<section-header><section-header><complex-block>

The KENWOOD TS-590S/SG is equipped with a USB (B) connector for exchanging both of audio signals and PC control commands for performing data communication with an external device such as a PC.

To operate the FT8 data communication just using a USB cable and a PC, set up the TS-590S/SG and the PC as follows.

- Download the WSJT-X software Windows version from the following web page of Dr. Joseph Taylor K1JT (the author of WSJT-X), and install on the PC. <u>https://physics.princeton.edu/pulsar/k1jt/wsjtx.html</u> (For data communication such as FT8 or JT65, the PC clock needs to be properly adjusted within ±1 second.)
- 2. Download the virtual COM port driver from the following KENWOOD web page and install on the PC for USB cable connection. <u>https://www.kenwood.com/i/products/info/amateur/software_download.html</u>
- 3. Connect the transceiver to the PC using a commercially available USB cable. (USB cable with ferrite core would be recommended to prevent RF interference.)
- 4. Confirm the COM port number which is assigned to the transceiver. Refer to the virtual COM port driver download page above for how to identify the port.
- 5. Once full reset the transceiver by pressing [A/B (A=B)] + Power ON in order to initialize the PC control, audio input/output, and other settings.
- 6. Enable USB audio as the transceiver's audio input source for data transmission as follows.

TS-590S: In Menu No.63, select "USB". (The default is "ACC2".) TS-590SG: In Menu No.69, select "USB". (The default is "ACC2".) 7. Launch the WSJT-X software and set the parameters as follows.
 Click [File] → [Settings] to open the "Settings" window.
 Then select the "General" tab to set your Callsign and Grid Locator.

						5		J
Settings							?	\times
General	Radio	Audio	Tx Macros	Reporting	Frequencies	Colors	Advanced	
Station De	etails							
My Call:	W6DJY	Ν	1y Grid: DM03	vu	AutoGrid IAR	J Region:	All 👻	
Message	generatio	n for type	2 compound ca	llsign holders:	Full call in Tx3		•	

Open the "Radio" tab and set the parameters as follows.

Settings	? ×				
General Radio Audio Tx Macros Re	eporting Frequencies Colors Advanced				
Rig: Kenwood TS-590SG	▼ Poll Interval: 1s 🜩				
CAT Control	PTT Method				
Serial Port: COM3 ~					
Serial Port Parameters	O RTS				
Baud Rate: 115200 🔻	Port: COM3 V				
Data Bits	Transmit Audio Source				
◎Default ○ Seven ○ Eight	Rear/Data Front/Mic				
Stop Bits	Mode				
Default O One O Two	🔿 None 🔘 USB 🔿 Data/Pkt				
Handshake	Split Operation				
ODefault ONone	O None O Rig OFake It				
○ XON/XOFF ○ Hardware					
Force Control Lines					
DTR: TRTS: T	Test CAT Test PTT				
	OK Cancel				

"Rig: " \rightarrow TS-590S: Select "Kenwood TS-590S".

TS-590SG: Select "Kenwood TS-590SG".

* If you select incorrect model name, the PC cannot control the transceiver.

- "Serial Port:" → The port number assigned to the transceiver virtual COM port which is confirmed in the previous page step 4.
- "Baud Rate: " → "115200" (TS-590S/SG's default value. Confirm in the TS-590S Menu No.62 or TS-590SG Menu No.68.)
- "Data Bits" → "Default"
- "Stop Bits" → "Default"

"Handshake" \rightarrow "Default"

"PTT Method" \rightarrow "CAT" (The transceiver transmits by PC control commands.)

"Transmit Audio Source" → "Rear/Data"

- "Mode" → "USB" (For the TS-590SG, selecting "Data/Pkt" is also available, but the DSP filter control method in SSB-DATA mode should be changed in Menu No.29 from "2"(WIDTH/SHIFT: default) to "1 (HI/LO) to obtain sufficient RX bandwidth of up to 5kHz even in SSB-DATA mode in the same way as in SSB mode. Incidentally, the TS-590S's DSP filter control method in SSB-DATA mode cannot be changed from "WIDTH/SHIFT".)
- "Split Operation" → "Fake It" (The "Fake It" shifts the transceiver's VFO frequency during transmission automatically so that the AF modulation frequency is set to be in the range of 1500 Hz to 1999 Hz. The fundamental is not reduced and the harmonics are driven out of the TX IF filter passband.)

