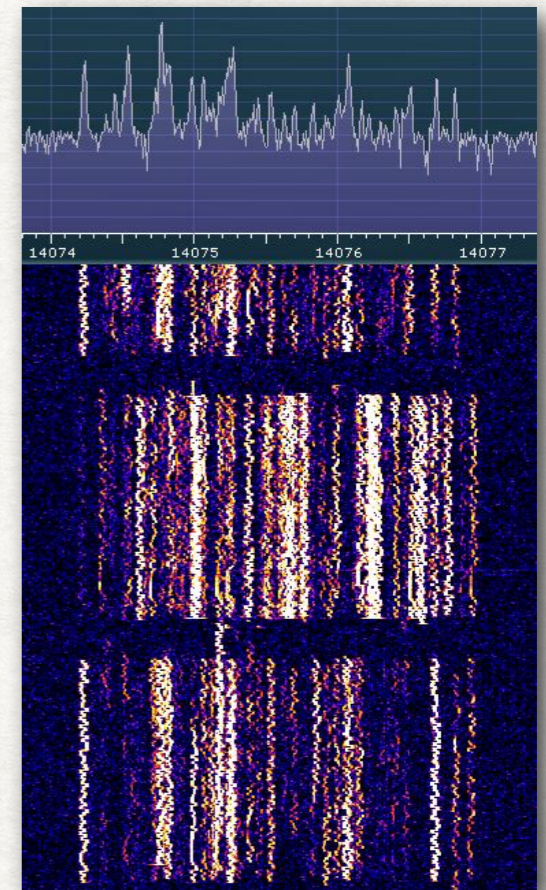
AKA "MY CELL PHONE ALREADY DOES ALL THIS..."

- Short answer: increased capability in unfavourable conditions
- Longer answer: caters to different segments of the ham population
 - Phone-mode shy
 - Those with accessibility issues
 - EMCOMM/off-grid/adventurers/SHTF/preppers

PROTOCOLS

(KEEP YOUR PINKIES UP)

- FT8, FT4, VARAC, JS8Call, MSK, MFSK, PSK, PSK31, Clover, DominoEX, JT65, JT9, THOR, Olivia, Packet, HELL, RTTY, and many more
- FT8 = Eranke-Taylor design, 8-FSK modulation
- FT4 = Eranke-Taylor design, 4-FSK modulation
- Short transmissions for minimal QSO
- Triple-pass decoding



FT8/FT4

MINIMAL QSOS FOR DAYS

- Short T/R cycles (15"/7.5" respectively)
- Max 13-character messages
- QSO format is predefined
- Works extremely well (or even better) with low power
- Compromised antenna? No problem.
- Effective means to get DXCC, WAS, etc with a limited setup

JS8CALL

WE DON'T NEED NO STINKING CHARACTER LIMITS

- Possibility of longer, more conversational QSOs
- T/R time and message length not restricted
- Functions like a chat room in some ways
- Usable for off-grid emergencies (eg. no cell signal areas)
- Gaining in popularity quickly

JS8Call 

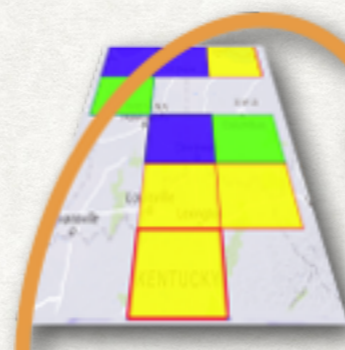
DECODING SOFTWARE

MAJOR FOOD GROUPS

- WSJT-X (FST4, FST4W, FT4, FT8, JT4, JT9, JT65, Q65, MSK144, and WSPR, as well as Echo (EME test)
 - Also can handle contesting
- JTDX (FT8, FT4, JT9, JT65, T10, WSPR)
- MSHV (FSK441, FT8, JT4, JT6M, JT9, JT65, JTMS, QRA64, ISCAT, MSK144) - Windows/Linux/SuSE only

REPORTING

- PSKReporter - Digimode Automatic Propagation Reporter
<https://pskreporter.info>
- GridTracker (cross-platform, free)
- JTAlert (Windows only)
- MacloggerDX (Mac only, \$95USD)



GridTracker
An Amateur Radio Companion

**LIVE ACTION
DEMO**

BONUS CONTENT

ADVENTURES IN LOGGING

- Integration from decoder to logger
- HAMRS
- Cloudlog

The screenshot shows the Cloudlog web interface. At the top, there are navigation links for 'Gridsquares' and 'Login', and a search bar for 'Search Callsign'. Below this is a world map with a grid overlay. Red dots on the map indicate logging locations, primarily in the United States and Mexico. Below the map is a table of logging entries.

Date	Time	Call	Mode	Distance	RST (R)	Band	QSOs Breakdown	
2024-03-24	00:55	N6HU	SSB	1343.2 km	57	20m	Total	298
2024-03-24	00:54	K6YYL	SSB	2135.1 km	55	20m	Year	236
2024-03-24	00:54	K6MBD	SSB	1123 km	57	20m	Month	101
2024-03-24	00:53	N7SBU	SSB	1165.7 km	59	20m	Countries Breakdown	
2024-03-24	00:53	NT6DX	SSB	1694.2 km	55	20m	Worked	14
2024-03-24	00:51	K1HND	SSB	3557.9 km	55	20m	Confirmed	0 / 7 / 11

LOGGING

ADVENTURES IN CLOUDLOG

- <https://www.braydenwise.com/cloudlog/index.php/visitor/mainlog>
- Cloud- and web-based logging application
- Integrates with LotW, QRZ, HamQTH, ClubLog, and more
- ADIF import/export; Cabrillo export for contesting
- SimpleFLE interface

CLOUDLOG

WHAT I LIKE

- UI is very clean
- Open source - PHP
- Hostable on your own server (Homelab, here we come!) - YOU CONTROL YOUR DATA
- Devs are very responsive to issues
- Good integration into the various hidey-holes of the Ham Universe (lookups, POTA, contesting, etc)

CLOUDLOG

WE'RE GETTING THERE...

- Requires an internet connection (can affect live field ops, but has a workaround)
- Some panels clunky to work around
- Mobile interface needs a bit of work (but not impossible)

QRP FUN

GUERRILLA RADIO

- Low power/lightweight is the way (for me)
- Rig considerations
- Notable QSOs

FAFO - HAM RADIO EDITION

"HMM, I WONDER IF THIS WILL WORK"

- Antenna projects
 - Dipoles (vertical, inverted vee)
 - EFRW
 - Gutters
 - "Will it antenna?"
 - Coming soon: 49/9/4/1:1 multi-balun and portable 20m Moxon