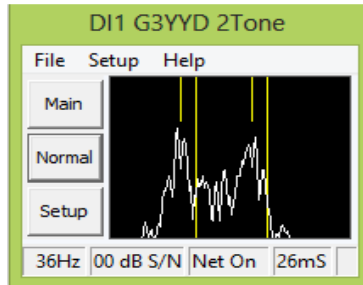


G3YYD's 2Tone - MMTTY Replacement

Introduction

This software has been designed to be used in conjunction N1MM contest logging software. It is simpler to use with improved decoding performance. It uses less CPU and memory coupled with a smaller display footprint. It also works with some other logging programs.



2Tone takes little display space yet delivers what is needed with simplicity.

Setup

1. Unzip files all the files into the selected folder. You can put 2Tone.exe, 2Tone.ini and the pdf files into your MMTTY folder but not the MMTTY.ini as it will overwrite your existing one. Do not delete MMTTY.ini file as N1MM **requires** this file to function correctly.
2. Start N1MM and go to configure, digital, MMTTY folder and set it up to use 2Tone.exe in place of MMTTY.exe. You will have to type this by hand as N1MM auto fills the filename as MMTTY.exe.
3. Start the Digital Interface (Window, digital Interface) and 2Tone will open on the screen.
4. On 2Tone click the button "Setup" to display the setup dialogue.
5. Set the sound card for the RX along with mono or left or right as required.
6. Select the TX sound card with mono, left or right as required.
7. Set up the default Mark and Space tone frequencies by clicking on the button. It toggles between Low (1275/1445) and high tones (2125/2295). If your transmitter may generate audio harmonics which can cause QRM to other band users, please use High tones. **Other tone pairs** can be entered into the edit boxes to be compatible with your receiver filtering.
8. The RX decoder should be left at Normal. Flutter use is explained in the 2Tone.pdf document.
9. TX set it to AFSK (default) or use pseudo FSK if you have the matching hardware.
10. The spectrum display bandwidth can be set between 449 and 1292Hz (45.45 baud).
11. Virtually all RTTY QSOs are at 45.45 baud. However 50 or 75 baud can be selected for specialist contests.
12. This completes 2Tone setup, click OK, but further work on N1MM is required.
13. N1MM DI (Digital Interface) setup needs to have one menu item ticked. In N1MM DI menu, setup: ensure the menu item "NET off/on with RUN change" has a tick against, if not left click. This must be done so that when tuning the band in Search and Pounce mode the transmitter will be on the same frequency as the receiver.
14. To enable the .wav file per logged QSO feature need to edit the N1MM Logger.ini file. Open N1MM Logger.ini file with **Notepad** scroll down to the line [ExternalBroadcast] and ensure it contains the following lines

```
BroadcastContactAddr=127.0.0.1:12060 127.0.0.1:12061 127.0.0.1:12062
BroadcastRadioAddr=127.0.0.1:12060 127.0.0.1:12061 127.0.0.1:12062
IsBroadcastContact=True
IsBroadcastRadio=True
```

amend as necessary use copy and paste if required then save. Leave any other lines alone.

If there is no [ExternalBroadcast] in your .ini file then add this to the end of the N1MM Logger.ini file

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[ExternalBroadcast]

DestinationIPs=127.0.0.1

DestinationPort=12060

BroadcastContactAddr=127.0.0.1:12060 127.0.0.1:12061 127.0.0.1:12062

BroadcastRadioAddr=127.0.0.1:12060 127.0.0.1:12061 127.0.0.1:12062

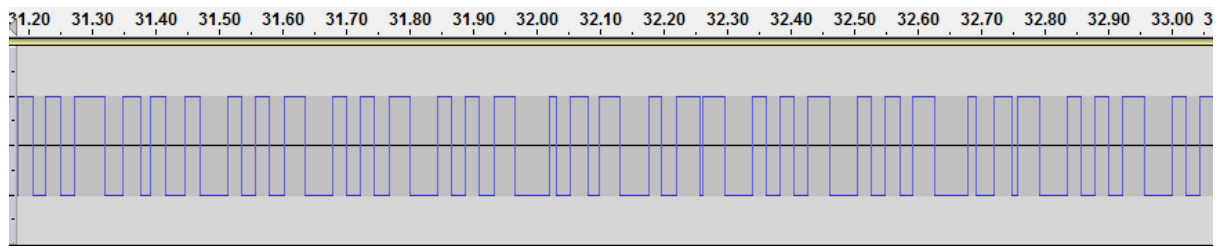
IsBroadcastContact=True

IsBroadcastRadio=True

15. When 2Tone output is squelched (default); noise input will not display random characters.
16. Pseudo FSK is a setup option. It transmits a tone of 5 KHz on the selected sound card for each space bit and silence for mark. This can be used for FSK keying of the rig. A suitable detector circuit can be found at <http://www.w1hkj.com/FldigiHelp-3.20/PseudoFSK.html> but use 0.1uF capacitors in place of 0.5uF.

Now open 2Tone.pdf for details on how to use 2Tone.

Warning: You may be tempted to use 2tone in a secondary RX window with MMTTY in the primary DI window so you can use EXTFSK to drive your rig's FSK input. Unfortunately given the nature of Windows this produces a somewhat erratic keying waveform, which will produce errors at the other end. Please see the graphic below, particularly bad at 32.25 seconds time from the start of measurement. The PC producing this waveform was equipped with twocores clocked at multiple GHz. This can be avoided by using audio input to your rig. (Graphic by K0SM.)



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