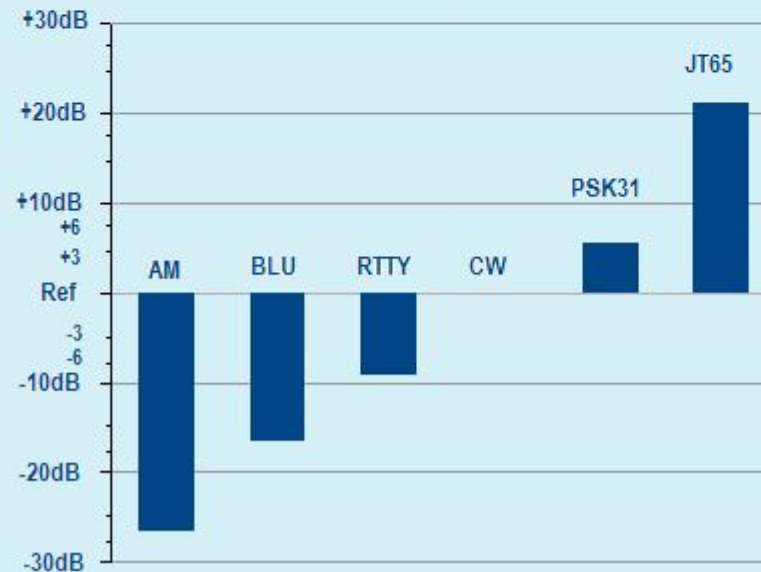


# Performances des modes de transmission

## QST décembre 2013

**Table 2**  
**Average Receiver Sensitivities**

Mode	Receiver Sensitivity (microvolts)	Receiver Sensitivity (dBm)	Compared to CW (dB)
AM	0.72	-109.9	-25.1
SSB	0.22	-120.3	-14.7
FM	0.29	-117.7	-17.3
RTTY	0.096	-127.3	-7.7
CW	0.040	-135.0	ref. 0
PSK31	0.023	-139.8	+4.8
JT65	0.0035	-156.2	+21.2



# Comparaison PSK31 et JT65

	<b>PSK31</b>	<b>JT65</b>
<b>Modulation</b>	Variation de phase	Déplacement de fréquence
<b>Vitesse de transmission</b>	50 mots/mn	3 mots/mn
<b>Messages</b>	Libres ou avec macros	Préformatés

