

# WSJT-X & JT-ALERT

Or, how slowly does the grass grow?,  
by Sebastian Acosta, W4AS

Presented to SFDXA on 7 November 2013



WORK THE WORLD  
IN YOUR SPARE TIME  
WITH WHAT YOU ALREADY HAVE!

# “Weak Signal Communication, by K1JT”

- Computer program, designed to bring new ideas on Coding and Modulation into Amateur Radio
- Requires standard SSB transceiver
- Computer soundcard interfaced to transceiver’s “mike in” and “speaker out”

# JT65, & JT9 Protocols

- ⊛ 60 s T/R sequences
- ⊛ Compact, structured messages
- ⊛ Strong error-correcting codes
- ⊛ Modulation: multi-tone FSK
- ⊛ Copy 10 to 15 dB below CW limit
- ⊛ Many thousands of users at HF

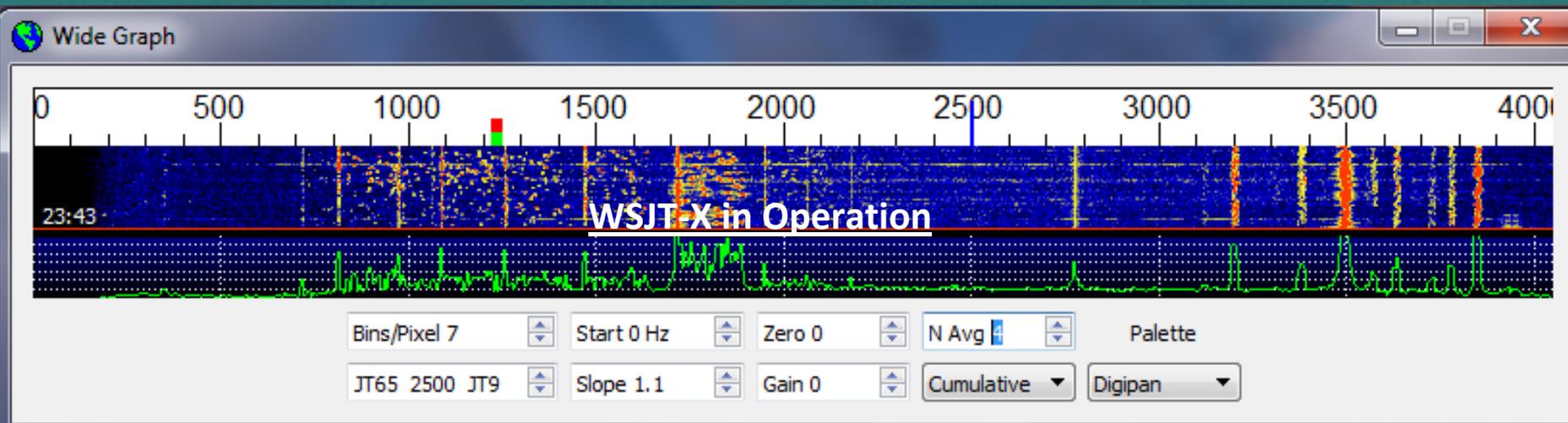
# WSJT-X

- ⊛ Target usage: QRP DXing
- ⊛ Modes JT65A and JT9
  - ⊛ JT9: optimized for HF, MF
  - ⊛ 2 dB better, BW < 1/10 of JT65
- ⊛ Works with “JT-Alert”

# WSJT-X in Operation

JT65

JT9



UTC	dB	DT	Freq	Message
2343	-19	0.3	718 #	VE6WQ SQ2NIJ -14
2343	-7	0.3	815 #	KK4DSD W7VP -16
2343	-10	0.5	975 #	CQ DL7ACA JO40
2343	-9	0.8	1089 #	N2SU WOJMW R-14
2343	-11	0.8	1259 #	YV6BFE F6GUU R-08
2343	-9	1.6	1471 #	VA3UG F1HMR 73
2343	-1	0.6	1718 #	BG THX JOE 73
2343	-14	1.3	1951 #	RA3Y VE3NLS 73
2343	-20	0.4	2065 #	K2OI AJ4UU R-20

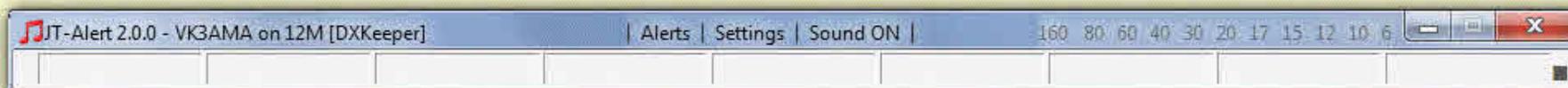
UTC	dB	DT	Freq	Message
2343	-7	0.3	3196 @	WB8QPG IZ0MIT -11
2343	-16	1.0	3372 @	KK4HEG KE0CO CN87
2343	16	0.1	3490 @	CQ AG4M EM75
2343	-18	-1.3	3567 @	CQ TA4A KM37
2343	-14	0.1	3627 @	CT1FBK IK5YZT R+02
2343	-22	0.3	3721 @	KF5SLN KB1SUA FN42
2343	-15	0.2	3774 @	CQ MOABA JO01
2343	-1	0.2	3843 @	EI3HGB DD2EE JO31

# WSJT Home Page

<http://physics.princeton.edu/pulsar/K1JT/>

- Programming details
  - Open source software
  - GUI in C++ and Qt
  - Number crunching in Fortran
  - Version control with Subversion
  - Contributors welcome!

