TSTALK v2.0

This program is designed to allow simple operation of Kenwood transceivers for the blind, using single key presses to select most options and doesn't need any libraries etc. just one single exe file to run. It has been tested on a Kenwood TS590SG but should work on many other Kenwood transceivers such as theTS590S, TS450/480, TS570 and TS2000.

Preparing your Radio
if you are going to use the 9 pin serial port connector on your radio then you need to set the following menu item in the radio. Com Port communication speed to whatever speed you want to use, though I strongly recommend 38400 Baud and if you are using the USB connection then USB Port communication speed to the same value.
Now you can connect a standard USB cable between the USB or 9 pin port of your radio and a usb or serial port on the computer.

TSTALK is a Windows program and should run fine on all version from XP onwards, so also Windows 7, 8, 10 and 11 though it has only been tested on windows 10 and 11.

Configuring the config file
Unzip the TSTalk folder onto your computer.
Use a text editor to change the first line in tstalk.cfg to match your comport between 1 and 99 and the second line Serial speed for the radio normally 38400 or 9600 (I recommend using 38400) the standard 4800 Baud can be a little slow if you rapidly hit something like the cursor keys a number of times. The third line power should be set to the power level you want to use when you first connect the program to the radio between 0 and 100. Initially this value is set to 100 watts. The fourth line is swr and if set to 0, in tune mode you have to press the S key to hear the SWR but if you set it to 1 then when in tune mode the SWR is repeated continually until you exit tune mode. The fifth line is ATU if it is set to 0 then it will tune the antenna using the internal atu but if set to 1 will expect an external ATU and if it is a manual ATU then it can be useful to set the SWR parameter to 1 so that the SWR is continually repeated allowing you time

to adjust a manual atu for best SWR. Even if you have an internal atu it can be useful to set this parameter to 1 as it gives you more time to check the SWR before the radio automatically goes back to receive. The sixth line is bandmax which is set depending on the highest band available on your radio to 10, 6, 2 or 70 for bands between 10 metres and 70cm. The seventh line is Autoon which if set to 1 will automatically switch your radio on when you start the program and switch it off when you close the program with quit that is the Q key, so that for radio's with touch screen you do not accidentally touch the screen while searching for the on/off button. Default is 0.

Using TSTALK
Start the program tstalk20.exe, you can exit the program at any time by hitting the Q key.

The program will announce the version and connect with your radio and say connected if it is successful in communicating with the radio. If it doesn't say connected then probably the comm port or the speed is wrong.

You can voice the help file at any time by hitting the H key.

You put the program into various modes by a single key press and when you first start the program it will initialize on 40 metres to 7.1Mhz unless you have used this program before in which case it will return to the last frequency and mode you were using on 40 Metres.

In this **Frequency mode** which you can re-enter at any time by hitting the F key the left and right Cursor/Arrow keys change the frequency by plus or minus 100Hz the up and down Cursor/Arrow keys by 1Khz, the Page up and Page down keys by 10Khz. Plus and Minus keys change the frequency in 1Mhz steps. Pressing F at any time will voice the mode and frequency.

If you tune the radio using the main tuning knob the program will follow the frequency changes and if you stop tuning on a station and want to know the frequency just hit the F Key. You can get the **S meter** reading at any time by hitting the S key. Although it is probably best to control the radio with TSTALK if you do change bands with buttons on the radio the program will still follow those changes.

Frequency Entry Mode, hitting E will put you in frequency entry mode where you can enter a frequency between 1 and 440Mhz. The Mhz and Khz values must be separated by a full stop/point but for example to go to exactly 15Mhz you only need to enter 15 and then hit the carriage return to move to that frequency. Entering an invalid frequency the word invalid will be voiced and the entry will be ignored. Pressing F will confirm that the frequency change has taken place if you want to check. You can enter any valid frequency within the range of your transceiver if it is well outside an amateur band then it will be announced as band unknown. If you select a frequency your radio cannot use then it will be ignored.