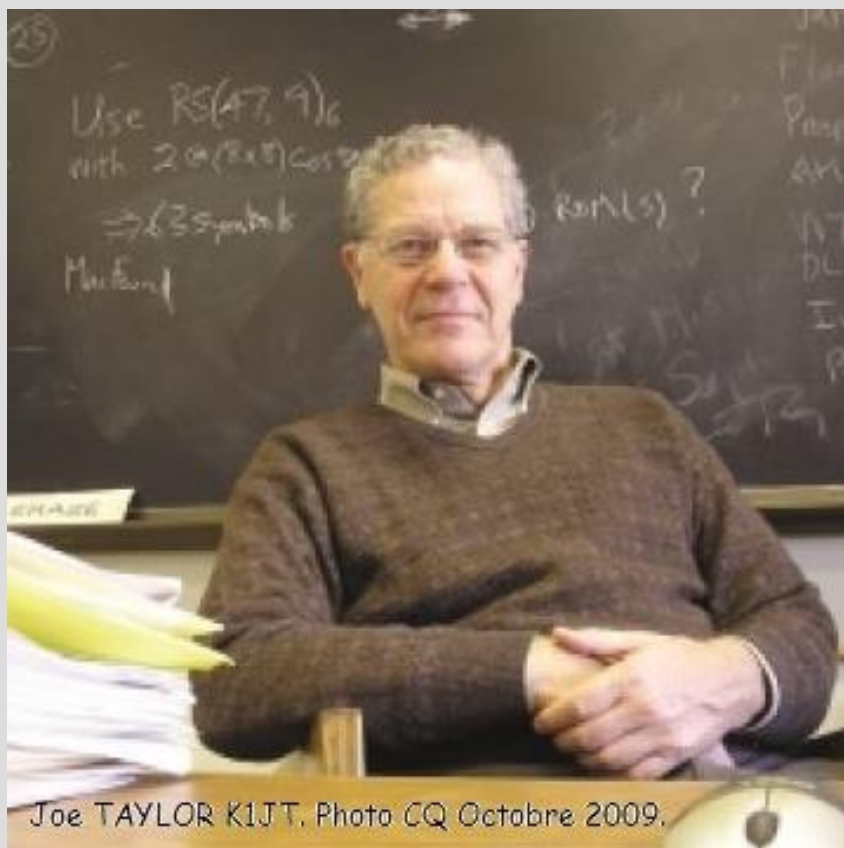
# Comparaison PSK31 et JT65

	<b>PSK31</b>	<b>JT65</b>
<b>Bande utilisée</b>	<b>60Hz</b>	<b>175Hz</b>
<b>Correction d'erreurs</b>	<b>Non</b>	<b>Oui</b>
<b>Gain / CW</b> <small>Source QST Dec, 2013</small>	<b>~ 5 dB</b>	<b>&gt; à 20 dB</b>

# Fréquences PSK31 et JT65

Bande	PSK31	JT65
80m	3,580MHz	3,576MHz
40m	7,035MHz	7,076MHz
30m	10,145MHz	10,136MHz
20m	14,070MHz	14,076MHz
18m	18,100MHz	18,102MHz
15m	21,070MHz	21,076MHz
12m	24,920MHz	24,917MHz
10m	28,120MHz	28,076MHz

# LE JT65



L'OM créateur de ce mode numérique est Joe Taylor K1JT, prix Nobel de Physique en 1995.

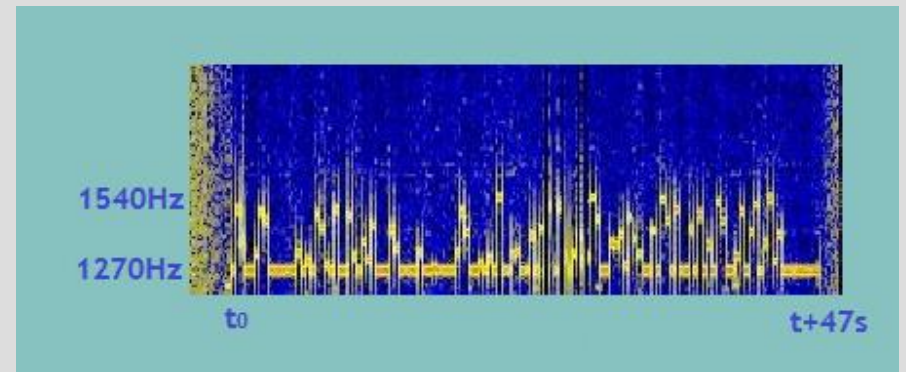
- Au départ le JT65 était destiné aux QSO en EME.
- W6CQX l'a adapté au trafic dans les bandes HF

# Particularités des QSO en JT65

- Messages courts, suivant une procédure codifiée.
- Cadencement de 60s entre les périodes d'appel et d'écoute.
- Nécessité d'une bonne précision de l'horloge du PC.
- QSO type
- **CQ K1JT FN20**
- **K1JT F5EDP JN13**
- **F5EDP K1JT R-18**
- **K1JT F5EDP R-16**
- **F5EDP RRR 73**
- **K1JT TU GL 73**

# Caractéristiques du mode JT65

- Signal modulé par des déplacements de fréquence utilisant 65 tons.
- Ton de base de 1270Hz pour la synchronisation.
- Largeur de bande 175 Hz.
- Temps d'émission du message 47s.
- 13 caractères maximum par transmission.

