SPARC

Digital Mode(s) on Field Day

South Pasadena Amateur Radio Club | W6SPR

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JPL Amateur Radio Club | W6VIO

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Acknowledgements

- N3FJP manual

- WSJT-X manual (surprisingly brief!)

Are We Talking About M17? Cool!

- Nope, sorry

- Field Day rules section 6:

  - 6.3. Field Day contacts are allowed using Phone, CW and Digital (non-CW) modes.

  - 6.6. All voice contacts are equivalent.

  - 6.7. All non-CW digital contacts are equivalent.
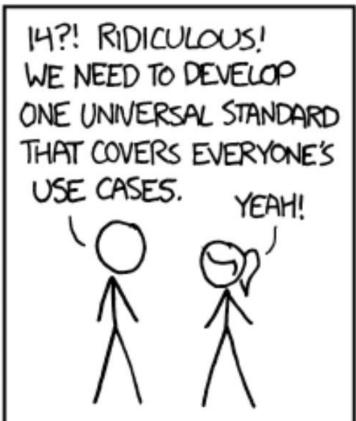
Digital means "data" or "sound card" modes.

Fusion, DMR, D-Star are simply "phone."

Why are there so many digital modes? (And how would you choose which one to use?)

- It's hard to find a list of all the digital modes.

- It's easy to see the list of modes supported by your software (WSTJ-X or fldigi).

Mode Designs are Solutions

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JT65            -> EME on VHF/UHF
MSK144          -> meteor scatter
WSPR            -> mapping propagation
Hellschreiber   -> teleprinting over sketchy links
DominoEX        -> fast response, easy tuning, low bands
Olivia          -> weak signal circumstances
Contestia       -> like olivia, but faster for contests!
PSK31           -> keyboard QSOs, beat RTTY performance
Etc...
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Use Case: Field Day

- You want to make lots of contacts! Go with what's POPULAR.

- Popularity is not a design feature, it's an extrinsic factor.

- What's popular will change over time.

And what's popular now…?

"What we've seen during recent Field Days is FT8 being the only digital mode used. RTTY and PSK-31 for Field Day are now history."

Diana Feinberg, AI6DF

FT8 Is Currently the Most Popular Digital Mode

- For Field Day, "where the people are" is what's "best."

- That doesn't mean it's the most technically perfect or even "interesting" mode.

Tradeoffs with FT8 on Field Day

- Narrow bandwidth to cut through poor propagation
- BUT has a high duty cycle. Must mind your power output.
- Easy to operate, good for multitasking
- BUT can be hard to set up

"Make sure the transceiver used for FT8 can communicate properly with the computer running/logging FT8 <u>before</u> coming to the FD site. ... One club member brings the transceiver but another member provides the computer, and they aren't interfacing properly when Field Day begins. These issues should be worked out the day before."

Diana Feinberg, AI6DF

Steps for Station Set-Up

- Test N3FJP communication with rig used for CW/Digital station.

- Set WSJT-X for Field Day exchange.

- Set N3FJP to control the rig, not WSJT-X (so you can switch between CW and FT8).

- Test WSJT-X communication with N3FJP.

At least four potential points of failure!

And now for the hard part...