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Release: WSJT-X 2.3.0-rc1 Sept 28, 2020

WSJT-X 2.3.0 is a program upgrade offering two new modes designed especially for use on the LF and MF bands. FST4 is for 2-way QSOs, and FST4W is for WSPR-like transmissions. Both modes offer a range of options for T/R sequence lengths and threshold decoding sensitivities extending well into the -40 dB range. Early tests have shown these modes frequently spanning intercontinental distances on the 2200 m and 630 m bands. Further details and operating hints can be found in the "Quick-Start Guide to FST4 and FST4W", posted on the WSJT web site:

https://physics.princeton.edu/pulsar/k1jt/FST4_Quick_Start.pdf

WSJT-X 2.3.0-rc1 is a beta-quality release candidate for a program upgrade that provides a number of new features, capabilities, and defect repairs. These include:

- New modes FST4 and FST4W targeting LF and MF bands.
- Improved noise baseline discovery for more reliable SNR estimates.
- On the waterfall and 2D spectrum a tool-tip shows the frequency offset under the mouse pointer.
- The *On Dx Echo* Doppler compensation method has been modified in response to feedback from Users. Basic functionality is unchanged. See the User Guide (Section 8.1) for more information.
- Improved user_hardware script or program initiation for WSPR band-hopping mode.
- Decoded QSO mode message display narrowed to make appended information easier to view without scrolling the window.
- Option to record the propagation mode in logged QSO records.
- ADIF v3.1.1 compliance.
- Option to connect to PSKReporter using TCP/IP for those with very poor Internet connections.
- Major rewrite of the PSKReporter interface to improve efficiency and reduce traffic levels.
- Removal of the Tab 2 generated messages.
- Accessibility improvements to the UI.
- Tweaked decode speed options for a better user experience with lower powered single-board computers like the Raspberry Pi.
- Updates to UI translations in Spanish, Italian, Catalan, Chinese, Hong Kong Chinese, Danish, and Japanese.
- Audio devices only enumerated when starting up and opening the

"Settings->Audio" device lists.

- Option to select the default audio device removed to minimize the likelihood of system sounds being transmitted.
- Better handling of missing audio devices.
- Improved and enhanced meta-data saved to .WAV files.
- More reliable multi-instance support.
- Included CTY.DAT file moved to installation share directory.
- The bundled Hamlib library is updated to the latest available which fixes several regressions, defects, and adds new rig support.
- Fixed some edge-case message packing and unpacking defects and ambiguities.
- Fix a defect that allowed non-CQ messages to be replied to via the UDP Message Protocol.
- Fix a long-standing defect with Tx start timing.
- Repair a defect with style sheets when switching configurations.
- Repair defects that made the astronomical data window an several main window controls unreadable when using the dark style sheet.
- Repair a regression with setting WSPR transmitted power levels.
- Repair a regression with newly created ADIF log file's header.
- Many other defects repaired.