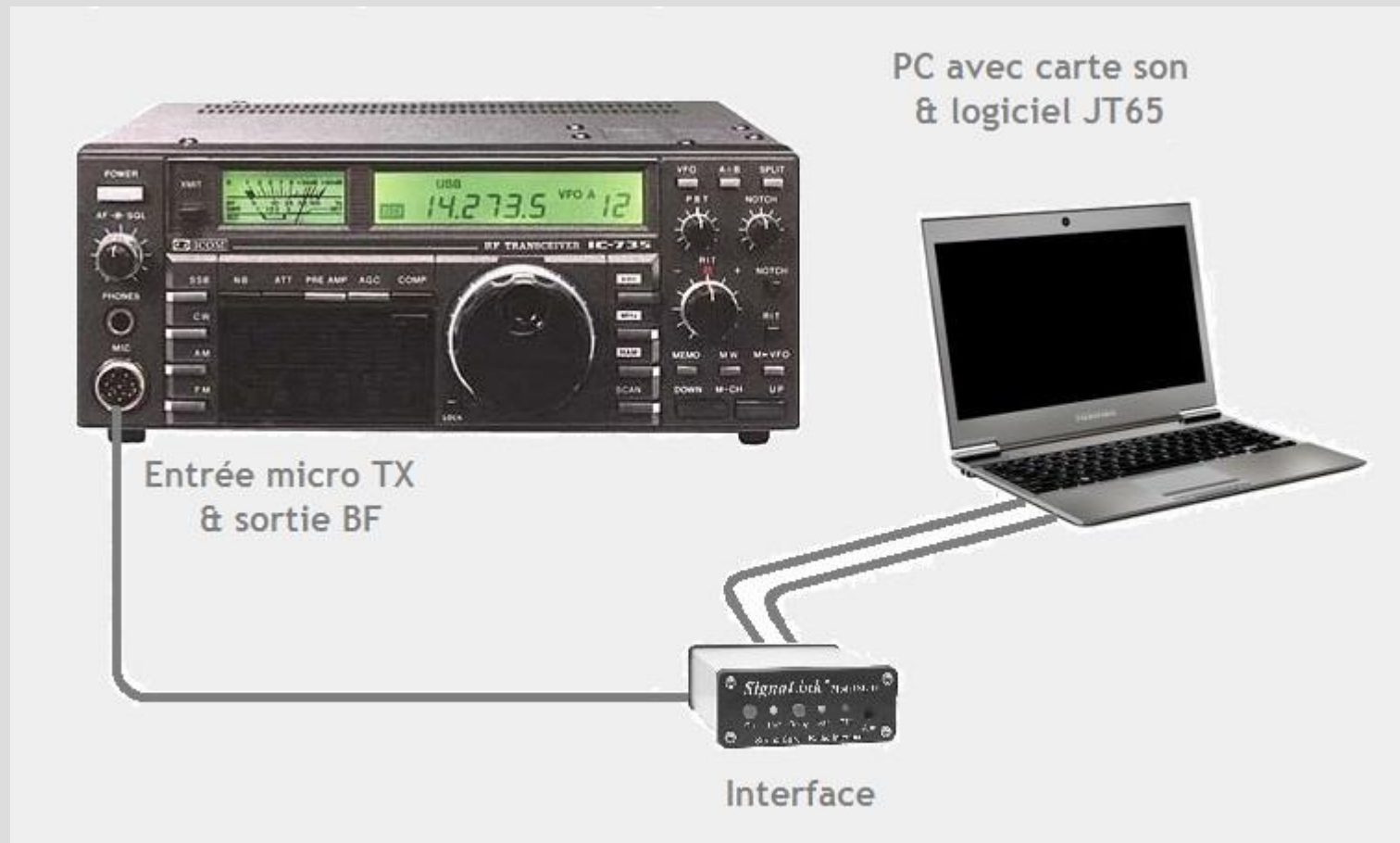


13 caractères  $\Rightarrow$  72 bits

Une transmission = 378 bits.

