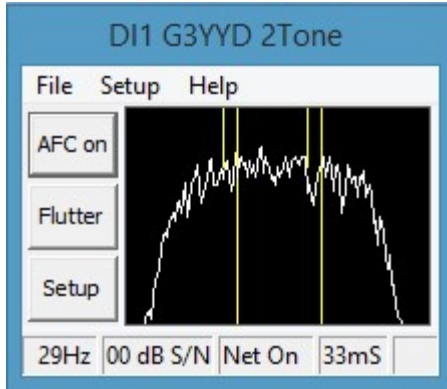


# G3YYD's 2Tone - RTTY

## Introduction

This software has been designed to be used in conjunction N1MM contest logging software. It is simple 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.



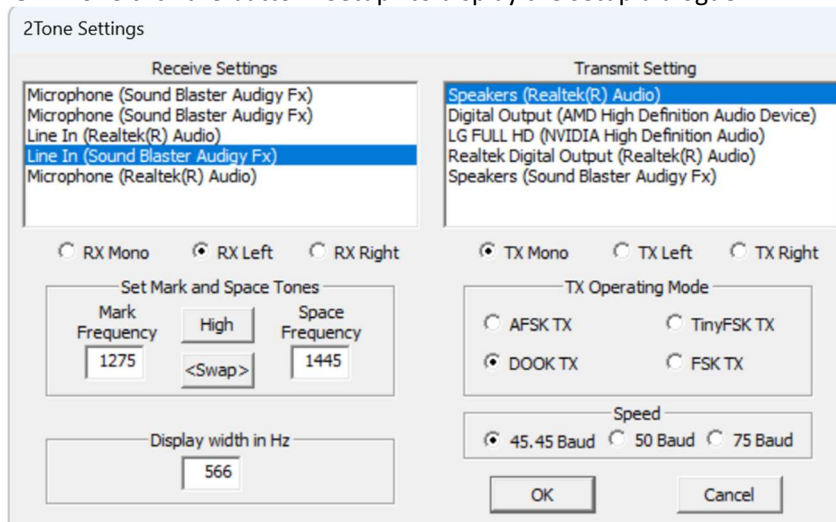
2Tone takes little display space yet delivers what is needed with simplicity.

## Installing

1. Create/Choose a folder that is not in Program Files or Program Files (x86) to install into.
2. Unzip files the files into the selected folder. You can put 2Tone.exe and the pdf files into your MMTTY folder. To run multiple copies of 2Tone repeat 1 and 2 above using different folders. Or just copy contents of one 2Tone folder to another folder.

## Setting up 2Tone

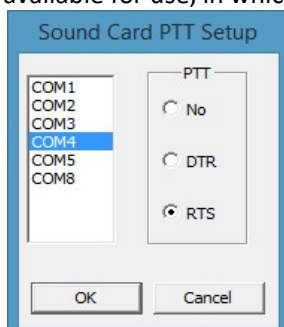
1. Start N1MM and left click on N1MM menu configure, Configure Ports..., digital modes tab, and click on MMTTY Path and edit or use Select button to use 2Tone.exe in place of MMTTY.exe. You will have to type this by hand as N1MM auto fills the filename as MMTTY.exe then OK.
2. Start the Digital Interface (Window, digital Interface) and 2Tone will open on the screen.
3. On 2Tone click the button "Setup" to display the setup dialogue.



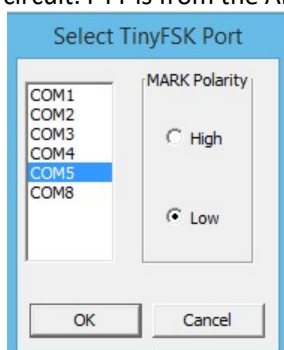
4. Set the sound card for the RX along with mono or left or right as required.
5. Set up the default Mark and Space tone frequencies by clicking on the button. It toggles between Low (1275/1445) and high tones (2125/2295). **Other tone pairs** can be entered into the edit boxes to be compatible with your receiver filtering. If your transmitter may generate audio harmonics which can cause QRM to other band users, please use tone frequencies above 1500Hz.
6. Selecting the transmission type in the TX Operating Mode group, AFSK, DOOK or pFSK , (TinyFSK & FSK in next section) will open a dialogue for PTT. If using VOX or other PTT method (i.e.N1MM)

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select No. Otherwise select required COM port and line. Then select TX sound card with mono, left or right as required. Click Ok to finish. The software will tell you if the COM port is not available for use, in which case use another COM port.



7. Select TinyFSk if you are using K0SM's TinyFSK for Arduino or K8UT for the Raspberry Pi. A dialogue will open to select the COM port and whether Mark output voltage from the pin of the device is +5 (high) or 0v Low. With a transistor added then +5v equates to grounded and 0v open circuit. PTT is from the Arduino/RPi.

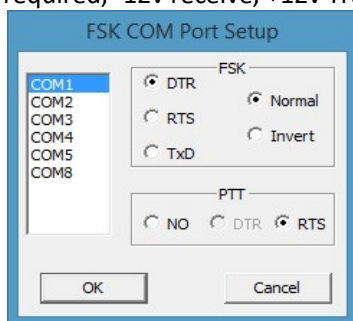


Details on K0SM TinyFSK for Arduino:

<http://www.frontiernet.net/~aflowers/tinyfsk/>

K8UT(SK) MORTTY [mortty.net](http://mortty.net)

8. Selecting FSK TX will open another dialogue to select COM port and the output pin: DTR(pin4), RTS(pin7) or TxD(pin3). Note COM port must not be in use by N1MM. Select Normal (Mark is -12v, Space is +12v) or Invert (Mark is +12v, Space is -12v). The software will tell you if the COM port is not available for use, in which case use another COM port. Select PTT output pin if required, -12v receive, +12v Transmit. Click Ok to finish. Note PTT is on the same port as FSK.



**Digikeyer II, microKEYER II, MK2R+ and micro2R (microHAM Router) users read 2Tone.pdf for set up instructions for these interface boxes.**

9. The spectrum display bandwidth can be set between 425 and 2707Hz (45.45 baud).
10. Speed, virtually all RTTY QSOs are at 45.45 baud. However 50 or 75 baud can be selected for specialist contests.
11. This completes 2Tone setup, click OK, but further work on N1MM is required.
12. N1MM DI (Digital Interface) setup needs to have one menu item ticked if running AFSK or DOOK. 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.
13. To enable recording of each QSO using the .wav file per logged QSO feature, changes in the Configurer are required. Open the configure (use Menu Config, Configure ports....) and click on the Broadcast Data TAB. Tick Radio box and Contact Box (if not already ticked)

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then enter in the 2<sup>nd</sup> long edit box:

**127.0.0.1:12060 127.0.0.1:12061 127.0.0.1:12062**

best to use highlight, copy and paste

and exactly the same for the 3<sup>rd</sup> long edit box.

14. One further item of information in the 2Tone menu Setup, which can be used operationally. The Contest Map changes the RTTY character to Windows display character mapping to the limited set of characters used for RTTY contesting – it reduces on screen errors but is not so good for rag chew QSOs.
15. Now open 2Tone.pdf for details on further information on using 2Tone.

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