Open the "Audio" tab and make sure "USB AUDIO CODEC" is set as an audio device for both Input and Output.

Settings	?	\times				
General Radio Audio Tx Macros Reporting Frequencies Colors	Advanced					
Soundcard						
Input: Line (USB AUDIO CODEC)	Mono 🔻					
Output: Speakers (USB Audio CODEC)	Mono 🔻					
Save Directory						
Location: C:/Users/JVC KENWOOD/AppData/Local/WSJT-X/save Select						
AzEl Directory						
Location: C:/Users/JVC KENWOOD/AppData/Local/WSJT-X	Select					
Remember power settings by band						
Transmit Tune						
	1					
ОК	Cance	1				

Click [OK] to apply the settings and exit.

8. After turning the transceiver power on, launch the WSJT-X software and click [Mode] to select "FT8" from the pull-down menu, and select the frequency to operate from the band selection pull-down menu. The frequency and mode (USB) are set to the transceiver.

WSJT-X v2.1.2 by K1JT File Configurations View Mo	de Decode Save Tools Help				_		×
E		Rx Free	quency				
UTC dB DT Freq	Message	UTC dB	DT Freq	Message			
0.10.200 -19 0.2 1493 0.10.200 -4 -0.4 1561 0.10.200 -5 -0.3 1744 0.40200 -15 0.3 2192 0.40200 -12 0.2 973 0.10.200 -19 0.4 2167 0.40215 -13 0.5 1372 0.10215 -13 0.5 1372 0.10215 -11 0.1 1562 0.40215 -15 0.5 2351 0.10215 -17 0.5 2392	 IFINGS H-ING 73 ISIDW DESELOT PM37 CQ DX HTTE IM05 CQ SOME MELTONS FOTE MODIME 73 CQ SOME MELTON WITTEV VETTI R-14 UNITER WEITUR 406 CQ TITE FEITHR SULLE SUME FEET 						< >
CQ only Log QSO	Stop Monitor Erase	Decode	Enable Tx H	lalt Tx	Tune		Menus
-80 -60 -40 -20 -20 -20 -20 -20 -20 -20 -20 -20 -2	074 000 □ Tx even/1st Tx 1500 Hz □ Hol DX Grid Rx 1500 Hz □ Report -15 □ Add 0 Apr 14 1:48:46	ld Tx Freq	Generate Std M	/lsgs N	ст () ст () ст () ст () ст () ст ()	2000 (1) (2) (3) (4) (5) (6)	Pwr
Receiving	FT8				1	1/15 W	D:6m

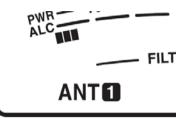
RX Level Adjustment

RX level is indicated below the band selection. Appropriate level would be around 30dB when the transceiver is on and there is no input signal from the antenna connector. If necessary, adjust the level with the PC sound settings (Recording devices), and if still cannot, adjust the audio output level from the transceiver as follows.

TS-590S: In Menu No.65, adjust in the range of "0" ~ "9". (The default is "4".) TS-590SG: In Menu No.72, adjust in the range of "0" ~ "9". (The default is "4".)

TX Level Adjustment

First set the TX power on the transceiver and press the software [Tune] to transmit. Adjust the audio (single tone) output level from the PC to the transceiver by "Pwr" slide bar in the software to the level that the transceiver's ALC meter lights up 2 to 3 dots (approx.) as shown on the right in order to prevent distortion in AF stage by excessive audio input.



And press and hold [PWR (TX MONI)] to enable the transceiver's TX monitor function to audibly confirm that the modulation signal has no distortion and no noise. If necessary, adjust the level with the PC sound settings (Playback devices), and if still cannot, adjust the audio input level to the transceiver as follows.

TS-590S: In Menu No.64, adjust in the range of "0" ~ "9". (The default is "4".) TS-590SG: In Menu No.71, adjust in the range of "0" ~ "9". (The default is "4".)

The above description is just an example of the basic settings when using the WSJT-X software and the TS-590S/SG. Please refer to the information on the Internet for the actual operation method, more detailed settings and operations by other software. © 2020 JVCKENWOOD Corporation