Redondance d'information > 5 destinée au code de correction d'erreur.

# Installation pour démarrer





# Paramétrages du logiciel JT65-HF de HB9HQX

- Onglet Station

JT65-HF - Configuration

Station Log Internet Sound Alert PTT CAT Colors KVASD

JT65 prefix Call (3 - 6 chars) JT65 suffix Grid (4 or 6 chars)

Call is valid  Grid is valid

Yellow fields (Call and Grid) contains required values !  
The JT65 protocol don't provide calls with more than 6 characters.

Use JT65 prefix or JT65 suffix only in situations where you have a legal requirement to do so.  
Note: You have restrictions with prefix or suffix.

Optional values (HRD, DX Keeper & Log4om)

Name  Street

ZIP  City

County  State  Country

IOTA  CQ Zone  ITU Zone

Rig

Save settings & close

# Onglet PTT

- Choix du mode de passage en émission

JT65-HF - Configuration

Station Log Internet Sound Alert **PTT** CAT Colors KVASD

PTT port (COM1 - COM20)  
disabled  Verify COM Port (default)

Connect PTT input of TRX to switching transistor or optocoupler connected to the desired RTS or DTR line of COM port.

PTT line  
 RTS (default)  
 DTR

Test PTT

Test PTT will key/unkey your transceiver via RTS or DTR line of COM port.  
No audio will be sent during this test.

PTT if CAT is enabled  
 CAT command (default)  
 PTT port (PTT port <> CAT port)

Tx watchdog: 5 Repeat TX count for Tx Halt

Save settings & close

# Onglet Colors

- **Choix des couleurs de fond des messages.**

JT65-HF - Configuration

Station Log Internet Sound Alert PTT CAT Colors KVASD

JT65-HF uses color coding to assist in picking out receptions that may be of greater interest.

	Background	Font	
CQ new Station			Default
CQ new Band			Default
CQ QSO B4			Default
my QSOs			Default
other QSOs			Default
sent			Default
◇◇◇◇◇◇◇◇◇◇ ◇			Default
<b>Clock</b>			Default

Date format in clock: 2016-01-11

Save settings & close

# Fenêtre de trafic

JT65-HF HB9HQX-Edition Version 1.3 < F5EDP JN13 >

File Configure Settings Decoder Edit list JT65-Log Edit names Windows About

-1K -900 -800 -700 -600 -500 -400 -300 -200 -100 0 100 200 300 400 500 600 700 800 900 1K

20:15  
20:14  
20:13  
20:12  
20:11

2015-12-30  
20:16:03

Dial QRG kHz USB Band  
14076 20 m

CAT: Disabled

Waterfall display: Right click sets "Rx DF" and left click sets "Tx DF".

**CQ F5EDP JN13** Transmitting: 47,4 s

**TX IN PROGRESS**

Message émis Message "Free Text"  TU 10W VER 73 Tx Enable Tx Halt

0 Hz  Fix Tx DF

Message "Generated Text"

UTC m D dB DT DF Exchange Copy List Clear List

Heure TU ↑ Bande ↑ Report ↑ Δt des horloges ↑ ΔF / à F0 en Hz ↑ Message ↑

Messages préformatés

Correction du Δt des horloges →

CQ F5EDP JN13

CQ CQ DX -dB RRR

QRZ QSO B4 RR73

GRID R-dB 73

Input level 6 per mill Output level 50 %

DT 0,0 s  Auto adjust DT Vers le log

Decodes 1 Spots 0 My power W

Log QSO

Logdatabase JT65-Log (default) 0 JT65 QSOs

Audio input device - Receive  
Microphone (Conexant CX20671 Sm)

Audio output device - Transmit  
Haut-parleurs (Conexant CX20671)

Audio output device - Alert  
Haut-parleurs (Conexant CX20671)

Right click in Rx-List sets fields. Left click sets fields and starts a QSO.