# JT-Alert in Operation



**KOTPP : JT65 QSOs - 7 on 7 bands**  
LoTW: Yes - eQSL(AG): Yes

160M : [ ]	17M : Worked
80M : Worked	15M : Worked
60M : [ ]	12M : <b>New Band</b>
40M : Worked	10M : Worked
30M : Worked	6M : [ ]
20M : Worked	2M : [ ]

(Last QSO : 15M JT65, 2011-MAY-22)

**JT-Alert : QSO log to DXKeeper**

SUCCESS : QSO logged.

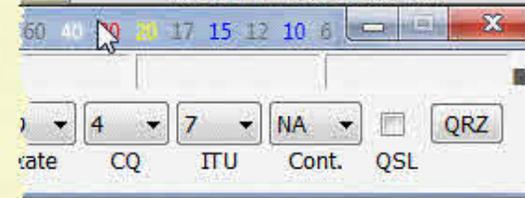
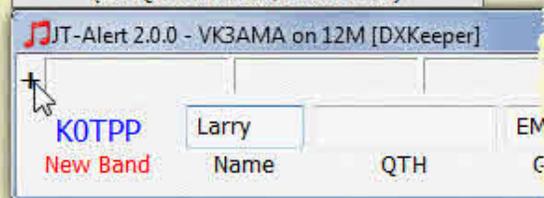
Callsign : VK3TC  
Frequency : 24.917  
Logged Mode : JT65

[3]

**Callsigns Spotting per Band**  
SFI 97 : A 2 : K 0

160M : 5	17M : [ ]
80M : 14	15M : 3
60M : [ ]	12M : [ ]
40M : 50, -1	10M : 2
30M : 12	6M : [ ]
20M : 34, -1	

(Last Update : 06-Nov, 05:39 utc)



# JT-ALERT Home Page

<http://hamapps.com/>

- PROVIDES SEVERAL AUDIO AND VISUAL ALERT TYPES BASED ON DECODED CALLSIGNS WITHIN JT65-HF AND WSJT-X.
- AUDIO AND VISUAL ALERTS FOR SEVERAL ALERT CONDITIONS
- YOUR CALLSIGN DECODED (SOMEONE CALLING YOU)
- CQ & QRZ, WANTED CALLSIGN, WANTED GRID (BY BAND), WANTED US STATE (BY BAND), WANTED DXCC (BY BAND), WANTED CQ ZONE (BY BAND)
- AUTOMATIC LOGGING TO THESE LOG TYPES WHEN QSO IS LOGGED IN JT65-HF OR WSJT-X
- DXLAB DXKEEPER, LOG4OM, HRD LOG V5/6, STANDARD ADIF 2.2 FILE, MIXW CSV FILE

- VARIOUS WEB SERVICES SUPPORTED
- ONLINE XML CALLSIGN DATABASE LOOKUP. QRZ.COM (PAID) AND HAMQTH (FREE)
- UPLOAD LOGGED QSO TO ONLINE LOGBOOKS. CLUBLOG.ORG AND HRDLOG.NET
- UPLOAD ALL DECODED CALLSIGNS WITH FREQUENCY AND SIGNAL REPORT TO HAMSPOTS.NET
  
- WORKS WITH DXLAB APPLICATIONS
- AUTOMATIC LOG TO DXKEEPER WHEN JT65-HF OR WSJT-X QSO IS LOGGED
- AUTOMATIC POST DECODED CALLSIGNS TO SPOTCOLLECTOR (LOCAL SPOTS)
- DXKEEPER LOOKUP OF PREVIOUS QSOS WITH DECODED CALLSIGN
- SEND CALLSIGN TO PATHFINDER FOR LOOKUP

- SUPPORTS USER-SELECTABLE SOUND CARD
- EACH AUDIO ALERT TYPE HAS INDEPENDENT VOLUME SETTING & WAVE FILE
- LOTW AND EQSL MEMBERSHIP FLAGGING OF DECODED CALLSIGNS
- BAND TRACKING OR ALERTS. 160M TO 2M, INCLUDING 60M
- DISABLE AUDIO ALERT FOR "WORKED B4" STATIONS ON CURRENT BAND
- AUTOMATIC "WORKED B4" FLAGGING OF PREVIOUS QSOS
- SCAN YOUR LOG TO UPDATE NEEDS LISTS FOR ALERTING (US STATE, DXCC, CQZONES, ETC)
- DOCKABLE TO BOTTOM OR TOP OF JT65-HF AND WSJT-X WINDOW
- BRING JT65-HF OR WSJT-X WINDOW TO FRONT OF OTHER WINDOWS ON ALERT ACTIVATION
- AUTO START & CLOSE OF JT65-HF, WSJT-X AND OTHER APPLICATIONS ON JTALERT START & CLOSE
- SEND TX POWER AND CURRENT QSO PARTNER DATA "NAME, CALLSIGN & NO. BANDS WORKED" TO JTMACROS FOR DYNAMIC MACROS

# ?? Questions ??



w4as@arrl.net