Split Frequency mode is used when you want to work a DX or Expedition station and they are telling you up 5 or up 10 meaning you should transmit 5 or 10Khz higher than the frequency they are using. You enter Split Frequency Mode by hitting V and VFO B will then be displayed and you can increase or decrease the frequency using the usual cursor keys, Enter frequency command etc. And of course you can check the frequency of VFO B with the F key as usual. Now when you transmit you will be transmitting on VFO B and receiving on VFO A. To exit split mode just hit V again.
You can also use split mode to set up a repeater split, for example on 10 metres if you enter the receive frequency and then hit V and then enter the transmit frequency you can use the split mode to work through the repeater. If you want to save the split then you can hit C for channel save and then a number 0 to 9 to save the split in that memory location and recall it at any time with G for go to channel and a number 0 to 9.

Zero Frequency, Most stations tend to transmit on exact Khz frequencies and when you tune your receiver you may not be exactly on the Khz but if you tune the receiver so the audio frequencies sound a bit high then hitting Z will put you exactly on the Khz frequency in use by the station you are listening too.

You can change **Modulation mode** at any time by hitting the M key and it will cycle through LSB/USB/CW/AM and back to LSB. Except on 10 Metres to 70cm where FM follows AM and then back to LSB.

In the following modes the up and down arrow keys work to increase or decrease the parameter chosen.

Band change mode by hitting the B Key. In Band change mode each tap on the up arrow will go up one band or cursor down to go down one band, but pause between cursor key presses to give the radio time to change band. Or in band change mode you can go directly to any HF band by hitting one of the number keys 1 is 160Metres, 2 is 80Metres and so on with 0 being 10 metres. After selecting a band using the number keys the radio automatically returns to frequency mode. After 10 metres to get to the VHF/UHF bands you hit B and use the up and down arrow keys. Or you could hit E and enter a frequency for the band you want to go to. If you are not sure which band you are on just hit the B key again to voice the band and then F will put you back in frequency mode.
 The program automatically puts the radio into LSB on 160/80 and 40Metres and USB for 60Metres and from 20Metres all bands up to 6Metres and FM on 2 metres and 70cm. Also the pre-amp is automatically turned off on bands 160 to 30 Metres and on for bands 20 metres and up.

Bandwidth mode by hitting the W key. In Bandwidth mode the up and down cursor keys increase or decrease the filter bandwidth in 100Hz steps.

Power mode by hitting the P key. In Power mode the up and down cursor keys increase or decrease the power in 10W steps between 10 and 100 watts. Cursor down from 10 watts gives you 5 watts the lowest power setting.

RF Gain mode by hitting the R Key. In RF Gain mode the up and down cursor keys increase or decrease the RF gain.

AF GAIN mode by hitting the A key. In AF Gain mode the up and down cursor keys increase or decrease the AF gain.

Tune Mode, Hitting the T key will turn on the radio's transmitter in Tune mode so that the ATU can be used to adjust the antenna matching. Hitting T again will put the radio back into receive mode. While in tune mode if swr in the config file is set to zero then hitting S will give you the SWR of your antenna. If swr in the config file is set to 1 then the SWR will be automatically and continually repeated until you leave tune mode. Some radio's go back to receive automatically after the tune is finished (which can just be a couple of seconds) and you may no longer be able to read the

swr. In which case it can be useful to set the ATU parameter in the config file to 1 so that the radio stays in transmit until you hit T again, giving you plenty of time to check the swr.

Memories
The program offers 10 memories and you can store either a single frequency or if you have split setup then the split will be stored.
To store a channel in a memory you hit C for Channel save and then a number key 0 to 9.
To recall the memory hit G for go to channel and then a number key 0 to 9. Trying to recall a memory which hasn't been used results in an invalid message.

Menu, you can read and write items in the menu's just hit N and you will be asked for the Menu number. This is a 3 digit number, then hit Enter and you will be asked for a value. If you don't enter a value and just hit Enter then the contents of this memory item will be voiced. If you enter a value before hitting Enter, this value will be stored in the selected Menu location. If you enter a value the radio can't accept it will be ignored by the radio. As the menu commands vary from radio to radio you will need the correct list for your radio to interpret the commands, I have included text files for the TS590S and the TS590SG.

F1 switches the **Preamp** on or off
F2 switches the **attenuator** on or off
F3 switches the **Noise Blanker** on or off
F4 switches the **Noise Reduction** on or off
F5 switches the **Notch Filter** on or off

Features which may still be added
CTCSS tones
NR/NB Level control