# Déroulement d'un QSO

The screenshot shows the JT65-HF software interface. The waterfall display at the top shows a QSO in progress. Below it, a log table lists the messages. The interface includes various controls for transmission and reception, such as VOX, Tx DF, and a Log QSO button.

**Log Table:**

UTC	m	D	dB	DT	DF	Exchange
14:54	17	K	-26	0.9	713	CQ IW0GBO JN61 IS
14:54	17	K	-20	1.9	673	F5EDP 4X1AJ 73 4X
14:54	17		-9	2.4	315	CQ RN2FQ CQDX UA2
14:54	17		-14	0.5	-433	KC3FLF WB90TX 73
14:53	17				681	4X1AJ F5EDP RR73
14:52	17		-15	2.2	673	F5EDP 4X1AJ RRR 4X
14:52	17		-8	2.7	315	CQ RN2FQ CQDX UA2
14:52	17	K	-15	0.4	296	F4CSK LA5TFA RRR LA
14:52	17		-13	0.3	-433	KC3FLF WB90TX -01
14:52	17		-10	0.9	-826	CQ OH2ECG KP20 OH
14:51	17				681	4X1AJ F5EDP R-16
14:50	17		-8	2.0	673	F5EDP 4X1AJ -21 4X
14:50	17		-8	0.4	296	F4CSK LA5TFA -08 LA
14:50	17	K	-23	0.5	22	CQ PA3MRO J022 > J022
14:50	17		-12	0.4	-433	CQ WB90TX FM79 > FM79

**Annotations:**

- Fin du QSO** → points to the 14:54 row.
- Accusés de réception** → points to the 14:52 and 14:53 rows.
- Report reçu** → points to the 14:51 row.
- Report envoyé** → points to the 14:50 row.

**Software Interface Details:**

- Window title: JT65-HF HB9HQX-Edition Version 1.1 < F5EDP JN13 >
- Menu: File, Configure, Settings, Decoder, Edit list, JT65-Log, Edit names, Windows, About
- Frequency scale: -1K to 1K
- Waterfall display: Right click sets 'Rx DF' and left click sets 'Tx DF'.
- 4 Decodes
- TX DF: 681 Hz
- Log QSO button

# Fréquences utilisées

Bandes	Fréquences
80m	3,576MHz
40m	7,076MHz
30m	10,139MHz
20m	14,076MHz
17m	18,102MHz
15m	21,076MHz
12m	24,917MHz
10m	28,076MHz

