Saturday, October 15, 2016 - Digital Modes Handout

Multimode programs for QSOs (PSK variants, Fax variants, MFSK variants, etc)

FLDigi: http://www.w1hkj.com/ - Free, part of NBEMS (Narrow Band Emergency Messaging System), RSID capable, can run on Mac, Linux, and Windows. Run on Raspberry-Pi. Suite includes logger and message handling linked applications. Very popular

MultiPSK: http://f6cte.free.fr/index_anglais.htm - Free version without professional modes. Has ALE400, RSID capable, harder to use graphical interface, Windows only

HRD/DM: http://www.hrdsoftwarellc.com/index.html - $, Digital modes companion is DM780, can copy different modes and QSOs simultaneously, Windows only. Popular for rig control

MixW: http://mixw.net/ - $, the original multimode program for Windows. Under very slow development and supposed to be ported to Linux eventually, does not have RSID, can copy more than one QSO/Mode simultaneously. DigiPAN was subset with same user interface. Can still download older versions that are free but less capable

Note the multimode programs are to be used with rig in Upper SideBand (USB) as they properly invert RTTY when needed. Some of the modes, like the psk variants will work either way.

Single mode programs for QSOs

FSQ (fast and simple QSO): http://www.qsl.net/zl1bpu/MFSK/FSQweb.htm - designed for HF and optimized for NVIS net operations. Common frequencies are in the automated sub-bands on 80, 60, and 30m. Some 20m activity. FSQ uses Incremental Frequency Keying (IFK). Fldigi also supports this mode. Has sentence based chat mode, file and message transfer, etc. Can be compared to an old telephone party line and is used that way.

Special Purpose digital modes

WSJT (Weak Signal Communications by K1JT): http://physics.princeton.edu/pulsar/k1jt/index.html - multiple programs for JT65/JT9 (moon bounce, ionospheric or meteor scatter, HF weak signal, propagation testing, etc.), reverse beacon networks for WSPR (weak signal propagation reporter)

http://jt65-hf.com/ is alternate for JT65

http://dev.wsprnet.org/drupal/ is for propagation reporting

Mode Identification

The Reed Solomon ID code is used to identify modes. TxID and RxID, Some applications can switch modes to follow a received RS-ID and can transmit RS-ID. Fldigi has this capability and is used in many Eastern traffic nets. RS-ID should not be used for obvious modes like PSK31 and variants, RTTY, Helschriber, etc. Use for odd variants of above or for modes that look and sound the same like Olivia, Contestia, and RTTYM,

http://www.w1hkj.com/modes/index.htm shows what water fall looks like and has audio recordings.

http://www.sigidwiki.com/wiki/Category:HF has info on many modes beyond ham radio modes

http://wb8nut.com/digital/ has historical mode descriptions

http://www.qsl.net/zl1bpu/MFSK/FSQweb.htm has quite interesting history of MFSK modes including MFSK, Thor, and Domino.

http://www.qsl.net/zl1bpu/ is good site for history of many of these modes