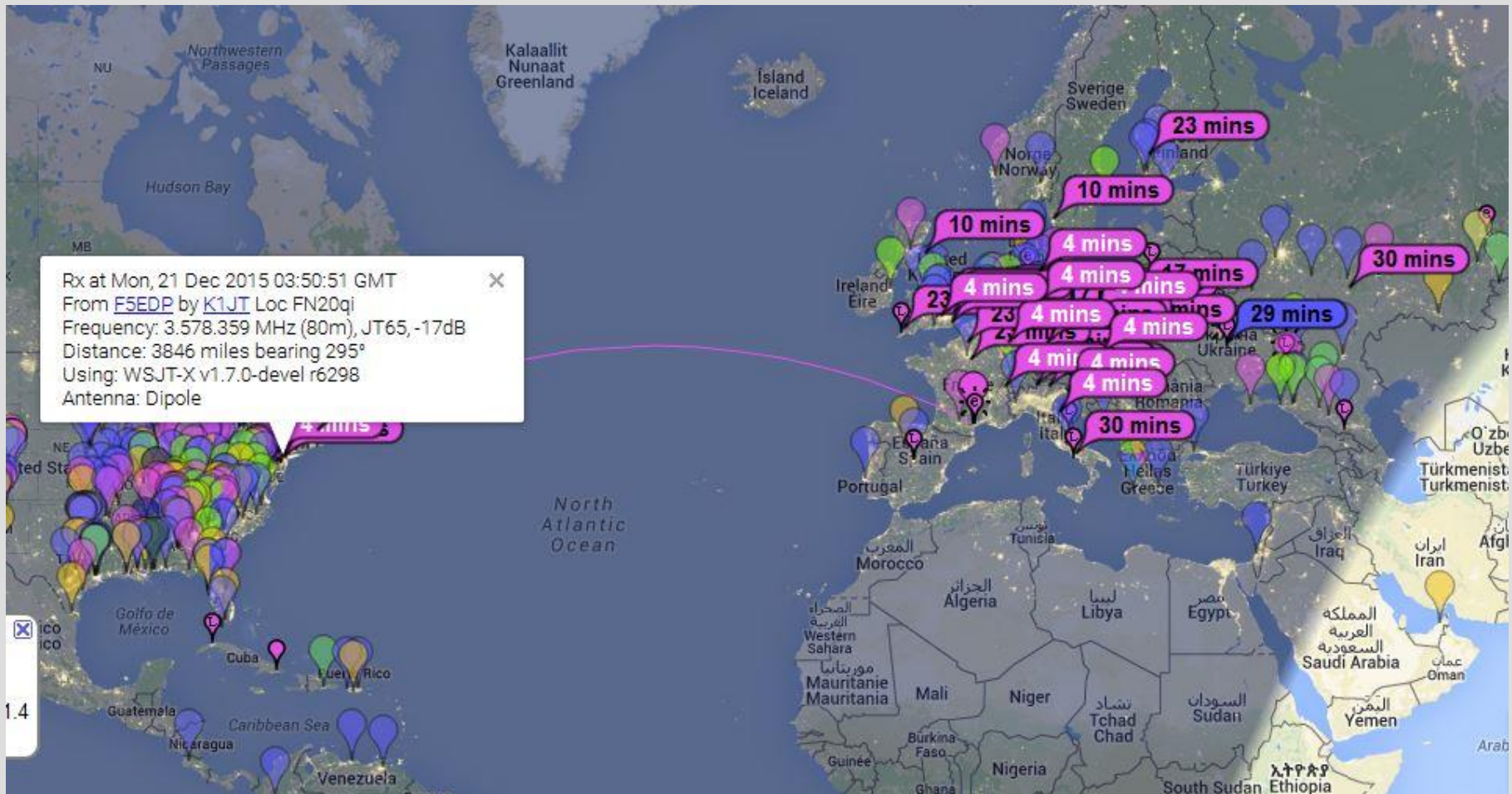
# PSK reporter

On **all bands** ▾, show **signals** ▾, sent/rcvd by ▾, the callsign ▾ **F5EDP** using **JT** ▾ over the last **12 hours** ▾ **Go!** [Display options](#) [Permalink](#)  
Monitoring F5EDP (last heard 4 mins ago). Automatic refresh in 5 minutes. Small markers are the 90 transmitters ([show logbook](#)) heard ([distance chart](#)) at F5EDP (256 reports, 35 countries last 24 hours; 1578 reports, [73 countries](#) last week).  
There are **941 active JT monitors**: **302 on 20m**, **199 on 40m**, **143 on 15m**, **68 on 17m**, **60 on 30m**, **44 on 80m**, **26 on 10m**, **22 on 6m**, **8 on 60m**, **8 on 12m**, **6 on 160m**, 2 on unknown, **2 on 600m**. [Show all on all bands](#). [Legend](#)





# PSK reporter





# Avantages et limitations du JT65

## Avantages

- Sensibilité > à la CW
- Permet faire du DX avec moins de 20W et un dipole.
- Faible largeur de bande. (Plus de 10 QSO dans 2kHz)

## Limitations

- Messages limités à 13 caractères.
- Mode lent. Environ 5mn par QSO.